FLORA AND VEGETATION STUDIES

GNANGARA MOUND

STAGE 1

DRAFT

PART A – REPORT AND APPENDICES

Prepared for:

Water and Rivers Commission
&
Water Corporation

Prepared by:

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1. SUMMARY

Mattiske Consulting Pty Ltd was commissioned to integrate the data on flora and vegetation on the northern part of Gnangara Mound utilizing previous studies in the area. Historically, the authors have been involved with flora and vegetation studies on the northern Swan Coastal Plain since 1976, largely for the Water Authority of Western Australia and the Water and Rivers Commission (E.M. Mattiske and Associates 1982, 1985, 1988, 1989, 1992 and 1995; Mattiske Consulting Pty Ltd 1997 and 2000). Other data was extracted from the earlier work of Gibson and the Department of Environmental Protection.

Data sets from previous studies were sorted and prepared for data integration into the database for Stages 1 and 3. A further 140 additional sites were selected, established and recorded in the Stage 1 area. The 140 sites were selected using the aerial photograph mosaics for the area, which also included the location of all Gibson *et al.* (1994) sites (as supplied by the Department of Conservation and Land Management), the location of previously established vegetation monitoring sites by Mattiske Consulting for the Water and Rivers Commission, and the location of the bores (monitoring and production bores as supplied by the Water Corporation and the Water and Rivers Commission). The 140 additional sites were recorded in the spring months of 2001, between the 4th September and the 22nd of October 2002.

A total of 717 vascular plant taxa from 80 plant families and 273 genera were recorded within the wider project area. Of these, 78 taxa were introduced plant taxa.

A search of potential Rare and Priority species was undertaken by accessing the database as held by the Department of Conservation and Land Management (2002). This database search extended beyond the immediate survey area to place the flora values into a local and regional context. As a result of this database search some eight Declared Rare Flora species (as gazetted under the Wildlife Conservation Act 1950), two Priority 1 species, six Priority 2 species, eighteen Priority 3 species and ten Priority 4 species (as listed by the Department of Conservation and Land Management (2002) were recognised as potentially occurring in the wider area on the Gnangara Mound. Of the latter species, four of the Declared Rare Flora species are listed as Endangered and four of the Declared Rare Flora species are listed as Vulnerable under the Environmental Protection and Biodiversity Conservation Act (1999).

In the specific data collected within the Stage 1 area, no declared rare flora pursuant to Subsection 2 of Section 23F of the Wildlife Conservation Act (1950) and listed by the Department of Conservation and Land Management (2002) were located during the survey.

No endangered or vulnerable species, pursuant to Schedule 1 of s179 of the Environmental Protection and Biodiversity Conservation Act (1999) (Environment Australia, 2002) were located during the survey work in the Stage 1 area.

14 Priority Flora species pursuant to Subsection 2 of Section 23F of the Wildlife Conservation Act (1950) and listed by the Department of Conservation and Land Management (2002) was located during the survey in the Stage 1 area.

Four ecological communities were initially listed as Critically Endangered by English and Blyth (1997). These ecological communities are listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) have been recorded within the wider Gnangara Mound area and therefore potentially occur within the future staged flora and vegetation mapping areas. These communities occur on the eastern or western fringes of the project area:

1. Aquatic Root Mat Community in Caves of the Swan Coastal Plain
2. Assemblages of plants and invertebrate animals of tumulus (organic mound) springs of the Swan Coastal Plain
3. Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain
4. Shrublands and Woodlands on Perth to Gingin Ironstone (Perth to Gingin ironstone association) of the Swan Coastal Plain

In addition, a range of vegetation communities were highlighted as being potentially significant as a result of their restricted occurrence, the degree of disturbance in some communities or the likely changes in spatial distribution as a result of continued drought conditions on the Gnangara Mound. The heath and shrubland communities on the shallow limestone outcrops are unlikely to be influenced by any changes in groundwater, although changes in seasonal and annual rainfall will affect their condition and health. The communities that occur on the lower lying flats and swamps are already under stress, primarily as a result of the series of drier rainfall years. The latter is reflected in the trend from Woodlands of *Banksia littoralis* and *Eucalyptus rudis* on areas such as Tick Flat, which are well beyond any groundwater extraction areas. The condition of some of these damplands is poor in some areas, with the loss of older trees that have not tolerated the changes in local soil moisture levels since the 1960's. The vegetation in the wetlands ad damplands on the eastern and northern sides of the Gnangara Mound are generally healthier than the western and southern areas of the Mound. The latter pattern is consistent with the groundwater levels for these respective areas.

Heddle *et al.* (1980) defined fourteen vegetation complexes for the wider Gnangara Mound area and 9 of these vegetation complexes occurred in the Stage 1 project area. The vegetation complexes within the current Stage 1 area, on the Quindalup, Spearwood and Bassendean dune systems are relatively well represented in either State Forest areas or conservation reserves within the northern Swan Coastal Plain. The less well represented vegetation complexes occur in Stage 2 on the eastern fringes of the Bassendean dune systems on the interface between the dune systems and the Darling Ranges and Dandaragan Plateau.

A total of 25 site-vegetation types, based on the system developed by Havel (1968) for the northern Swan Coastal Plain were defined for the Gnangara Mound project area. These communities can be related to underlying soil and site conditions on the respective Spearwood and Bassendean dune systems as defined by Havel (1968). The 25 site-vegetation types were grouped into 8 structural formations within the Gnangara project area. These structural formations ranged from closed heaths, open heaths, shrublands, low open woodlands, low woodlands, woodlands and open forests.

The significance of seasonal soil moisture levels and underlying site conditions such as limestone outcropping and degree of leaching in the surface sandy soils are reflected in the local dominance of species and keystone species. The latter reflects the need to expand the mapping beyond the key structural components to include indicator or keystone species that reflect the site conditions. For example, one could utilize key mapping units, key species which occur in these mapping units to define vegetation communities which have been largely cleared on the Gnangara Mound (e.g. B2 – Tuart woodlands), or one could review the moist soil indicators, such as *Banksia littoralis, Eucalyptus rudis, Hypocalymma angustifolium* and species of *Melaleuca*, which occur in the site-vegetation types J and K series to reflect potential species that could be affected by further drought conditions on the Gnangara Mound.

2. INTRODUCTION

2.1. Background Information

Mattiske Consulting Pty Ltd was commissioned in September 2001 by the Water and Rivers Commission and the Water Corporation to integrate the data available on the flora and vegetation for the Gnangara Mound (Stages 1 to 3) and to map the vegetation on the Stage 1 area of the Gnangara Mound (see Figure 1 and attached vegetation maps).

The effort to date has been on collating information and establishing and recording additional sites, consolidating this database and mapping the vegetation for the Stage 1 area.

The benefits from this project to date have included:

- An opportunity to integrate databases from a range of sources that will assist not only in delineating and mapping the native vegetation of the Stage 1 area, but also assist in operational activities undertaken by all agencies and groups involved – the Water and Rivers Commission, the Water Corporation, the Department of Environmental Protection and the Department of Conservation and Land Management.

- The digital data as supplied already should assist in planning and operational activities.

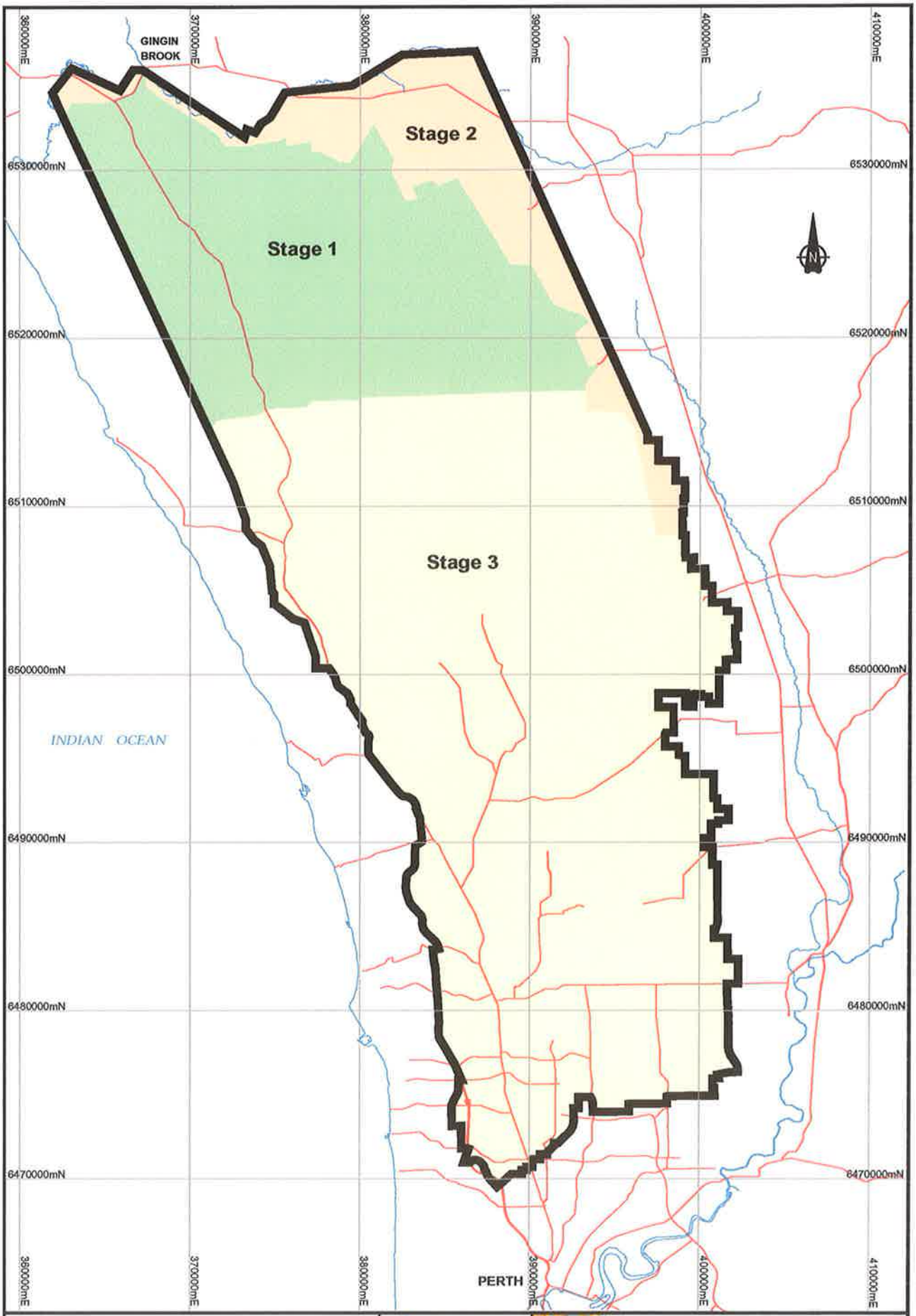
- The opportunity to merge datasets from different studies has increased the knowledge base for the project area.

- The database provides the opportunity to update the nomenclature used on many of the project areas in line with current standards defined by the Department of Conservation and Land Management.

- The development of an integrated system of data that will assist in addressing spatial and temporal changes in the native vegetation over a wider area than previously was achieved through the monitoring programs as developed by Froend and Mattiske for the land and water management agencies.

2.2. Land Use

In the time since the Gnangara Mound was established as water resource substantial changes have also occurred in the landuse in the area including a recognition to conserve sections of the Gnangara Mound in conservation areas (Melaleuca Park, Yeal Nature Reserve). In addition, the degree and extent of pine plantations has increased since the mid-1960's, as has land clearing on the fringes of the Mound. The majority of the Stage 1 area is either in State Forest, Nature Reserves, pine plantations or private holdings.



GNANGARA MOUND VEGETATION MAPPING STAGES

WATER CORPORATION

WATER AND RIVERS COMMISSION

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CAD Ref: g708_0701_94.dgn	Date: Nov 2001 Rev: A A4	

2.3. Climate

Gnangara Mound has a warm dry Mediterranean climate with a defined seasonal pattern of wet-mild winters and dry- hot summers. The average annual minimum temperature is 12°C and the maximum average annual temperature is 24°C. With five to six dry months a year the annual average rainfall for the area is 600- 1000mm (Beard 1990; Bureau of Meteorology 2002). The rainfall has varied substantially since the initial rainfall recordings were established in Perth last century. It is widely recognised that there have been periods of low annual rainfall recordings (1910's to 1920's and since 1970's). As such the Perth region is currently in one of its driest periods on records and consequently as noted by previous monitoring work by Heddle (1980), E.M. Mattiske and Associates (1982 to 1995) and Mattiske Consulting Pty Ltd (1997 to 2001), there have major shifts in vegetation in response to the series of lower rainfall years since the mid 1960's. The latter has led to substantial changes in the swamp vegetation as a result of this drying period.

The changes in local landuse and resulting vegetation cover have occurred at the very time when the annual rainfall recordings have declined since the 1960's. In addition to the variation in vegetation and its utilisation of surface and subsurface water bodies, there have been local trends in water availability associated with the groundwater conditions. In general there is a tendency for the rainfall to decrease from south to north and from west to east as the majority of the rainfall is received in the winter months of the year from south-westerly frontal systems. The latter pattern has also been reflected in the local availability of water within the systems and across the wider Gnangara Mound.

2.4. Landscape and Soils

The Swan Coastal plain consists of a series of geomorphic entities parallel to the coastline and consists of the Pinjarra plain and three dune systems of different ages whose soils are at different stages of leaching and soil formation.

From the coast heading inland the survey area is situated largely on the Spearwood and Bassendean dune systems. The most westerly boundary just clips the fringes of the Quindalup dune system which is the most recently formed near coastal dune systems (Churchward and McArthur 1980). The most eastern boundary of the survey area stopped just short of the Pinjarra plain which is an alluvial tract predominantly consisting of clays and silts lying between the Bassendean Dunes and the Darling Scarp (Churchward and McArthur 1980; Beard 1990).

The Spearwood Dunes consist of dunes lithified to limestone, in some locations, the limestone pinnacles reach the upper soil layers. These dune systems are generally higher and steeper then the Bassendean dunes. The terrain consists of ridges of calcarenite disposed more or less parallel to the coastline and mantled with yellow sand that becomes more bleached at the surface and less calcareous from west to east. There are some permanent lakes tending to occur in chains parallel to the coast which may represent old lagoons cut off by foredunes from a prograding shoreline (Beard 1990; Mattiske Consulting Pty Ltd 1997).

The Bassendean system lies inland from the Spearwood system and is approximately 15km wide (Churchward and McArthur 1980). It consists of low gently undulating dunes of quartz sands that are virtually devoid of nutrients. Dune swales tend always to be swampy due to drainage obstructed by hardpan of various kinds and there is no organised flow-lines except

where the various creek systems or rivers cross the plain (Beard 1990; Mattiske Consulting Pty Ltd 1997).

The vegetation has largely reflected the underlying landform and soil systems, with resulting changes in structure and composition associated with the Quindalup, Spearwood (Karrakatta and Cottesloe mapping units) and Bassendean dune systems (Bassendean mapping units). In between the Spearwood and Bassendean dune systems is a series of wetlands and lakes, which are associated with the Herdsman and Pinjar mapping units. In addition there are swamps and damplands within the different dune systems and these are reflected in the resulting structure and floristic composition of the vegetation.

2.5. Water Resources

Studies show that the demands made on the limited water resources in the vicinity of Perth are increasing (Water Authority of Western Australia 1986; Western Australian Water Resources Council 1987). The Gnangara Mound provides a significant part of the ground water for the Perth region. The Gnangara Mound is the name given to the shallow groundwater aquifer between the Swan River and Gingin Brook on the northern Swan Coastal plain. The swamps and lakes occur in this area where the water table approaches or rises above the surface of the ground. Consequently, most wetland areas are shallow and subject to seasonal loss of water; although in some instances there are local perched water systems above impervious soil layers.

In view of the diversity of land in the region and the potential conflict of users it is important to understand the natural biological systems within the region (Mattiske Consulting, 2000). The significance of these surface and shallow waters to the native vegetation have been studied on the Gnangara Mound since 1966 by Havel (1968), Heddle (1980) and E.M Mattiske and Associates (1981, 1982, 1985 and 1988).

2.6. Rare and Priority Flora

Species of flora and fauna are defined as rare or priority conservation status where their populations are restricted geographically or threatened by local processes. The Department of Conservation and Land Management recognises these threats of extinction and consequently applies regulations towards population and species protection.

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 Ministerial approval. Section 23F of the Wildlife Conservation Act (1950-1980) defines "to take" as "... to gather, pick, cut, pull up, destroy, dig up, remove or injure the flora or to cause or permit the same to be done by any means.

Unlike Declared Rare Flora, however, it is not a legal offence "to take" flora classified as being Priority Taxa. Nonetheless, it is encouraged that caution still be exercised, given that Priority Flora are under consideration for declaration as 'rare flora', but are in urgent need of further survey (Priority One to Three) or require monitoring every 5-10 years (Priority Four). Table 2 presents the definitions of the categories of threatened species under the Environmental Protection and Biodiversity Conservation Act, 1999.

Table 1: Definition of Rare and Priority Flora Species (Department of Conservation and Land Management, 2002)

Note: In other sections of the report these codes are referred to as the SCC – State Conservation Code

Conservation Code	Category
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."
P1	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. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey."
P2	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 urgently need further survey."
P3	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 need further survey."
P4	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."

Table 2: Categories of Threatened Flora Species (Environmental Protection and Biodiversity Conservation Act, 1999)

Note: In other sections of the report these codes are referred to as the FCC – Federal Conservation Code

Category Code	Category
Ex	Extinct Taxa which at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.
ExW	Extinct in the Wild Taxa which is known only to survive in cultivation, in captivity or as a naturalized 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.
CE	Critically Endangered Taxa which at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
E	Endangered Taxa which is not critically endangered and it is facing a very high risk of extinction in the wild in the immediate or near future, as determined in accordance with the prescribed criteria.
V	Vulnerable Taxa which is not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
CD	Conservation Dependent Taxa which at a particular time if, at that time, the species 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.

2.7. Vegetation

The main determinants of the location of different plant species and their associations on the northern Swan Coastal Plain are the underlying site conditions and the local climatic conditions (Havel 1968; Mattiske Consulting Pty Ltd 2000). For example, Paperbark trees (*Melaleuca's*) are confined to the lower slopes and depressions which are seasonally wet and either peat-loams or clays, while other species are restricted to the drier upper slopes and therefore can tolerate low moisture sandy soils (e.g. *Eremaea pauciflora*). This relationship with the local environment has been defined by Havel (1968) for the plant species and plant communities on the Bassendean and Spearwood dune systems through the definition of a series of site-vegetation types for the northern Swan Coastal Plain.

The following vegetation complexes were defined by Heddle *et al.* (1980) for the wider Gnangara Mound area, namely:

Fluviatile Deposits

COONAMBIDGEE COMPLEX
Vegetation ranges from low open forest and low woodland of *Eucalyptus todtiana - Banksia attenuata - Banksia menziesii - Banksia ilicifolia* with localised admixtures of *Banksia prionotes* to open woodland of *Corymbia calophylla - Banksia* spp.

YANGA COMPLEX
Predominantly a closed scrub of *Melaleuca* spp. and low open forest of *Casuarina obesa* on the flats subject to inundation. On drier sites the vegetation reflects the adjacent vegetation complexes of Bassendean and Coonambidgee.

Aeolian Deposits

BASSENDEAN COMPLEX – NORTH
Vegetation ranges from low open forest and low woodland of *Banksia* spp. – *Eucalyptus todtiana* to low open woodland of *Melaleuca* spp. and sedgelands, which occupy the moister sites.

BASSENDEAN COMPLEX - CENTRAL AND SOUTH
Vegetation ranges from woodland of *Eucalyptus marginata - Allocasuarina fraseriana - Banksia* spp. to low woodland of *Melaleuca* spp. and sedgelands on the moister sites. This includes the transition of *Eucalyptus marginata* to *Eucalyptus todtiana* in the vicinity of Perth.

BASSENDEAN COMPLEX - NORTH - TRANSITION
A transition complex of low open forest and low woodland of *Banksia* spp. - *Eucalyptus todtiana* on a series of high sand dunes. The understorey species reflects similarities with both the Bassendean - North and Karrakatta - North vegetation complexes.

BASSENDEAN COMPLEX - CENTRAL AND SOUTH – TRANSITION
Woodland of *Eucalyptus marginata - Corymbia calophylla* with well defined second storey of *Allocasuarina fraseriana* and *Banksia grandis* on the deeper soils and closed scrub on the moister sites. The understorey species reflects similarities with the adjacent vegetation complexes.

KARRAKATTA COMPLEX – NORTH
Predominantly low open forest and low woodland of *Banksia* spp. - *Eucalyptus todtiana*, less consistently open forest of *Eucalyptus gomphocephala - Eucalyptus todtiana - Banksia* spp.

KARRAKATTA COMPLEX - NORTH - TRANSITION
A transition complex of low open forest and low woodland of *Banksia* spp. - *Eucalyptus todtiana* on the transition zone on a series of high sand dunes between Bassendean - North and Karrakatta - North.

KARRAKATTA COMPLEX - CENTRAL AND SOUTH
Predominantly open forest of *Eucalyptus gomphocephala – Corymbia calophylla* and woodland of *Eucalyptus marginata - Banksia* spp.

COTTESLOE COMPLEX – NORTH
Predominantly low open forest and low woodland of *Banksia attenuata - Banksia menziesii - Eucalyptus todtiana*; closed heath on the limestone outcrops.

COTTESLOE COMPLEX - CENTRAL AND SOUTH
Mosaic of woodland of *Eucalyptus gomphocephala* and open forest of *Eucalyptus gomphocephala - Eucalyptus marginata - Corymbia calophylla*; closed heath on the limestone outcrops.

HERDSMAN COMPLEX
Sedgelands and fringing woodland of *Eucalyptus rudis - Melaleuca* spp.

PINJAR COMPLEX
Vegetation ranges from woodland of *Eucalyptus marginata - Banksia* spp. to fringing woodland of *Eucalyptus rudis - Melaleuca preissiana* and sedgelands.

QUINDALUP COMPLEX
Coastal dune complex consisting mainly of two alliances - the strand and fore dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of *Melaleuca. lanceolata - Callitris preissii* and the closed scrub of *Acacia rostellifera*.

The following vegetation complexes dominate the Stage 1 area –

Quindalup Complex
Cottesloe Complex – North
Cottesloe Complex - Central and South
Karrakatta Complex – North
Karrakatta Complex - North - Transition
Karrakatta Complex - Central and South
Bassendean Complex – North
Bassendean Complex - North - Transition
Bassendean Complex - Central and South – Transition

The Quindalup complex just occurs on the western fringes of the Stage 1 area and is clearly evident form a few localised sand dune systems interfacing on the western section of the Stage 1 area.

The first five complexes occur on the western Spearwood dune system and the latter three occur on the eastern Bassendean dune system.

The relationships between plant species with the local environment has been defined by Havel (1968) for the plant species and plant communities on the Bassendean and Spearwood dune systems through the definition of a series of site-vegetation types for the northern Swan Coastal Plain. Although this work was undertaken for the definition of suitable sites for pine plantations this analysis is also applicable for localised vegetation mapping as it integrates the site conditions with the resulting vegetation mapping.

A total of 25 site-vegetation types, based on the system developed by Havel (1968) for the northern Swan Coastal Plain were defined for the wider Gnangara Mound area. Thus the mapping codes are initially based on the A to K code with an additional number to designate the variation in structure and composition of the 25 vegetation mapping units in the Stage 1 project area.

The main determinants of the location of different plant species and their associations on the northern Swan Coastal Plain are the underlying site conditions and the local climatic conditions. For example, Paperbark trees (*Melaleuca's*) are confined to the lower slopes and depressions which are seasonally wet and either peat-loams or clays, while other species are restricted to the drier upper slopes and therefore can tolerate low moisture sandy soils (e.g. *Eremaea pauciflora*). This relationship with the local environment has been defined by Havel (1968) for the plant species and plant communities on the Bassendean and Spearwood dune systems through the definition of a series of site-vegetation types for the northern Swan Coastal Plain.

2.8. Local and Regional Significance

Vegetation communities are referred to as locally significant where the presence of priority flora species has been recorded, where they maintain a range extension of particular taxa from previously recorded locations, or where they are very restricted to one or two locations or occur as small isolated communities. In addition, communities that exhibit unusually high structural and species diversity are also of local significance.

Vegetation communities are referred to as Regionally Significant where they are limited to specific landform types, are uncommon or restricted community types within the regional context, or support populations of Declared Rare Flora.

3. OBJECTIVES

- Collation of data from different datasets, including cadastral, topography, aerial photographs, previous flora and vegetation studies, bore data.
- Collation of relevant literature for vegetation on the project area.
- Establishment and recording of a further 140 additional sites in the Stage 1 area.
- Adjustment of bore locations on data bases (monitoring and production in line with grid systems).
- collect and identify the vascular plant species present in the field survey area;
- search for any rare, endangered or significant flora species;
- review the conservation status of the vascular plant species by reference to current literature and current listings by the Department of Conservation and Land Management (2002) and plant collections held at the State Herbarium and current listings associated with the Environmental Protection Biodiversity Conservation Act (1999);
- define and map the vegetation communities present;
- prepare a report that summarises the findings.

4. METHODS

Data sets from previous studies were sorted and prepared for data integration into the database for Stages 1 to 3. This data was sourced from different datasets, including cadastral, topography, aerial photographs, previous flora and vegetation studies and bore data.

In undertaking this collation the main effort was placed on integrating the digital data sets for the wider project area. In integrating the point data from previous botanical studies an emphasis was placed on selecting the point data from those sets relevant to the Stage 1 area.

A further 140 additional sites were selected, established and recorded in the Stage 1 area. The 140 sites were selected using the aerial photograph mosaics for the area, which also included the location of all Gibson *et al.* (1994) sites (as supplied by the Department of Conservation and Land Management), the location of previously established vegetation monitoring sites by Mattiske Consulting for the Water and Rivers Commission, and the location of the bores (monitoring and production bores as supplied by the Water Corporation and the Water and Rivers Commission).

The 140 additional sites were recorded in the spring months of 2001, between the 4th September and the 22nd of October. Each site consisted of a 10m x 10m quadrat, which was pegged, in each corner with a fence dropper. A tag with the plot number on it was placed on the peg in the north west corner. The location of the northwest corner was also taken with a GPS. A photographic record was also taken of each quadrat, with the photograph taken looking towards the northwest corner of the quadrat.

The location of each site was selected on the basis of previous coverage or lack of coverage, the ability to access the area and on the basis of significant changes in structure and floristic of the vegetation. Additional attention was also placed on locating sites in areas to assist in boundary definition.

4.1. Flora

The flora of the area was described and collected systematically at each survey site by botanists from Mattiske Consulting Pty Ltd during field trips carried out at various times in September 2001.

All plant specimens collected during the field survey were dried and fumigated in accordance with the requirements of the Western Australian Herbarium. The plant species were identified and then compared with pressed specimens housed at the Western Australian Herbarium. Where appropriate, plant taxonomists with specialist skills were consulted. Nomenclature of the species recorded follows the Western Australian Herbarium (2002) database.

4.2. Vegetation

The vegetation communities occurring within the survey area were described in detail. The use of a standard data collection form ensured the data was collected in a systematic and consistent manner. At each site the following records were made: topography, percentage litter cover, soil ratio and colour, percentage of bare ground, outcropping rocks, and age since fire. For each species recorded, the average height was noted and for the dominant species of each stratum the percentage foliage cover of both alive and dead was noted.

The method of site-vegetation typing as defined by Havel (1968) for the plant species and plant communities on the Bassendean and Spearwood dune systems for the northern Swan Coastal Plain was adopted to categorise the various vegetation communities that were surveyed on the Gnangara Mound.

These Havel site-vegetation types have since been expanded for the Stage 1 project, Thus the mapping codes are initially based on the A to K code with an additional number to designate the variation in structure and composition of the 25 vegetation mapping units in the Stage 1 project area.

Aerial photography and soil mapping was used to extrapolate and map vegetation communities in combination with running notes made during the course of the survey.

5. RESULTS

5.1. Flora

A total of 717 vascular plant taxa from 80 plant families and 273 genera were recorded within the wider project area. Of these, 78 taxa were introduced plant taxa.

5.2. Potential Rare and Priority Flora

A search of potential Rare and Priority species was undertaken by accessing the database as held by the Department of Conservation and Land Management (2002). This database search extended beyond the Stage 1 project area to delineate potential rare and priority flora, which may occur in the Stage 1 project area. As a result of this database search some eight Declared Rare Flora species (as gazetted under the Wildlife Conservation Act 1950), two Priority 1 species, six Priority 2 species, eighteen Priority 3 species and ten Priority 4 species (as listed by the Department of Conservation and Land Management (2002) were recognised as potentially occurring in the wider area on the Gnangara Mound. Many of these species occur on the eastern and western fringes of the Stage 1 project area.

Of the latter species, four of the Declared Rare Flora species are listed as Endangered and four of the Declared Rare Flora species are listed as Vulnerable under the Environmental Protection and Biodiversity Conservation Act (1999). If the area of potential investigation is extended then the number of rare and priority species increases proportionally as many rare and endangered species are located on the eastern side of the Swan Coastal Plain in localised remnant areas.

The following details have been extracted from FloraBase and are provided as a basis for reviewing potential impacts of changes in surface water tables on rare and endangered species (see listing in Appendix E):

Declared Rare Flora

Acacia anomala **(R - SCC ; V - FCC)**
On restricted, lateritic soils, eastern edge of Swan Coastal Plain.

Caladenia huegelii **(R - SCC ; E - FCC)**
On damplands and sandy dunes (grey and Bassendean in particular), largely coastal plain; associated with *Melaleuca rhaphiophylla* and *Banksia* woodlands.

Chamelaucium **sp. Gingin (N. Marchant s.n. 4.11.88) (R - SCC; E - FCC)**
On white to yellow sands, on slight rises, restricted but not confined to Gnangara Mound.

***Darwinia* sp. Muchea (B.J. Keighery 2458) (R - SCC)**
On grey white sands, Muchea and restricted.

***Eleocharis keigheryi* (R - SCC ; V - FCC)**
On fresh water and creeks, claypans and sandy-loams, largely coastal plain; ranges from *Casuarina obesa* flats to Wandoo gullies, often associated with *Melaleuca lateritia* and *Melaleuca viminea.*

***Eucalyptus argutifolia* (R - SCC ; V - FCC)**
On shallow limestone, restricted to coastal plain.

***Grevillea curviloba* subsp. *curviloba* (R - SCC; E - FCC)**
On winter wet heaths, Muchea and Bullsbrook, restricted to coastal plain.

***Grevillea curviloba* subsp. *incurva* (R - SCC; E - FCC)**
On winter wet heaths, sandy-clays over ironstone, Muchea to Eneabba, coastal areas mainly.

Priority 1 Flora

***Grevillea evanescens* (Priority 1 - SCC; V – FCC)**
On Spearwood sands to swamps near Gingin, restricted in occurrence.

***Pityrodia axillaris* (Priority 1 - SCC)**
On sandy soils, mostly northeast and not restricted to Coastal Plain.

Priority 2 Flora

***Acacia benthamii* (Priority 2 - SCC)**
On largely coastal plain - limestone and some on shallow sands over clay (Southern River).

***Haloragis aculeoata* (Priority 2 - SCC)**
Not restricted to coastal plain - variable sites, winter-wet flats to ridges, sand or clay over limestone and some limestone ridges.

***Isotropis cuneifolia* subsp. *glabra* (Priority 2 - SCC)**
On restricted, winter wet clay pans, near Gingin.

***Scaevola paludosa* (Priority 2 – SCC)**
Occurs as scattered populations from Shark Bay to Esperance on coastal areas, associated with calcareous soils and limestone. In previous studies on the Swan Coastal Plain this taxon has been found to have been mis-applied to some specimens.

***Stenanthemum sublineare* (Priority 2 – SCC)**
Very restricted, but local population substantial, in *Banksia attenuata* community.

Priority 3 Flora

***Adenanthos cygnorum* subsp. *chamaephyton* (Priority 3 - SCC)**
Lateritic soils and sandy soils, eastern Swan Coastal Plain near Muchea and into jarrah forest to east.

***Chamaescilla gibsonii* (Priority 3 - SCC)**
Winter wet, sandy clays on Swan Coastal Plain.

Comesperma acerosum **(Priority 3 - SCC)**
Sands over limestone, lateritic gravels from Geraldton to South Coast, mainly near coastal areas.

Conostylis bracteata **(Priority 3 - SCC)**
Sandy soils, associated with limestone, northern Swan Coastal Plain.

Conostylis pauciflora **subsp.** ***euryrhipis*** **(Priority 3 - SCC)**
Sandy soils, associated with limestone, Swan Coastal Plain.

Cyathochaeta teretifolia **(Priority 3 - SCC)**
Near coastal areas southwest, grey sands to clay sands, edges of swamps and creeks, sedgelands.

Dillwynia dillwynioides **(Priority 3 - SCC)**
On restricted, winter wet sandy - clays, Gingin to Harvey *Melaleuca* and *Banksia* woodlands, including Bassendean dune system.

Guichenotia tuberculata **(Priority 3 - SCC)**
Sandy clays and laterite, eastern Swan Coastal Plain.

Haloragis tenuifolia **(Priority 3 - SCC)**
On winter-wet flats, grey sands, coastal areas, not restricted to Gnangara Mound.

Hibbertia spicata **subsp.** ***leptotheca*** **(Priority 3 - SCC)**
Sandy soils, associated with limestone, Swan Coastal Plain.

Jacksonia sericea **(Priority 3 - SCC)**
On calcareous and sandy soils, coastal areas, not restricted to Gnangara Mound.

Lasiopetalum lineare **(Priority 3 - SCC)**
Sandy soils to laterite soils, population near Yeal Swamp, Banksia woodlands, northern Swan Coastal Plain.

Lasiopetalum membranaceum **(Priority 3 - SCC)**
On sand over limestone, coastal areas, not restricted to Gnangara Mound.

Myriophyllum echinatum **(Priority 3 - SCC)**
On winter-wet flats, clays, coastal areas, not restricted to Gnangara Mound.

Platysace ramosissima **(Priority 3 - SCC)**
Winter damp flats to sandy soils, Coastal Plain, Lake Clifton to northern plains.

Stylidium longitubum **(Priority 3 - SCC)**
Sandy clays to clays associated with seasonal wetlands, on Swan Coastal Plain and in Wheatbelt.

Thomasia triloba **(Priority 3 - SCC)**
Sandy to gravelly soils, associated also with limestone, from north of Geraldton to southern coast.

***Verticordia serrata* var. *linearis* (Priority 3 - SCC)**
Sand and gravelly soils, eastern side of Swan Coastal Plain, eastwards to Northam and isolated population northeast of Geraldton.

Priority 4 Flora

***Caladenia speciosa* (Priority 4 - SCC)**
On grey to black sands, coastal areas but not restricted to Gnangara Mound.

***Calytrix sylvana* (Priority 4 - SCC)**
On lateritic and sandy soils, northern Swan Coastal Plain and eastwards onto Darling Ranges.

***Conostephium minus* (Priority 4 - SCC)**
On sand dunes, grey and yellow sands, *Banksia* woodlands.

***Conostylis pauciflora subsp. pauciflora* (Priority 4 - SCC)**
On sand dunes, associated with limestone, Swan Coastal Plain.

***Drosera occidentalis subsp. occidentalis* (Priority 4 - SCC)**
Winter wet swamps, sands and clay soils on Swan Coastal Plain and adjacent areas.

***Grevillea thelemanniana* (Priority 4 - SCC)**
Winter wet low lying flats, west of mound, but not restricted to Gnangara Mound

***Hyrdocotyle lemnoides* (Priority 4 - SCC)**
Swamps clay pans Swan Coastal Plain and inland to southwest swamps.

***Lepidium pseudotasmanicum* (Priority 4 - SCC)**
Loams and sands, northern Swan Coastal Plain (near Yanchep), inland areas and south coast.

***Stachystemon axillaris* (Priority 4 - SCC)**
Sandy soils, northern coastal areas from Perth to Geraldton.

***Verticordia lindleyi* subsp. *lindleyi* (Priority 4 - SCC)**
Sands, sandy-clays, winter wet depressions and creeklines, mainly coastal.

The majority of these rare and priority species, as indicated by reference to FloraBase reflect a consistent pattern of species that are concentrated in winter wet depressions, plant communities on the eastern side of the Swan Coastal Plain (which have largely been cleared for agriculture) which will occur within Stage 2 of the Gnangara Mound mapping project area and in the plant communities on the western calcareous sands associated with limestones which will occur within Stage 3 of the Gnangara Mound mapping project.

5.3. Rare and Priority Flora Species in Stage 1

As a result of the survey work associated with the flora and vegetation studies in the Stage 1 project area the following rare and priority species were located:

No declared rare flora pursuant to Subsection 2 of Section 23F of the Wildlife Conservation Act (1950) and listed by the Department of Conservation and Land Management (2002) were located during the survey.

No endangered or vulnerable species, pursuant to Schedule 1 of s179 of the Environmental Protection and Biodiversity Conservation Act (1999) (Environment Australia, 2002) were located during the survey.

14 Priority Flora species pursuant to Subsection 2 of Section 23F of the Wildlife Conservation Act (1950) and listed by the Department of Conservation and Land Management (2002) was located during the survey. The locations of the Priority Flora in the project area are summarised in Table 3.

Table 3: Locations and Status of Priority Flora found on the Gnangara Mound

Note: M= Sites established by Mattiske consulting, G= Sites established By Gibson et al.

Species	Status	Site Numbers
Acacia benthamii	P2	M046, G855
Calectasia cyanea	P2	M002, M003, M004, G570, G573, G672, G693, G815
Conostephium minus	P4	M062, M065, M069, M072, M077, M083, M092, M102, M106, M117, M120, G152, G569, G573, G574, G657, G658, G663, G671, G672, G673
Conostylis pauciflora subsp. euryrhipis	P3	G809, G811
Dillwynia dillwynioides	P3	G571
Hibbertia spicata subsp. leptotheca	P3	G847, G850, G852
Jacksonia sericea	P3	M001, M007, M023, M027, M028, M033, M035, M042, M046, M047, M051
Pithocarpa corymbulosa	P2	G671, G815
Sarcozona bicarinata	P3	G805
Scaevola paludosa	P2	G798, G814
Schoenus natans	P4	G602
Stachystemon axillaris	P4	M056
Stylidium glabrifolium	P2	G798
Stylidium longitubum	P3	G344, G345

5.4. Threatened Ecological Communities and Vegetation Communities of Conservation Significance

Four ecological communities were initially listed as Critically Endangered by English and Blyth (1997). These ecological communities are listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) have been recorded within the wider Gnangara Mound area and therefore potentially occur within the future staged flora and vegetation mapping areas. These communities occur on the eastern or western fringes of the project area:

1. Aquatic Root Mat Community in Caves of the Swan Coastal Plain
2. Assemblages of plants and invertebrate animals of tumulus (organic mound) springs of the Swan Coastal Plain
3. Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain
4. Shrublands and Woodlands on Perth to Gingin Ironstone (Perth to Gingin ironstone association) of the Swan Coastal Plain

In the current stage, a range of vegetation communities could be considered to be potentially significant as a result of their restricted occurrence, the degree of disturbance in some communities or the likely changes in spatial distribution as a result of continued drought conditions on the Gnangara Mound, namely:

1. The dense heaths and shrublands on the limestone outcrops of largely the Cottesloe landform and soil units of the Spearwood dune system (Churchward and McArthur 1980), which supports the A1, B1 and B4 site-vegetation types as defined and mapped in Stage I). These communities have been highlighted as significant by the Department of Conservation and Land Management. Neither of these communities is likely to be affected by changes in groundwater levels as they occur on shallow limestone areas higher in the landscape. However the structure and composition of these communities is likely to be affected by landuses (adjacent pine plantations) and drought conditions.

2. The woodlands on the deeper dunes of the Spearwood dune system (largely Karrakatta landform and soil unit as defined by Churchward and McArthur 1980) which support both stands of Tuart (*Eucalyptus gomphocephala*) (B2 site-vegetation type) and the mallee Eucalypts (*Eucalyptus decipiens* subsp. *decipiens* and *Eucalyptus foecunda*) (B3 site-vegetation type) are locally restricted and in other sections of the Swan Coastal Plain have been cleared for urban, semi-rural and agricultural holdings. The latter clearing is evident in the extent of B2(d) on the northern section of mapping in the Stage 1 area. Whilst these communities are not likely to be affected by changes in local groundwater levels, land clearing poses continued threats to their extent and protection.

3. The other potential threatened ecological communities include largely the wetlands and watercourses (largely K series of site-vegetation types as defined and mapped in the Stage 1 area). These communities have been modified significantly since the 1960's, as indicated by the detailed monitoring work of the Gnangara Mound by E.M. Mattiske and Associated and Mattiske Consulting Pty Ltd since the mid-1970's. In these monitoring studies the extent and condition of these areas has been modified.

Heddle *et al.* (1980) defined fourteen vegetation complexes for the wider Gnangara Mound area and 8 of these vegetation complexes dominated the Stage 1 project area. The vegetation complexes within the current Stage 1 area, the small area of Quindalup, the Spearwood and Bassendean dune systems are relatively well represented in either State Forest areas or conservation reserves within the northern Swan Coastal Plain. The less well represented vegetation complexes occur in Stage 2 on the eastern fringes of the Bassendean dune systems on the interface between the dune systems and the Darling Ranges and Dandaragan Plateau. The vegetation complex mapping units, which occur on the extensive low lying wetlands, flats and damplands where there has been a dependency on near surface higher soil moisture levels are at greatest risk and have a higher conservation value in the context that significant sections of these complexes have been cleared for agriculture or urban developments.

The representation of the majority of the vegetation complexes was reviewed during the System 6 process, and in the southern section of the Gnangara Mound during Bush Forever process (State Government of Western Australia 2001).

Only the southern area of the Gnangara Mound was assessed during the Bush Forever (or Bushplan) process and consequently even assessment of conservation values and regional significance of vegetation values was not consistent across the project area.

The assessment by Gibson *et al.* (1994) and English and Blyth (1997) highlighted the following communities as having conservation significance, namely:

- The *Banksia attenuata* woodlands over species rich dense shrublands (Floristic Community Type 20a, Gibson *et al.* 1994) is classed as Threatened Ecological Community – Endangered Category by English and Blyth (1997). This community occurs on two distinct landform units, one of which is the Karrakatta unit (part of the Spearwood System) located north of Perth.

The Quindalup, Cottesloe and Karrakatta units are only found on the western boundary of the Gnangara Mound project area.

5.5. Vegetation Complexes

Heddle *et al.* (1980) defined fourteen vegetation complexes for the wider Gnangara Mound area and 8 of these vegetation complexes dominated the Stage 1 project area. These occurred on the Spearwood and Bassendean dune systems.

The following vegetation complexes dominate the Stage 1 area –

Quindalup Complex
Cottesloe Complex – North
Cottesloe Complex - Central and South
Karrakatta Complex – North
Karrakatta Complex - North - Transition
Karrakatta Complex - Central and South
Bassendean Complex – North
Bassendean Complex - North - Transition
Bassendean Complex - Central and South – Transition

The Quindalup complex just occurs on the western fringes of the Stage 1 area and is clearly evident form a few localised sand dune systems interfacing on the western section of the Stage 1 area.

The Cottesloe and Karrakatta complexes occur on the western Spearwood dune system and the latter three occur on the eastern Bassendean dune system.

5.6. Vegetation

The specific sites assessed by Mattiske Consulting Pty Ltd in 2001 and Gibson were classified at the site-vegetation type level (Appendix B). To assist in interpretation the legend on the accompanying maps are presented in two forms:

1. grouped by the structural formation (Closed Heath through to the Open Forest)

2. ordered by site-vegetation types (based on the earlier studies by Havel (1968) on the Swan Coastal Plain.

A total of 25 site-vegetation types, based on the system developed by Havel (1968) for the northern Swan Coastal Plain were defined for the Gnangara Mound project area (Appendix C). These communities can be related to underlying soil and site conditions on the respective Quindalup, Spearwood and Bassendean dune systems as defined by Havel (1968).

The Quindalup dune system supports the Q1 site-vegetation type as defined below on the western dune systems in the Stage 1 area.

The Spearwood dune system supports the A1, B1, B2, B3, B4, C1, D1 and E1 site-vegetation types on the varying soil depths over limestone on the Cottesloe (A1, B1, B2, B4, C1) and Karrakatta (D1 and E1) systems.

Bassendean dune system supports the F1, G1, G2, G3, H1, H2, H3, H4, I1, J1, J2., K1, K2, K3, K4 and K5 on the leached sands of the system. The F1 unit forms an intermediate type between the Spearwood and the Bassendean dunes systems as reflected in the leached surface soils and resulting vegetation. The gradient from the upper slopes of the Bassendean dune systems is reflected in the shift from the G1 to G3 types, through the H1 to H4 on the mid slopes, I1 on the moister lower slopes, J1 to J2 on the seasonally wetter soils on the lower slopes to the range of damplands and wetlands on the K1 to K5 types. The latter changes in site-vegetation types is reflected in the pattern of the wetlands, at the extreme – OW – open water, through the K series then upslope changing gradually to the G series at the top of the drier dune systems. This latter pattern is critical for reflecting and predicting changes in local hydrological conditions as the K types are generally dependent on regular wet and moist soils either in circular low lying areas close to the surface or near surface groundwater levels or along watercourses and flowlines (eg. the river flats in the northern section of Stage 1).

If one approaches the vegetation on the Gnangara project area form a structural approach there are a total of 8 structural formations, as follows:

Open Forest

K1 Open Forest of *Eucalyptus rudis - Melaleuca preissiana - Banksia ilicifolia* with occasional *Banksia attenuata, Banksia menziesii, Nuytsia floribunda* and *Eucalyptus todtiana* over *Kennedia prostrata, Lyginia barbata, Xanthorrhoea preissii, Hypocalymma angustifolium, Dasypogon bromeliifolius, Pericalymma ellipticum* var. *ellipticum, Astartea fascicularis, Lepidosperma tenue, Jacksonia furcellata, Kunzea ericifolia* subsp. *ericifolia* and *Bossiaea eriocarpa.*

K2 Open Forest of *Eucalyptus rudis - Melaleuca rhaphiophylla - Banksia ilicifolia* with occasional pockets of *Casuarina obesa, Melaleuca preissiana, Banksia littoralis* over *Baumea juncea, Lepidosperma longitudinale, Regelia ciliata, Hypolaena exsulca* and *Hakea varia.*

K3 Open Forest of *Eucalyptus rudis - Melaleuca preissiana* over *Acacia saligna* and *Hypocalymma angustifolium.*

Woodland

B2 Woodland of *Eucalyptus gomphocephala - Banksia attenuata - Allocasuarina fraseriana* over *Hibbertia hypericoides, Hakea trifurcata, Conospermum canaliculatum, Melaleuca systena, Macrozamia riedlei, Acacia pulchella* var. *glaberrima* and *Stirlingia latifolia.*

G3 Woodland of *Eucalyptus marginata - Eucalyptus todtiana* over *Xanthorrhoea preissii, Hibbertia hypericoides* and *Phlebocarya ciliata.*

J1 Woodland of *Corymbia calophylla - Banksia attenuata - Banksia menziesii - Melaleuca preissiana* over *Xanthorrhoea preissii, Hypocalymma angustifolium, Pultenaea reticulata, Adenanthos obovatus, Regelia ciliata* and *Jacksonia furcellata.*

J2 Woodland of *Corymbia calophylla* over *Xanthorrhoea preissii, Hibbertia subvaginata* and *Gompholobium scabrum.*

K4 Woodland of *Melaleuca preissiana - Banksia attenuata - Nuytsia floribunda* with the occasional *Banksia menziesii* and *Eucalyptus todtiana* over *Xanthorrhoea preissii, Dasypogon bromeliifolius* and *Jacksonia furcellata.*

Low Woodland

B3 Low Woodland of *Eucalyptus decipiens* subsp. *decipiens - Banksia attenuata - Allocasuarina fraseriana* with pockets of *Eucalyptus foecunda* over *Hakea prostrata, Hakea ruscifolia, Xanthorrhoea preissii, Daviesia divaricata* and *Scholtzia involucrata.*

G1 Low Woodland of *Banksia attenuata - Banksia menziesii - Eucalyptus todtiana - Nuytsia floribunda* with occasional *Allocasuarina fraseriana* and *Banksia grandis* (southern section only) over *Leucopogon conostephioides, Scholtzia involucrata, Eremaea pauciflora* var. *pauciflora, Melaleuca scabra, Boronia purdieana* subsp. *purdieana* and *Astroloma xerophyllum.*

H1 Low Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia - Nuytsia floribunda* over *Beaufortia elegans, Leucopogon polymorphus, Melaleuca systena, Calytrix angulata, Calytrix flavescens, Stirlingia latifolia, Dasypogon bromeliifolius, Leucopogon conostephioides, Lyginia barbata, Macrozamia riedlei* and *Xanthorrhoea preissii.*

H2 Low Woodland of *Banksia attenuata - Banksia menziesii* over *Melaleuca viminea, Dasypogon bromeliifolius, Kunzea ericifolia* subsp. *ericifolia, Xanthorrhoea preissii, Phlebocarya ciliata* and *Hibbertia subvaginata.*

H4 Low Woodland of *Banksia prionotes* over *Adenanthos cygnorum, Calytrix angulata, Verticordia densifolia* var. *densifolia* and *Regelia ciliata.*

Low Open Woodland

C1 Low Open Woodland of *Banksia attenuata - Banksia menziesii - Allocasuarina fraseriana* over *Hibbertia hypericoides, Hibbertia racemosa, Hakea costata, Petrophile serruriae, Petrophile brevifolia, Jacksonia hakeoides, Jacksonia sternbergiana, Mesomelaena stygia, Xanthorrhoea preissii* and *Stirlingia latifolia.*

D1 Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Mesomelaena stygia, Calothamnus sanguineus, Eremaea pauciflora* var. *pauciflora* and *Melaleuca scabra.*

E1 Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Eremaea fimbriata, Xanthorrhoea preissii, Synaphea spinulosa* subsp. *spinulosa, Stirlinga latifolia* and *Melaleuca scabra.*

F1 Low Open Woodland of *Banksia attenuata - Banksia grandis* over *Conospermum stoechadis* subsp. *stoechadis, Xanthorrhoea preissii, Eremaea pauciflora* var. *pauciflora* and *Jacksonia calcicola* (ms) with pockets of *Banksia attenuata - Banksia menziesii - Nuytsia floribunda* over *Melaleuca systena, Allocasuarina humilis* and *Xanthorrhoea preissii.*

G2 Low Open Woodland of *Banksia attenuata - Banksia menziesii - Allocasuarina fraseriana - Eucalyptus todtiana* over *Xanthorrhoea preissii, Lysinema ciliatum, Verticordia nitens, Hibbertia hypericoides, Philotheca spicata, Eremaea pauciflora* var. *pauciflora, Bossiaea eriocarpa, Daviesia nudiflora, Mesomelaena pseudostygia* and *Stirlingia latifolia.*

H3 Low Open Woodland of *Banksia ilicifolia - Hakea prostrata* over *Melaleuca systena, Melaleuca trichophylla, Xanthorrhoea preissii, Scholtzia involucrata, Calytrix flavescens* and *Petrophile brevifolia.*

I1 Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Verticordia nitens, Dasypogon bromeliifolius, Melaleuca seriata* and *Patersonia occidentalis.*

Shrubland

B4 Shrubland *of Conospermum canaliculatum* subsp. *canaliculatum, Melaleuca systena, Xanthorrhoea preissii* and *Hibbertia hypericoides* with limestone outcropping.

Q1 Shrubland of *Acacia rostellifera, Acacia lasiocarpa, Calothamnus quadrifidus, Melaleuca systena, Phyllanthus calycinus* and *Leucopogon parviflorus.*

Closed Heath

A1 Closed Heath of *Melaleuca huegelii, Trymalium ledifolium, Grevillea preissii* subsp. *preissii, Grevillea vestita* and *Dryandra sessilis.*

B1 Closed Heath of *Jacksonia hakeoides, Conospermum triplinervium, Calothamnus quadrifidus, Melaleuca systena* and *Lechenaultia linarioides.*

K5 Closed Heath to Tall Shrubland of Myrtaceae - Proteaceae species including *Acacia saligna, Melaleuca lateriflora, Kunzea ericifolia* subsp. *ericifolia, Astartea fascicularis, Regelia ciliata, Kunzea recurva, Hypocalymma angustifolium* over *Drosera* species.

In addition to the vegetation mapping units the code of OW was used to denote open water, Pines to denote pine plantations and (d) to denote disturbed or cleared vegetation. The latter code is pre-fixed by the site-vegetation code, so B1(d) is a disturbed version of the B1 site-vegetation type.

As indicated by the degree of disturbance in the northern section of the Stage 1 area a large section of the vegetation in the northern section of this area has been cleared for semi-rural lots or agricultural activities. In Stages 2 and 3 it would be useful to create a third disturbance category (c). The latter coding will become more critical in Stages 2 and 3 as larger areas are cleared rather than disturbed. At this juncture, Stage 1 will be revisited and some of the northern (d) areas will be subdivided. Essentially the main disturbance categories of vegetation in the Stage 1 area were partly cleared or pine plantations.

In general terms the health and the condition of the native vegetation in the areas was relatively intact, except for pockets of the J and K series of the site-vegetation types which had been affected by the drought period since the lower rainfall recordings in the 1970's. There are several regional trends in vegetation which reflect the underlying site conditions (either through variations in the depth of soil or through the degree of seasonal soil moisture in the soils).

The condition of the vegetation in the J and K site-vegetation types vary across the Gnangara Mound and in part reflect their location in relation to available soil moisture (either resulting from near surface groundwater or from trends in available moisture from south to north and west to east). The degree of changes in the vegetation cover and condition is also reflected by local site conditions. As indicated in the earlier monitoring studies by Heddle (1980), E.M. Mattiske and Associates (1982 to 1995) and Mattiske Consulting Pty Ltd (1997 to 2001) the degree of local change is also affected by the slope and local extent of the respective communities that tolerate different site conditions. To illustrate the latter point, the communities on the flatter areas near Lake Pinjar (as indicated by the Gnangara P50 studies) reflect subtle changes in local hydrological conditions more than the vegetation on the steeper slopes where the interface between those communities on the damplands and wetlands and the drier slopes is confined in spatial extent. Consequently, within the Stage 1 area the vegetation types have been affected by the regional drought conditions, as well as the specific shift in condition on the lower slopes and wetlands (J and K site-vegetation types and OW). The spatial extent of these changes is local and regional. The moist soil indicators, such as *Banksia littoralis, Eucalyptus rudis, Hypocalymma angustifolium* and species of *Melaleuca*, which occur in the site-vegetation types J and K series, can be used to assess further trends in the vegetation in response to the drought conditions on the Gnangara Mound.

6. DISCUSSION

A total of 717 vascular plant taxa from 80 plant families and 273 genera were recorded within the wider project area. Of these, 78 taxa were introduced plant taxa. This total number of taxa is likely to increase substantially when Stages 2 and 3 are undertaken on the Gnangara Mound project area. The latter prediction is related primarily to the greater range of site conditions in the other areas. It is also likely that the number of introduced species in these other areas will increase as many remnant areas of vegetation have been isolated or been modified by local grazing activities.

The majority of the rare and priority species recorded in the wider project area reflect a consistent pattern of species that are concentrated in winter wet depressions, plant communities on the eastern side of the Swan Coastal Plain (which have largely been cleared for agriculture) and plant communities on the western calcareous sands associated with limestones. Similarly, on the basis of the results presented to date in the Gnangara Mound area it is likely that more rare and priority species will be located on the eastern and western fringes of the Gnangara Mound in Stages 2 and 3.

Heddle *et al.* (1980) defined fourteen vegetation complexes for the wider Gnangara Mound area and 9 of these vegetation complexes occurred within the Stage 1 project area. The vegetation complexes within the current Stage 1 area, on the Quindalup, Spearwood and Bassendean dune systems are relatively well represented in either State Forest areas or conservation reserves within the northern Swan Coastal Plain. The less well represented vegetation complexes occur in Stage 2 on the eastern fringes of the Bassendean dune systems on the interface between the dune systems and the Darling Ranges and Dandaragan Plateau.

A total of 25 site-vegetation types, based on the system developed by Havel (1968) for the northern Swan Coastal Plain were defined for the Gnangara Mound project area. These communities were related to underlying soil and site conditions on the respective Quindalup, Spearwood and Bassendean dune systems as defined by Havel (1968). The 25 site-vegetation types were grouped into 8 structural formations within the Gnangara project area. These structural formations ranged from closed heaths, open heaths, shrublands, low open woodlands, low woodlands, woodlands and open forests.

As indicated by the groupings within the structural formations there is a mosaic of structural formations from heaths to woodlands and forests on both the Spearwood and Bassendean dune systems. The significance of seasonal soil moisture levels and underlying site conditions such as limestone outcropping and degree of leaching in the surface sandy soils are reflected in the local dominance of species and keystone species. The latter reflects the need to expand the mapping beyond the key structural components to include indicator or keystone species that reflect the site conditions. For example, one could utilize key mapping units, key species which occur in these mapping units to define vegetation communities which have been largely cleared on the Gnangara Mound (e.g. B2 – Tuart woodlands), or one could review the moist soil indicators which occur in the site-vegetation types J and K series to reflect potential species that could be affected by further drought conditions on the Gnangara Mound.

The vegetation maps were prepared using field data and the 1:10,000 aerial photograph mosaics. This was a different scale to the one formerly proposed, however the accuracy of boundary determination is more accurate and therefore this scale is recommended for the following Stages 2 and 3 of the project.

7. LIST OF PARTICIPANTS

The following personnel were involved in various stages of the project:

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APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
LYCOPIACEAE	*Phylloglossum*	*drummondii*
SELAGINELLACEAE	*Selaginella*	*gracillima*
DENNSTAEDTIACEAE	*Pteridium*	*esculentum*
AZOLLACEAE	*Azolla*	*filiculoides*
ZAMIACEAE	*Macrozamia*	*riedlei*
PINACEAE	* *Pinus*	*radiata*
TYPHACEAE	* *Typha*	*orientalis*
JUNCAGINACEAE	*Triglochin*	*centrocarpa*
	Triglochin	*huegelii/linearis*
	Triglochin	*linearis*
	Triglochin	*muelleri*
	Triglochin	*trichophora*
	Triglochin	sp.
POACEAE	*Agrostis*	*avenacea*
	* *Aira*	*caryophyllea*
	* *Aira*	sp.
	Amphibromus	*nervosus*
	Amphipogon	*?amphipogonoides*
	Amphipogon	*laguroides*
	Amphipogon	*?strictus*
	Amphipogon	*turbinatus*
	Amphipogon	sp.
	Austrodanthonia	*occidentalis*
	Austrodanthonia	*?occidentalis*
	Austrodanthonia	sp.
	Austrostipa	*compressa*
	Austrostipa	*flavescens*
	Austrostipa	*macalpinei*
	Austrostipa	*?macalpinei*
	Austrostipa	sp.
	* *Avellinia*	*michelii*
	* *Briza*	*maxima*
	* *Briza*	*minor*
	* *Briza*	sp.

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

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FAMILY NAME	GENUS	SPECIES
POACEAE continued	* *Bromus*	*diandrus*
	* *Bromus*	*rubens*
	* *Bromus*	sp.
	Dichelachne	*crinita*
	* *Ehrharta*	*calycina*
	* *Ehrharta*	*longiflora*
	Ehrharta	sp.
	* *Holcus*	*setiger*
	* *Lolium*	*multiflorum* x *perenne*
	* *Lolium*	*rigidum*
	Microlaena	*stipoides*
	Microlaena	*stipoides* var. *stipoides*
	Notodanthonia	sp.
	* *Pentaschistis*	*airoides*
	* *Phalaris*	*minor*
	* *Poa*	*annua*
	Poa	*drummondiana*
	Poa	*poiformis*
	* *Poa*	*pratensis*
	Poaceae	sp.
	* *Polypogon*	*monspeliensis*
	?*Puccinellia*	sp.
	* *Rostraria*	*cristata*
	* *Vulpia*	*bromoides*
	* *Vulpia*	*myuros*
	* *Vulpia*	sp.
CYPERACEAE	*Baumea*	*juncea*
	Baumea	*vaginalis*
	Caustis	*dioica*
	Chorizandra	*enodis*
	Cyathochaeta	*avenacea*
	* *Cyperus*	*tenellus*
	Eleocharis	*acuta*
	Eleocharis	sp.
	?*Gahnia*	sp.
	Isolepis	*cernua*
	Isolepis	*producta*
	* *Isolepis*	*marginata*
	Isolepis	*nodosa*
	Lepidosperma	*gladiatum*
	Lepidosperma	aff. *leptostachyum*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

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FAMILY NAME	GENUS	SPECIES
CYPERACEAE	*Lepidosperma*	*longitudinale*
continued	*Lepidosperma*	*pubisquameum*
	Lepidosperma	*tenue*
	Lepidosperma	*squamatum*
	Lepidosperma	sp.
	Mesomelaena	*graciliceps*
	Mesomelaena	*pseudostygia*
	Mesomelaena	*stygia*
	Mesomelaena	*tetragona*
	Schoenus	*asperocarpus*
	Schoenus	*breviculmis*
	Schoenus	*brevisetis*
	Schoenus	aff. *brevisetis*
	Schoenus	*caespititius*
	Schoenus	*?caespititius*
	Schoenus	*clandestinus*
	Schoenus	*curvifolius*
	Schoenus	*efoliatus*
	Schoenus	*grandiflorus*
	Schoenus	*lanatus*
	Schoenus	*nanus*
	Schoenus	*natans* (P4)
	Schoenus	*odontocarpus*
	Schoenus	*rigens*
	Schoenus	sp.
	Schoenus	?subfascicularis
	Tetraria	*capillaris*
	Tetraria	*octandra*
ARACEAE	* *Zantedeschia*	*aethiopica*
LEMNACEAE	*Lemna*	*disperma*
RESTIONACEAE	*Alexgeorgea*	*nitens*
	Anarthria	*gracilis*
	Chordifex	*microcodon*
	Desmocladus	*fasciculatus*
	Desmocladus	*flexuosus*
	Dielsia	*stenostachya*
	Ecdeiocolea	*monostachya*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

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FAMILY NAME	GENUS	SPECIES
RESTIONACEAE continued	*Hypolaena*	*exsulca*
	Hypolaena	*pubescens*
	Lepidobolus	*chaetocephalus*
	Lepidobolus	*preissianus*
	Lepidobolus	*preissianus* subsp. *preissianus*
	Lepidobolus	sp.
	Loxocarya	*cinerea*
	Lyginia	*barbata*
	Meeboldina	*cana*
	Restio	sp.
CENTROLEPIDACEAE	*Aphelia*	*nutans*
	Centrolepis	*aristata*
	Centrolepis	*drummondiana*
	Centrolepis	*mutica*
	Centrolepis	*polygyna*
HYDATELLACEAE	*Trithuria*	*bibracteata*
PHILYDRACEAE	*Philydrella*	*pygmaea*
JUNCACEAE	* *Juncus*	*capitatis*
	Juncus	sp.
DASYPOGONACEAE	*Acanthocarpus*	*preissii*
	Calectasia	*cyanea* (P2)
	Dasypogon	*bromeliifolius*
	Dasypogon	sp.
	Lomandra	*?brittanii*
	Lomandra	*caespitosa*
	Lomandra	*?caespitosa*
	Lomandra	*hermaphrodita*
	Lomandra	*?hermaphrodita*
	Lomandra	*maritima*
	Lomandra	*micrantha*
	Lomandra	*nigricans*
	Lomandra	*preissii*
	Lomandra	*sericea*
	Lomandra	*sonderi*
	Lomandra	*?sonderi*
	Lomandra	*suaveolens*
	Lomandra	sp.

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

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FAMILY NAME	GENUS	SPECIES
XANTHORRHOEACEAE	*Xanthorrhoea*	*gracilis*
	Xanthorrhoea	*preissii*
PHORMIACEAE	*Dianella*	*revoluta*
ANTHERICACEAE	*Arnocrinum*	*preissii*
	Borya	*sphaerocephala*
	Caesia	sp.
	Chamaescilla	*corymbosa*
	Corynotheca	*micrantha*
	Dichopogon	*capillipes*
	Hensmania	*turbinata*
	Laxmannia	*ramosa*
	Laxmannia	*sessiliflora*
	Laxmannia	*squarrosa*
	Laxmannia	sp.
	Sowerbaea	*laxiflora*
	Thysanotus	*arenarius*
	Thysanotus	*dichotomus*
	Thysanotus	*manglesianus*
	Thysanotus	*manglesianus /patersonii*
	Thysanotus	*patersonii*
	Thysanotus	*patersonii /manglesianus*
	Thysanotus	sp.
	Thysanotus	*sparteus*
	Thysanotus	*thyrsoideus*
	Thysanotus	*?thyrsoideus*
	Thysanotus	*triandrus*
	Tricoryne	*elatior*
	Tricoryne	*tenella*
COLCHICACEAE	*Burchardia*	*bairdiae*
	Burchardia	*umbellata*
	Wurmbea	*dioica*
	Wurmbea	*monantha*
	Wurmbea	*pygmaea*
	Wurmbea	sp.
HAEMODORACEAE	*Anigozanthos*	*humilis*
	Anigozanthos	sp.
	Conostylis	*aculeata*
	Conostylis	*aurea*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
HAEMODORACEAE continued	*Conostylis*	*candicans* subsp. *candicans*
	Conostylis	*juncea*
	Conostylis	*pauciflora*
	Conostylis	*pauciflora* subsp. *euryrhipis* (P3)
	Conostylis	*serrulata*
	Conostylis	*setigera* subsp. *setigera*
	Conostylis	*setosa*
	Conostylis	sp.
	Haemodorum	*laxum*
	Haemodorum	*paniculatum*
	Haemodorum	*simplex*
	Haemodorum	sp.
	Haemodorum	*spicatum*
	Phlebocarya	*ciliata*
	Tribonanthes	*australis*
	Tribonanthes	*longipetala*
IRIDACEAE	* *Gladiolus*	*caryophyllaceus*
	Gladiolus	sp.
	Orthrosanthus	*laxus*
	Patersonia	*occidentalis*
	Patersonia	sp.
	* *Romulea*	*obscura*
	* *Romulea*	*rosea*
ORCHIDACEAE	*?Pyrorchis*	*nigricans*
	Caladenia	*flava* subsp. *flava*
	Caladenia	*latifolia*
	Caladenia	*marginata*
	Caladenia	*paludosa*
	Caladenia	sp.
	Cyanicula	*deformis*
	Cyrtostylis	*robusta*
	Cyrtostylis	sp.
	* *Disa*	*bracteata*
	Diuris	*longifolia*
	Diuris	sp.
	Elythranthera	*brunonis*
	Eriochilus	*dilatatus*
	Leporella	*fimbriata*
	Lyperanthus	*serratus*
	Microtis	*alba*

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FAMILY NAME	GENUS	SPECIES
ORCHIDACEAE continued	*Oligochaetochilus*	*sanguineus*
	Oligochaetochilus	*vittatus*
	Orchidaceae	sp.
	Prasophyllum	*drummondii*
	Prasophyllum	sp.
	Pterostylis	?*brevisepala* (ms)
	Pterostylis	aff. *nana.* csp GJK/NG 1867cbs
	Pterostylis	*recurva*
	Pterostylis	sp.
	Pterostylis	sp. short sepals (W.JacksonBJ259) (PN)
	Pyrorchis	*nigricans*
	Thelymitra	*antennifera*
	Thelymitra	*campanulata*
	Thelymitra	*crinita*
	Thelymitra	*flexuosa*
	Thelymitra	sp.
CASUARINACEAE	*Allocasuarina*	*fraseriana*
	Allocasuarina	*humilis*
	Casuarina	*obesa*
URTICACEAE	*Parietaria*	*debilis*
PROTEACEAE	*Adenanthos*	*barbiger*
	Adenanthos	*cygnorum*
	Adenanthos	*cygnorum* subsp. *cygnorum*
	Adenanthos	*obovatus*
	Adenanthos	sp.
	Banksia	*attenuata*
	Banksia	*grandis*
	Banksia	*ilicifolia*
	Banksia	*littoralis*
	Banksia	*menziesii*
	Banksia	*prionotes*
	Conospermum	*acerosum* subsp. *acerosum*
	Conospermum	*canaliculatum* subsp. *canaliculatum*
	Conospermum	*incurvum*
	Conospermum	*stoechadis* subsp. *stoechadis*
	Conospermum	*triplinervium*
	Dryandra	*lindleyana*
	Dryandra	*lindleyana* var. *lindleyana*
	Dryandra	*nivea*

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FAMILY NAME	GENUS	SPECIES
PROTEACEAE continued	*Dryandra*	*sessilis*
	Grevillea	*preissii*
	Grevillea	*preissii* subsp. *preissii*
	Grevillea	*vestita*
	Grevillea	*vestita* subsp. *vestita*
	Hakea	*costata*
	Hakea	*erinacea*
	Hakea	*lissocarpha*
	Hakea	*prostrata*
	Hakea	*ruscifolia*
	Hakea	*trifurcata*
	Hakea	*varia*
	Persoonia	*comata*
	Petrophile	*brevifolia*
	Petrophile	*drummondii*
	Petrophile	*linearis*
	Petrophile	*macrostachya*
	Petrophile	*seminuda*
	Petrophile	*serruriae*
	Petrophile	sp.
	Stirlingia	*latifolia*
	Synaphea	*petiolaris*
	Synaphea	*spinulosa*
	Synaphea	*spinulosa* subsp. *spinulosa*
	Synaphea	sp.
SANTALACEAE	*Exocarpos*	*sparteus*
	Leptomeria	*cunninghamii*
	Leptomeria	*empetriformis*
	Leptomeria	*pauciflora*
	Santalum	*acuminatum*
OLACACEAE	*Olax*	*benthamiana*
LORANTHACEAE	*Nuytsia*	*floribunda*
POLYGONACEAE	*Muehlenbeckia*	*polybotrya*
CHENOPODIACEAE	* *Atriplex*	*prostrata*
	* *Chenopodium*	*macrospermum*
	Rhagodia	*baccata*
	Rhagodia	*baccata* subsp. *baccata*

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FAMILY NAME	GENUS	SPECIES
CHENOPODIACEAE continued	*Threlkedia*	*diffusa*
AMARANTHACEAE	*Ptilotus*	*drummondii*
	Ptilotus	*drummondii* var. *drummondii*
	Ptilotus	*humilis* subsp. *humilis*
	Ptilotus	*manglesii*
	Ptilotus	*polystachyus* var. *polystachyus*
	Ptilotus	sp.
GYROSTEMONACEAE	*Tersonia*	*cyathiflora*
AIZOACEAE	* *Carpobrotus*	*edulis*
	Carpobrotus	*virescens*
	Sarcozona	*bicarinata* (P3)
	* *Tetragonia*	*decumbens*
MOLLUGINACEAE	*Macarthuria*	*apetala*
PORTULACACEAE	*Calandrinia*	*brevipedata*
	Calandrinia	*corrigioloides*
	Calandrinia	*granulifera*
	Calandrinia	*liniflora*
	Calandrinia	sp.
CARYOPHYLLACEAE	*Caryophyllaceae*	sp.
	* *Cerastium*	*glomeratum*
	* *Petrorhagia*	*dubia*
	* *Sagina*	*apetala*
	* *Silene*	*gallica*
	* *Stellaria*	*media*
LAURACEAE	*Cassytha*	*flava*
	Cassytha	*glabella*
	Cassytha	*pomiformis*
	Cassytha	*racemosa*
	Cassytha	sp.
BRASSICACEAE	*Brassica*	sp.
	* *Heliophila*	*pusilla*
	Lepidium	*rotundum*
	Stenopetalum	*gracile*

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FAMILY NAME	GENUS	SPECIES
DROSERACEAE	*Drosera*	*erythrorhiza*
	Drosera	*gigantea* subsp. *gigantea*
	Drosera	*glanduligera*
	Drosera	*macrantha* subsp. *macrantha*
	Drosera	*menziesii*
	Drosera	*menziesii* subsp. *menziesii*
	Drosera	*menziesii* subsp. *penicillaris*
	Drosera	*neesii*
	Drosera	*nitidula*
	Drosera	*paleacea*
	Drosera	*pallida*
	Drosera	*rosulata*
	Drosera	sp.
	Drosera	sp. climbing
CRASSULACEAE	*Crassula*	*colorata*
	Crassula	*?colorata*
	Crassula	*colorata* var. *acuminata*
	Crassula	*exserta*
	* *Crassula*	*glomerata*
	* *Crassula*	*natans*
	Crassula	sp.
MIMOSACEAE	*Acacia*	*alata* var. *tetrantha*
	Acacia	*barbinervis* subsp. *borealis*
	Acacia	*benthamii* (P2)
	Acacia	*cochlearis*
	Acacia	*cyclops*
	Acacia	*huegelii*
	Acacia	*lasiocarpa*
	Acacia	*lasiocarpa* var. *lasiocarpa*
	Acacia	*pulchella*
	Acacia	*pulchella* var. *glaberrima*
	Acacia	*rostellifera*
	Acacia	*saligna*
	Acacia	*sessilis*
	Acacia	*stenoptera*
	Acacia	*truncata*
	Acacia	*xanthina*
	Acacia	sp.

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

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FAMILY NAME	GENUS	SPECIES
PAPILIONACEAE	*Aotus*	*gracillima*
	Aotus	*procumbens*
	Bossiaea	*eriocarpa*
	Cristonia	*biloba*
	Daviesia	*decurrens*
	Daviesia	*decurrens* subsp. *decurrens* (ms)
	Daviesia	*divaricata* subsp. *divaricata* (ms)
	Daviesia	*nudiflora*
	Daviesia	*physodes*
	Daviesia	*podophylla*
	Daviesia	*quadrilatera*
	Dillwynia	*dillwynioides* (P3)
	Euchilopsis	*linearis*
	Gompholobium	*capitatum*
	Gompholobium	*confertum*
	Gompholobium	*knightianum*
	Gompholobium	*scabrum*
	Gompholobium	*shuttleworthii*
	Gompholobium	*tomentosum*
	Gompholobium	sp.
	Hardenbergia	*comptoniana*
	Hovea	*pungens*
	Hovea	*trisperma*
	Isotropis	*cuneifolia*
	Isotropis	sp.
	Jacksonia	*calcicola* (ms)
	Jacksonia	*fasciculata*
	Jacksonia	*floribunda*
	Jacksonia	*furcellata*
	Jacksonia	*hakeoides*
	Jacksonia	*sericea* (P3)
	Jacksonia	*sternbergiana*
	Kennedia	*prostrata*
	Kennedia	sp.
	Latrobea	*tenella* var. *tenella*
	* *Lotus*	*angustissimus*
	* *Lotus*	*suaveolens*
	* *Melilotus*	*indicus*
	Nemcia	*capitata*
	Nemcia	*reticulata*
	Pultenaea	*reticulata*
	Sphaerolobium	*vimineum*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
PAPILIONACEAE continued	*Sphaerolobium*	sp.
	Templetonia	*retusa*
	* *Trifolium*	*arvense*
	* *Trifolium*	*campestre* var. *campestre*
	* *Trifolium*	*cernuum*
	* *Trifolium*	*dubium*
	* *Trifolium*	sp.
GERANIACEAE	* *Erodium*	*botrys*
	* *Erodium*	*cicutarium*
	* *Erodium*	*moschatum*
	Geranium	*retrorsum*
	Geranium	*solanderi*
	* *Pelargonium*	*capitatum*
	Pelargonium	*littorale*
OXALIDACEAE	*Oxalis*	*perennans*
	* *?Oxalis*	*corniculata*
RUTACEAE	*Boronia*	*purdieana*
	Boronia	*purdieana* subsp. *purdieana*
	Boronia	*ramosa*
	Boronia	*ramosa* subsp. *anethifolia*
	Boronia	*ramosa* subsp. *ramosa*
	Diplolaena	*angustifolia*
	Philotheca	*spicata*
TREMANDRACEAE	*Platytheca*	*galioides*
POLYGALACEAE	*Comesperma*	*calymega*
	Comesperma	*confertum*
	Comesperma	*integerrimum*
	Comesperma	sp.
EUPHORBIACEAE	*Amperea*	*ericoides*
	Beyeria	*cinerea*
	* *Euphorbia*	*terracina*
	Phyllanthus	*calycinus*
	Poranthera	*ericoides*
	Poranthera	*microphylla*
	Stachystemon	*axillaris* (P4)

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
STACKHOUSIACEAE	*Stackhousia*	*monogyna*
	Stackhousia	sp.
	Tripterococcus	*brunonis*
SAPINDACEAE	*Diplopeltis*	*huegelii*
RHAMNACEAE	*Cryptandra*	*mutila*
	Cryptandra	*pungens*
	Spyridium	*globulosum*
	Trymalium	*floribundum*
MALVACEAE	*Alyogyne*	*huegelii*
STERCULIACEAE	*Thomasia*	*triphylla*
DILLENIACEAE	*Hibbertia*	aff. *pachyrrhiza*
	Hibbertia	*aurea*
	Hibbertia	*crassifolia*
	Hibbertia	aff. *helianthemoidess*
	Hibbertia	*huegelii*
	Hibbertia	*hypericoides*
	Hibbertia	*pachyrrhiza*
	Hibbertia	*racemosa*
	Hibbertia	sp.
	Hibbertia	*spicata*
	Hibbertia	*spicata* subsp. *leptotheca* (P3)
	Hibbertia	*stellaris*
	Hibbertia	*subvaginata*
VIOLACEAE	*Hybanthus*	*calycinus*
THYMELAEACEAE	*Pimelea*	*calcicola*
	Pimelea	*ferruginea*
	Pimelea	*floribunda*
	Pimelea	*rosea*
	Pimelea	sp.
	Pimelea	*suaveolens*
	Pimelea	*sulphurea*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
MYRTACEAE	*Agonis*	*flexuosa*
	Agonis	*linearifolia*
	Astartea	*fascicularis*
	Baeckea	*camphorosmae*
	Baeckea	*robusta*
	Baeckea	sp.
	Beaufortia	*elegans*
	Calothamnus	*lateralis*
	Calothamnus	*quadrifidus*
	Calothamnus	*sanguineus*
	Calytrix	*angulata*
	Calytrix	*flavescens*
	Calytrix	*fraseri*
	Calytrix	*sapphirina*
	Calytrix	*strigosa*
	Corymbia	*calophylla*
	Eremaea	*asterocarpa* subsp. *asterocarpa*
	Eremaea	*beaufortioides*
	Eremaea	*brevifolia*
	Eremaea	*pauciflora*
	Eremaea	*pauciflora* var. *pauciflora*
	Eremaea	sp.
	Eucalyptus	*decipiens*
	Eucalyptus	*decipiens* subsp. *decipiens*
	Eucalyptus	*foecunda*
	Eucalyptus	*gomphocephala*
	Eucalyptus	*marginata*
	Eucalyptus	*petrensis*
	Eucalyptus	*rudis*
	Eucalyptus	*todtiana*
	Hypocalymma	*angustifolium*
	Hypocalymma	*xanthopetalum*
	Kunzea	*ericifolia*
	Kunzea	*ericifolia* subsp. *ericifolia*
	Kunzea	*recurva*
	Leptospermum	*spinescens*
	Melaleuca	*cardiophylla*
	Melaleuca	*huegelii*
	Melaleuca	*lateriflora*
	Melaleuca	*aff. trichophylla*
	Melaleuca	*preissiana*
	Melaleuca	*rhaphiophylla*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
MYRTACEAE continued	*Melaleuca*	*scabra*
	Melaleuca	*seriata*
	Melaleuca	*systena*
	Melaleuca	aff. *systena*
	Melaleuca	?*systena*
	Melaleuca	*teretifolia*
	Melaleuca	*trichophylla*
	Melaleuca	?*trichophylla*
	Melaleuca	*viminea*
	Melaleuca	sp.
	Myrtaceae	sp.
	Pericalymma	*ellipticum*
	Pericalymma	*ellipticum* var. *ellipticum*
	Regelia	*ciliata*
	Regelia	*?ciliata*
	Regelia	*inops*
	Scholtzia	*involucrata*
	Scholtzia	sp.
	Verticordia	*densiflora*
	Verticordia	*densiflora* var. *densiflora*
	Verticordia	*nitens*
	Verticordia	*ovalifolia*
	Verticordia	*plumosa*
HALORAGACEAE	*Gonocarpus*	?*pithyoides*
	Gonocarpus	*cordiger*
	Gonocarpus	*pithyoides*
	Gonocarpus	sp.
APIACEAE	*Daucus*	*glochidiatus*
	Eryngium	*pinnatifidum* subsp. *palustre* (ms)
	Homalosciadium	*homalocarpum*
	Hydrocotyle	*alata*
	Hydrocotyle	*blepharocarpa*
	Hydrocotyle	*callicarpa*
	Hydrocotyle	*hispidula*
	Hydrocotyle	*pilifera* var. *glabrata*
	Hydrocotyle	*tetragonocarpa*
	Hydrocotyle	sp.
	Schoenolaena	*juncea*
	Trachymene	*coerulea*
	Trachymene	*pilosa*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
APIACEAE	*Xanthosia*	*ciliata*
continued	*Xanthosia*	*huegelii*
EPACRIDACEAE	*Andersonia*	*heterophylla*
	Andersonia	*lehmanniana*
	Andersonia	*lehmanniana* subsp. *lehmanniana*
	Astroloma	*microcalyx*
	Astroloma	*pallidum*
	Astroloma	*xerophyllum*
	Conostephium	*minus* (P4)
	Conostephium	*pendulum*
	Conostephium	*preissii*
	Croninia	*kingiana*
	Leucopogon	*conostephioides*
	Leucopogon	*leptanthus*
	Leucopogon	*oxycedrus*
	Leucopogon	*parviflorus*
	Leucopogon	*polymorphus*
	Leucopogon	*propinquus*
	Leucopogon	*racemulosus*
	Leucopogon	*sprengelioides*
	Leucopogon	?*sprengelioides*
	Leucopogon	*squarrosus*
	Leucopogon	sp.
	Leucopogon	sp. (indeterminant) M137-1
	Lysinema	*ciliatum*
	Lysinema	*elegans*
PRIMULACEAE	* *Anagallis*	*arvensis*
LOGANIACEAE	*Phyllangium*	*paradoxum*
GENTIANACEAE	* *Centaurium*	*erythraea*
	* *Cicendia*	*filiformis*
MENYANTHACEAE	*Villarsia*	*capitata*
BORAGINACEAE	*Heliotropium*	*curassavicum*
LAMIACEAE	*Hemiandra*	*pungens*
	Hemigenia	?*incana*
	Westringia	*dampieri*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
SOLANACEAE	* *Solanum*	*americanum*
	* *Solanum*	*nigrum*
SCROPHULARIACEAE	* *Dischisma*	*arenarium*
	* *Dischisma*	sp.
	Glossostigma	*diandrum*
	Gratiola	*pubescens*
	* *Parentucellia*	*latifolia*
OROBANCHACEAE	* *Orobanche*	*minor*
LENTIBULARIACEAE	*Utricularia*	*multifida*
	Utricularia	*violacea*
MYOPORACEAE	*Eremophila*	*glabra*
	Myoporum	*insulare*
RUBIACEAE	* *Galium*	*murale*
	Opercularia	*echinocephala*
	Opercularia	sp.
	Opercularia	*spermacocea*
	Opercularia	*vaginata*
CAMPANULACEAE	* *Wahlenbergia*	*capensis*
	Wahlenbergia	*preissii*
LOBELIACEAE	*Isotoma*	*hypocrateriformis*
	Lobelia	*alata*
	Lobelia	*heterophylla*
	Lobelia	sp.
	Lobelia	*tenuior*
	* *Monopsis*	*debilis*
GOODENIACEAE	*Dampiera*	*linearis*
	Dampiera	sp.
	Goodenia	*micrantha*
	Lechenaultia	*biloba*
	Lechenaultia	*expansa*
	Lechenaultia	*floribunda*
	Lechenaultia	*linarioides*
	Scaevola	*canescens*
	Scaevola	*?canescens*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
GOODENIACEAE	*Scaevola*	*crassifolia*
continued	*Scaevola*	*crassifolia/nitida*
	Scaevola	*nitida*
	Scaevola	*paludosa* (P2)
	Scaevola	*repens*
	Scaevola	*repens* var. *angustifolia*
	Scaevola	*repens* var. *repens*
	Scaevola	*thesioides*
	Scaevola	sp.
	Velleia	*trinervis*
	Verreauxia	*reinwardtii*
STYLIDIACEAE	*Levenhookia*	*pusilla*
	Levenhookia	*stipitata*
	Levenhookia	sp.
	Stylidium	*adpressum*
	Stylidium	*amoenum*
	Stylidium	*brunonianum* subsp. *brunonianum*
	Stylidium	*bulbiferum*
	Stylidium	*calcaratum*
	Stylidium	*crossocephalum*
	Stylidium	*diuroides* subsp. *diuroides*
	Stylidium	*inundatum*
	Stylidium	*junceum*
	Stylidium	*lateriticola*
	Stylidium	*longitubum* (P3)
	Stylidium	*macrocarpum*
	Stylidium	*maritimum*
	Stylidium	*miniatum*
	Stylidium	*petiolare*
	Stylidium	*piliferum* subsp. *piliferum*
	Stylidium	*repens*
	Stylidium	*schoenoides*
	Stylidium	sp.
ASTERACEAE	* *Arctotheca*	*calendula*
	Asteraceae	sp.
	Asteridea	*pulverulenta*
	Blennospora	sp.
	Brachyscome	*iberidifolia*
	Brachyscome	sp.
	* *Conyza*	*albida*

APPENDIX A: VASCULAR PLANT SPECIES RECORDED IN THE GNANGARA MOUND AREA

* denotes introduced taxa

FAMILY NAME	GENUS	SPECIES
ASTERACEAE continued	*Conyza*	sp.
	Cotula	*coronopifolia*
	Euchiton	*sphaericus*
	Gnephosis	*tenuissima*
	Hyalosperma	*cotula*
	* *Hypochaeris*	*glabra*
	* *Hypochaeris*	sp.
	Lagenophora	*huegelii*
	Leptorhynchos	*scaber*
	Millotia	*tenuifolia* var. *tenuifolia*
	Myriocephalus	*helichrysoides*
	Olearia	*axillaris*
	Olearia	*rudis*
	Ozothamnus	*cordatus*
	Pithocarpa	*corymbulosa* (P2)
	Pithocarpa	sp.
	Podolepis	*gracilis*
	Podolepis	*lessonii*
	Podotheca	*angustifolia*
	Podotheca	*angustifolia / gnaphalioides* ?
	Podotheca	*chrysantha*
	Podotheca	?*chrysantha*
	Podotheca	*gnaphalioides*
	Podotheca	sp.
	Pogonolepis	*stricta*
	Quinetia	*urvillei*
	Rhodanthe	*citrina*
	Rhodanthe	*corymbosa*
	Rhodanthe	sp.
	Senecio	*lautus*
	Senecio	*lautus* subsp. *dissectifolius*
	Senecio	*lautus* subsp. *maritimus*
	Senecio	sp.
	Siloxerus	*humifusus*
	* *Sonchus*	*oleraceus*
	* *Ursinia*	*anthemoides*
	* *Vellereophyton*	*dealbatum*
	Waitzia	sp.
	Waitzia	*suaveolens* var. *suaveolens*

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION CODES FOR SITES IN STAGE 1

* Denotes introduced species

Map No.	Site Name	Gibson Community Description	Vegetation Codes
343	BAMB1	Flat Seasonally Inundated Low Open Woodland of *Melaleuca rhaphiophylla*, *Casuarina obesa*, *Acacia saligna* over *Melaleuca viminea* and *Kunzea recurva*.	K2
344	BAMB2	Seasonal Wetland with *Casuarina obesa* over *Phyllanthus calycinus* and *Lemna disperma*.	K2
345	BAMB3	Seasonally Inundated Shrubland of *Acacia saligna*, *Isotropis cuneifolia* over *Schoenolaena juncea*, *Baumea juncea* and *Isotropis cuneifolia.*	K5
152	ELDO1	Low Woodland of *Banksia attenuata*, *Banksia menziesii* and *Eucalyptus todtiana* over *Adenanthos cygnorum*, *Eremaea pauciflora* var. *pauciflora*, *Xanthorrhoea preissii* and *Beaufortia elegans.*	G2
561	MILT1	Woodland of *Banksia littoralis - Nuytsia floribunda - Banksia prionotes - Banksia ilicifolia- Banksia attenuata- Banksia menziesii* over *Adenanthos cygnorum, Pericalymma ellipticum, Stirlingia latifolia* and *Petrophile seminuda.*	I1
568	MILT2	Deeper Wetlands with *Melaleuca rhaphiophylla- Eucalyptus rudis- Melaleuca preissiana* over *Agonis linearifolia, Pteridium esculentum, Lepidosperma gladiatum* and *Baumea juncea.*	K2
569	MILT3	Woodland of *Banksia attenuata- Banksia menziesii- Banksia ilicifolia* over *Beaufortia elegans, Scholtzia involucrata, Eremaea pauciflora, Leucopogon conostephioides, Jacksonia floribunda, Patersonia occidentalis* and *Stirlingia latifolia.*	H1
570	MILT4	Woodland of *Eucalyptus todtiana- Banksia attenuata- Banksia menziesii* over *Eremaea pauciflora, Jacksonia sternbergiana, Jacksonia furcellata, Acacia pulchella, Xanthorrhoea preissii, Patersonia occidentalis, Lomandra sericea* and *Lomandra caespitosa.*	F1
571	MILT5	Deeper Wetlands with *Banksia littoralis- Melaleuca rhaphiophylla- Melaleuca preissiana* over *Kunzea ericifolia, Regelia ciliata, Melaleuca lateriflora, Acacia pulchella, Jacksonia furcellata, Baumea vaginalis* and *Oligochaetochilus vittatus.*	K2
572	MILT6	Woodland of *Corymbia calophylla- Banksia attenuata- Banksia ilicifolia- Banksia menziesii* over *Xanthorrhoea preissii, Jacksonia furcellata, Hibbertia subvaginata, Macrozamia riedlei* and *Lepidosperma squamatum*.	J2
573	MILT7	Woodland of *Banksia attenuata- Banksia menziesii* over *Adenanthos cygnorum, Jacksonia floribunda, Leucopogon squarrosus, Stirlingia latifolia, Dasypogon bromeliifolius* and *Patersonia occidentalis.*	H1
574	MILT8	Woodland of *Banksia attenuata- Banksia menziesii- Banksia ilicifolia* over *Verticordia nitens, Conostephium minus* (P4), *Adenanthos cygnorum, Jacksonia floribunda* and *Dasypogon bromeliifolius*.	I1
601	MUCK1	Woodland of *Banksia ilicifolia- Banksia attenuata- Banksia menziesii* over *Xanthorrhoea preissii, Eremaea pauciflora, Hibbertia subvaginata, Dasypogon bromeliifolius, Melaleuca trichophylla* and *Amphipogon turbinatus.*	H1
602	MUCK2	Low Open Shrubland of *Melaleuca lateriflora, Astartea fascicularis, Lobelia tenuior, Goodenia micrantha*, *Gnephosis tenuissima* with numerous weed species.	K5
657	PLINE1	Low Woodland of *Banksia attenuata, Banksia menziesii* over *Beaufortia elegans, Melaleuca systena, Jacksonia floribunda* and *Conostephium pendulum.*	F1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION CODES FOR SITES IN STAGE 1

* Denotes introduced species

Map No.	Site Name	Gibson Community Description	Vegetation Codes
658	PLINE2	Woodland of *Banksia attenuata, Banksia menziesii* over *Adenanthos cygnorum, Astroloma xerophyllum, Melaleuca systena* and *Acacia huegelii.*	G1
659	PLINE3	Woodland of *Eucalyptus marginata- Corymbia calophylla* over *Xanthorrhoea preissii, Conostephium pendulum, Baeckea camphorosmae* and *Dasypogon bromeliifolius.*	I1
660	PLINE4	Seasonally Inundated Open Woodland of *Melaleuca preissiana* and *Banksia ilicifolia* over *Pericalymma ellipticum.*	K1
661	PLINE5	Low Open Woodland of *Nuytsia floribunda* over *Hakea varia, Kunzea ericifolia, Leucopogon propinquus* and *Ptilotus humilis* subsp. *humilis.*	K3
662	PLINE6	Woodland of *Banksia atttenuata- Banksia ilicifolia* over *Adenanthos cygnorum, Regelia ciliata* and *Stirlingia latifolia.*	H1
663	PLINE7	Low Lying Woodland of *Eucalyptus rudis- Banksia attenuata- Banksia menziesii- Melaleuca preissiana* over *Kunzea ericifolia, Conostephium minus* (P4), *Conostephium pendulum, Gompholobium scabrum* and *Jacksonia furcellata .*	K1
671	RAAF1	Woodland of *Banksia attenuata- Banksia menziesii* over *Acacia huegelii, Beaufortia elegans, Calytrix flavescens* and *Jacksonia floribunda.*	C1
672	RAAF2	Woodland of *Eucalyptus todtiana- Banksia attenuata- Banksia menziesii- Nuytsia floribunda* over *Allocasuarina humilis, Calytrix flavescens, Eremaea pauciflora* and *Melaleuca trichophylla.*	G1
673	RAAF3	Woodland of *Banksia attenuata- Banksia menziesii* over *Acacia pulchella, Eremaea pauciflora, Jacksonia floribunda* and *Calytrix flavescens.*	C1
692	SHE1	Shrubland of *Dryandra sessilis, Conospermum triplinervium, Hibbertia hypericoides, Grevillea preissii, Dryandra nivea, Leucopogon parviflorus, Trachymene pilosa, Mesomelaena pseudostygia* and *Lepidosperma squamatum.*	A1
693	SHE2	Woodland of *Eucalyptus todtiana- Banksia attenuata- Banksia menziesii* over *Acacia pulchella, Conostephium pendulum, Eremaea pauciflora, Hakea ruscifolia, Melaleuca systena, Petrophile macrostachya* and *Xanthorrhoea preissii.*	B1
694	SHE3	Woodland of *Banksia attenuata* over *Conospermum triplinervium, Jacksonia hakeoides, Petrophile macrostachya, Dryandra sessilis, Xanthorrhoea preissii, Melaleuca systena, Kennedia prostrata* and *Lomandra suaveolens .*	B2
695	SHE4	Shrubland of *Melaleuca systena, Baeckea robusta, Grevillea preissii, Beyeria cinerea, Spyridium globulosum, Acacia lasiocarpa, Phyllanthus calycinus, Dryandra nivea, Lobelia tenuior, Dryandra sessilis* and *Calothamnus quadrifidus.*	A1
696	SHE5	Shrubland of *Melaleuca huegelii, Melaleuca systena, Acacia lasiocarpa, Acacia truncata, Templetonia retusa, Dryandra sessilis, Hardenbergia comptoniana* and *Rhagodia baccata.*	A1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION CODES FOR SITES IN STAGE 1

* Denotes introduced species

Map No.	Site Name	Gibson Community Description	Vegetation Codes
697	SHE6	Woodland of *Eucalyptus gomphocephala- Banksia attenuata- Nuytsia floribunda* over *Macrozamia riedlei, Desmocladus flexuosus,Dryandra nivea, Hibbertia hypericoides* and *Hibbertia racemosa.*	B2
739	WABL1	Shubland of *Acacia lasiocarpa, Acacia rostellifera, Comesperma integerrimum, Conostylis candicans* subsp. *candicans, Dryandra sessilis and Melaleuca huegelii.*	A1
740	WABL2	Woodland of *Eucalyptus decipiens* subsp. *decipiens - Banksia grandis* over *Acacia pulchella, Dryandra sessilis, Xanthorrhoea preissii, Jacksonia fasciculata, Melaleuca systena* and *Stirlingia latifolia.*	B3
741	WABL3	Woodland of *Eucalyptus foecunda* over *Melaleuca systena, Melaleuca huegelii, Hibbertia hypericoides, Hakea lissocarpha, Dryandra sessilis* and *Leucopogon parviflorus.*	B3
742	WABL4	Woodland of *Banksia attenuata- Banksia menziesii* over *Adenanthos cygnorum, Dryandra sessilis, Hakea prostrata, Petrophile macrostachya* and *Xanthorrhoea preissii.*	C1
760	WATER1	Woodland of *Banksia attenuata- Banksia menziesii- Nuytsia floribunda* over *Acacia pulchella, Calothamnus quadrifidus, Eremaea pauciflora, Hakea ruscifolia, Melaleuca systena* and *Xanthorrhoea preissii .*	F1
?836	WILB1	Shrubland of *Melaleuca systena, Acacia lasiocarpa, Acacia cochlearis, Pimelea ferruginea* and *Phyllanthus calycinus.*	B1
	WILB2	No data sheet	
?837	WILB3	Shrubland of *Melaleuca systena, Acacia cyclops, Acacia lasiocarpa, Cryptandra mutila, Leucopogon parviflorus, Leucopogon racemulosus* and *Lomandra maritima .*	B1
?838	WILB4	Shrubland of *Dryandra sessilis, Allocasuarina humilis, Calothamnus sanguineus, Melaleuca systena* and *Jacksonia fasciculata .*	B1
847	WILB5	Shrubland of *Melaleuca huegelii, Melaleuca systena, Xanthorrhoea preissii, Phyllanthus calycinus, Patersonia occidentalis* and *Dryandra nivea.*	B1
848	WILB6	Woodland of *Banksia attenuata- Banksia menziesii* over *Calothamnus quadrifidus, Hakea trifurcata, Dryandra sessilis, Melaleuca systena* and *Xanthorrhoea preissii.*	F1
849	WILB7	Shrubland of *Calothamnus quadrifidus, Dryandra sessilis, Dryandra nivea, Petrophile macrostachya, Xanthorrhoea preissii* and *Hakea costata.*	B1
850	WILB8	Shrubland of *Acacia lasiocarpa, Melaleuca systena, Calothamnus quadrifidus, Phyllanthus calycinus, Lepidosperma squamatum* and *Hibbertia racemosa .*	B1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION CODES FOR SITES IN STAGE 1

* Denotes introduced species

Map No.	Site Name	Gibson Community Description	Vegetation Codes
851	WILB9	Shrubland of *Melaleuca huegelii, Melaleuca systena, Acacia alata* var. *tetrantha, Calothamnus quadrifidus* and *Lepidosperma squamatum.*	B1
852	WILB10	Shrubland of *Acacia rostellifera, Acacia lasiocarpa, Calothamnus quadrifidus, Melaleuca systena, Phyllanthus calycinus* and *Leucopogon parviflorus.*	Q1
853	WILB11	Low Open Shrubland of *Acacia rostellifera, Hemiandra pungens, Nemcia capitata, Pimelea rosea* and *Scaevola crassifolia.*	Q1
854	WILB12	Open Shrubland of *Melaleuca cardiophylla, Santalum acuminatum, Westringia dampieri, Acacia alata* var. *tetrantha, Melaleuca huegelii, Pimelea ferruginea, Melaleuca systena* with an abundance of introduced species.	A3
855	WILB13	Woodland of *Eucalyptus gomphocephala- Banksia attenuata* over *Acacia cyclops, Hakea prostrata, Dryandra sessilis , Xanthorrhoea preissii, Dryandra nivea, Austrostipa flavescens, Macrozamia riedlei* and *Lagenophora huegelii .*	B2
797	YAN1	Woodland of *Eucalyptus foecunda* over *Hakea prostrata, Grevillea vestita, Hakea lissocarpha Dryandra sessilis* and *Xanthorrhoea preissii .*	B3
798	YAN2	Gently Sloping Open Scrub of *Melaleuca systena, Dryandra sessilis, Hibbertia racemosa, Brachyscome iberidifolia, Caladenia* sp. and *Stylidium* sp.	A1
799	YAN3	Woodland of *Eucalyptus marginata, Banksia menziesii* and *Banksia attenuata* over *Hakea trifurcata, Xanthorrhoea preissii, Hibbertia hypericoides.*	B3
800	YAN4	Woodland of *Banksia attenuata- Banksia grandis- Banksia menziesii- Nuytsia floribunda* over *Allocasuarina humilis, Calothamnus quadrifidus, Calothamnus sanguineus, Hakea lissocarpha, Petrophile macrostachya* and *Xanthorrhoea preissii.*	F1
801	YAN5	Woodland of *Eucalyptus gomphocephala- Banksia attenuata* over *Conospermum stoechadis* subsp. *stoechadis, Dryandra nivea, Xanthorrhoea preissii, Macrozamia riedlei* and *Jacksonia fasciculata.*	B2
802	YAN6	Woodland of *Allocasuarina fraseriana- Banksia attenuata- Banksia grandis- Banksia menziesii* over *Leucopogon propinquus, Macrozamia reidlei, Xanthorrhoea preissii, Jacksonia sternbergiana* and *Petrophile macrostachya .*	G2
	YAN7	No data sheet	
803	YAN8	Woodland of *Banksia attenuata- Nuytsia floribunda* over *Xanthorrhoea preissii, Dryandra sessilis, Acacia pulchella, Conospermum stoechadis* subsp. *stoechadis, Calothamnus quadrifidus* and *Mesomelaena pseudostygia .*	F1
804	YAN9	Woodland of *Eucalyptus decipiens* subsp. *decipiens - Banksia attenuata* over *Jacksonia furcellata, Hakea prostrata, Macrozamia riedlei, Xanthorrhoea preissii* and *Kennedia prostrata.*	B3
805	YAN10	Woodland of *Eucalyptus gomphocephala- Nuytsia floribunda- Banksia grandis* over *Xanthorrhoea preissii, Hakea costata, Persoonia comata, Macrozamia riedlei, Acacia pulchella* subsp. *glaberrima* and *Conostylis candicans* subsp. *candicans.*	B2
806	YAN11	Woodland of *Banksia grandis- Nuytsia floribunda- Eucalyptus decipiens* subsp. *decipiens* over *Xanthorrhoea preissii, Hardenbergia comptoniana, Melaleuca systena, Conostephium pendulum* and *Daucus glochidiatus .*	B3

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION CODES FOR SITES IN STAGE 1

* Denotes introduced species

Map No.	Site Name	Gibson Community Description	Vegetation Codes
807	YAN12	Shrubland of *Melaleuca huegelii, Melaleuca systena, Acacia lasiocarpa, Dryandra nivea, Conostylis pauciflora* subsp. *euryrhipis* (P3) and *Hydrocotyle hispidula.*	A1
808	YAN13	Shrubland of *Melaleuca systena, Melaleuca huegelii, Dryandra sessilis, Dryandra nivea, Grevillea preissii, Leucopogon parviflorus* and *Acacia lasiocarpa .*	A1
809	YAN14	Woodland of *Eucalyptus petrensis* over *Dryandra sessilis, Melaleuca systena, Baeckea robusta, Acacia lasiocarpa, Melaleuca huegelii* and *Calothamnus quadrifidus.*	B3
810	YAN15	Low Open Shrubland of *Melaleuca systena, Melaleuca huegelii, Acacia lasiocarpa, Dryandra nivea, Wurmbea monantha* and *Drosera macrantha* subsp. *macrantha.*	A1
811	YAN16	Woodland of *Eucalyptus decipiens* subsp. *decipiens - Nuytsia floribunda* over *Dryandra sessilis, Hakea lissocarpha, Leucopogon parviflorus, Hibbertia hypericoides, Acacia pulchella, Eremaea pauciflora* and *Kennedia prostrata .*	B3
812	YAN17	Woodland of *Banksia ilicifolia- Banksia attenuata- Banksia grandis- Nuytsia floribunda* over *Adenanthos cygnorum, Verticordia nitens, Acacia stenoptera, Stirlingia latifolia, Petrophile linearis* and *Phlebocarya ciliata .*	E1
813	YAN18	Low Lying Woodland of *Melaleuca preissiana* over *Kunzea ericifolia, Pericalymma ellipticum, Adenanthos cygnorum, Petrophile linearis , Jacksonia furcellata, Conostephium pendulum, Patersonia occidentalis* and *Pyrorchis nigricans .*	K1
814	YAN19	Low Open Woodland of *Nuytsia floribunda- Banksia attenuata- Banksia menziesii- Banksia ilicifolia* over *Adenanthos cygnorum, Stirlingia latifolia, Xanthorrhoea preissii, Daviesia divaricata* subsp. *divaricata* (ms), *Synaphea spinulosa* and *Patersonia occidentalis .*	E1
815	YAN20	Woodland of *Banksia menziesii- Banksia attenuata* over *Eremaea pauciflora* var. *pauciflora, Xanthorrhoea preissii, Melaleuca trichophylla, Conostephium pendulum, Calytrix flavescens, Hypolaena exsulca* and *Patersonia occidentalis.*	F1
816	YAN21	Deeper Wetland of *Eucalyptus rudis- Melaleuca preissiana* over *Acacia saligna, Jacksonia furcellata, Kunzea ericifolia, Petrophile serruriae, Kennedia prostrata* and *Dianella revoluta.*	K1
817	YAN22	Woodland of *Banksia ilicifolia- Banksia menziesii- Banksia attenuata* over *Pericalymma ellipticum, Adenanthos cygnorum, Stirlingia latifolia, Petrophile linearis, Verticordia nitens* and *Phlebocarya ciliata.*	E1
818	YAN23	Woodland of *Eucalyptus foecunda* over *Dryandra sessilis, Hakea lissocarpha, Hakea prostrata, Melaleuca systena, Acacia pulchella, Bossiaea eriocarpa, Leucopogon parviflorus* and *Trachymene pilosa .*	B3
819	YAN24	Shrubland of *Dryandra sessilis, Hakea trifurcata, Astroloma microcalyx, Hibbertia racemosa, Grevillea preissii, Melaleuca huegelii, Melaleuca systena, Hakea lissocarpha* and *Leucopogon parviflorus.*	A1
820	YAN25	Woodland of *Eucalyptus marginata- Banksia attenuata- *Pinus radiata* over *Hakea lissocarpha, Acacia pulchella, Petrophile linearis, Philotheca spicata, Leucopogon polymorphus, Eremaea asterocarpa* subsp. *asterocarpa* and *Dryandra nivea .*	I1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

* Denotes introduced species

No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M001	E 375647 N 6524644	Sparse Low Shrubland of *Conospermum canaliculatum* subsp. *canaliculatum* and *Xanthorrhoea preissii* with *Melaleuca systena*, *Hakea prostrata, Hibbertia hypericoides* and *Mesomelaena pseudostygia* on limestone outcropping.	B4
M002	E 275699 N 6526225	Low Woodland of *Banksia prionotes* over *Adenanthos cygnorum*, *Calytrix angulata,* Verticordia densifolia var. *densifolia* and *Regelia ciliata*.	H4
M003	E 375533 N 6527262	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Eucalyptus todtiana* over *Hibbertia hypericoides, Stirlingia latifolia* and *Patersonia occidentalis.*	G1
M004	E 375736 N 6528336	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Allocasuarina fraseriana* over *Xanthorrhoea preissii*, *Lysinema ciliatum, Daviesia nudiflora, Mesomelaena pseudostygia* and *Stirlingia latifolia*.	G2
M005	E 375180 N 6516761	Woodland of *Banksia attenuata - Banksia menziesii - Nuytsia floribunda* over *Stirlignia latifolia, Xanthorrhoea preissii*, *Synaphea spinulosa* subsp. *spinulosa, Calothamnus sanguineus* and *Hakea ruscifolia*.	H1
M006	E 374837 N 6518559	Low Open Woodland of *Banksia attenuata- Banksia menziesii* over *Macrozamia riedlei, Xanthorrhoea preissii, Allocasuarina humilis*, Hibbertia hypericoides and Mesomelaena pseudostygia.	F1
M007	E 375284 N 6521647	Low Shrubland of *Conospermum canaliculatum* subsp. *canaliculatum, Hibbertia hypericoides, Jacksonia sericea* (P3), *Grevillea preissii* subsp. *preissii, Melaleuca systena* and *Xanthorrhoea preissii* on a limestone ridge with numerous outcropping. Occasional emergents of *Nuytsia floribunda, Banksia attenuata* and *Allocasuarina fraseriana*.	B4
M008	E 375458 N 6521874	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Allocasuarina fraseriana* over *Xanthorrhoea preissii, Macrozamia riedlei, Hibbertia hypericoides* and *Stirlingia latifolia*.	G2
M009	E 375909 N 6529410	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Eucalyptus todtiana* over *Xanthorrhoea preissii*, *Hibbertia hypericoides, Conospermum canaliculatum* subsp. *canaliculatum* and *Calothamnus sanguineus.*	D1
M010	E 375777 N 6531090	Low Woodland of *Melaleuca preissiana - Nuytsia floribunda* over *Adenanthus cygnorum, Xanthorrhoea preissii, Verticordia nitens* and *Dasypogon bromeliifolius.*	J1
M011	E 367108 N 6535209	Low Woodland of *Banksia menziesii - Banksia ilicifolia - Eucalyptus todtiana - Allocasuarina fraseriana* over *Allocasuarina humilis Adenanthos cygnorum, Leucopogon conostephioides, Stirlingia latifolia* and *Eremaea pauciflora* var. *pauciflora*.	G1
M012	E 364716 N 6534800	Low Woodland of *Eucalyptus todtiana - Banksia menziesii* over *Jacksonia sternbergiana, Macrozamia riedlei* and *Conostylis candicans* subsp. *candicans.*	D1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

* Denotes introduced species

No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M013	E 368041 N 6534650	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Eremaea pauciflora* var. *pauciflora*, *Jacksonia sternbergiana, Xanthorrhoea preissii* and *Leucopogon constephioides*.	G1
M014	E 367769 N 6530809	Low Woodland of *Eucalyptus todtiana - Banksia menziesii - Banksia attenuata* over *Kunzea ericifolia* subsp. *ericifolia* *Calytrix flavescens, Mesomeleana pseudostygia, Xanthorrhoea preissii* and *Hibbertia hypericoides.*	C1
M015	E 367323 N 6530117	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii, Calytrix angulata* and *Hibbertia hypericoides.*	C1
M016	E 366357 N 6529788	Low Woodland of *Banksia attenuata - Eucalyptus todtiana* over *Hibbertia hypericoides, Stirlingia latifolia* and *Mesomeleana pseudostygia.*	C1
M017	E 369527 N 6528187	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii, Conostephium pendulum,* *Stirlingia latifolia, Mesomeleana pseudostygia* and *Hibbertia hypericoides*.	C1
M018	E 370449 N 6528083	Low Woodland of *Banksia attenuata - Banksia menziesii - Allocasuarina fraseriana - Nuytsia floribunda* over *Xanthorrhoea preissii, Stirlingia latifolia* and *Eremaea asterocarpa* subsp. *asterocarpa*.	C1
M019	E 371578 N 6528253	Low Woodland of *Banksia attenuata - Banksia menziesii - Eucalyptus todtiana - Allocasuarina fraseriana* over *Xanthorrhoea preissii, Stirlingia latifolia* and *Calytrix flavescens*.	C1
M020	E 372374 N 6528152	Low Woodland of *Banksia attenuata - Banksia menziesii- Banksia ilicifolia -Allocasuarina fraseriana* over *Daviesia nudiflora,* *Stirlingia latifolia, Hibbertia hypericoides, Eremaea asterocarpa* subsp. *asterocarpa* and *Xanthorrhoea preissii.*	C1
M021	E 368229 N 6527984	Low Woodland of *Eucalyptus decipians* subsp. *decipiens - Banksia attenuata - Allocasuarina fraseriana* over Hakea prostrata, *Hakea ruscifolia, Xanthorrhoea preissii* and *Daviesia divaricata* subsp. *divaricata.*	B3
M022	E 367257 N 6527351	Woodland of *Eucalyptus gomphocephala* over *Xanthorrhoea preissii, Macrozamia riedlei, Dryandra lindleyana,* *Hibbertia hypericoides* and *Hakea lissocarpha.*	B2
M023	E 370726 N 6525223	Low Open Forest of *Banksia attenuata - Banksia menziesii -Nuytsia floribunda* over *Xanthorrhoea preissii*, *Conospermum canaliculatum* subsp. *canaliculatum* and *Mesomeleana psuedostygia.*	C1
M024	E 370034 N 6525144	Low Woodland of *Banksia attenuata - Banksia menziesii - Banksia grandis - Eucalyptus todtiana - Allocasuarina fraseriana* over *Hibbertia hypericoides, Xanthorrhoea preissii, Mesomeleana pseudostygia* and *Conospermum canaliculatum* subsp. *canaliculatum*.	C1
M025	E 370200 N 6525362	Low Woodland of *Eucalyptus gomphocephala - Banksia attenuata - Allocasuarina fraseriana* over *Hibbertia hypericoides*, *Hakea trifurcata, Conospermum canaliculatum* subsp. *canaliculatum* and *Macrozamia riedlei*.	B2

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

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No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M026	E 369573 N 6525347	Low Open Woodland of *Banksia ilicifolia* over *Melaleuca systena, Melaleuca trichophylla, Xanthorrhoea preissii, Scholtzia involucrata* and *Calytrix flavescens*.	H3
M027	E 368765 N 6525236	Low Shrubland with *Jacksonia sericea* (P3), *Melaleuca systena, Xanthorrhoea preissii, Hibbertia hypericoides,Mesomeleana psuedostygia*, *Conospermum canaliculatum* subsp. *canaliculatum, Kunzea ericifolia* subsp. *ericifolia* and *Macrozamia riedlei* on *limestone outcropping.*	B1
M028	E 368759 N 6525272	Low Woodland of *Banksia attenuata* over *Dryandra sessilis, Kunzea ericifolia* subsp. *ericifolia, Hibbertia hypericoides* and *Jacksonia sericea* (P3) on limestone outcropping.	C1
M029	E 367554 N 6525370	Low Woodland of *Banksia attenuata - Banksia menziesii - Eucalyptus todtiana* over *Hibbertia hypericoides, Dryandra sessilis, Kunzea ericifolia* subsp. *ericifolia* and *Melaleuca systena*.	C1
M030	E 367576 N 6526130	Woodland of *Eucalyptus decipians* subsp. *decipiens -Banksia attenuata -Banksia menziesii* over *Calytrix fraseri Xanthorrhoea preissii, Mesomelaena psuedostygia* and *Conospermum stoechadis* subsp. *stoechadis*.	B3
M031	E 367448 N 6526854	Low Open Woodland of *Banksia ilicifolia* over *Eremaea pauciflora* var *pauciflora*, *Scholtzia involucrata, Hakea prostrata* and *Xanthorrhoea preissii.*	H3
M032	E 367422 N 6524795	Woodland of *Eucalyptus gomphocephala - Banksia attenuata* over *Xanthorrhoea preissii, Hakea prostrata, Acacia pulchella* var. *glaberrima* and *Melaleuca systena*.	B2
M033	E 367602 N 6524285	Low Open Woodland of *Banksia ilicifolia* over *Dryandra lindleyana* var. *lindleyana, Jacksonia sericea* (P3), *Hakea prostrata, Petrophile brevifolia* and *Xanthorrhoea preissii.*	H3
M034	E 368265 N 6523466	Low Woodland of *Eucalyptus todtiana - Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii, Hibbertia hypericoides, Stirlingia latifolia* and *Hakea ruscifolia.*	G3
M035	E 368883 N 6523079	Low Woodland of *Banksia attenuata - Nuytsia floribunda* over *Dryandra sessilis, Melaleuca ? systena, Xanthorrhoea preissii Acacia pulchella* var. *glaberrima, Hibbertia hypericiodes* and *Conospermum canaliculatum* subsp. *canaliculatum.*	C1
M036	E 369324 N 6522247	Low Woodland of *Banksia attenuata - Banksia menziesii - Nuytsia floribunda* over *Melaleuca systena, Hibbertia hypericoides, Stirlingia latifolia* and *Xanthorrhoea preissii.*	C1
M037	E 368984 N 6520989	Low Woodland of *Banksia attenuata - Banksia menziesii - Eucalyptus todtiana* over *Dryandra sessilis, Macrozamia riedlei, Xanthorrhoea preissii, Hibbertia hypericoides* and *Allocasuarina humilis*.	C1
M038	E 370684 N 6520694	Low Woodland of *Banksia menziesii* over *Xanthorrhoea preissii, Eremaea pauciflora* var. *pauciflora, Dryandra lindleyana, Melaleuca trichophylla* and *Constephium pendulum.*	G1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

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No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M039	E 370812 N 6520280	Low Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia* over *Calytrix flavescens, Scholtzia involucrata, Hakea prostrata, Melaleuca systena* and *Xanthorrhoea preissii.*	H3
M040	E 371500 N 6519450	Forest of *Eucalyptus gomphocephala - Banksia attenuata* over *Xanthorrhoea preissii, Dryandra lindleyana, Petrophile macrostachya, Hakea prostrata* and *Leucopogon propinquus.*	B2
M041	E 371900 N 6519200	Low Woodland of *Eucalyptus decipiens* subsp. *decipiens* over *Daviesia divaricata* subsp. *divaricata* (ms), *Rhagodia baccata* subsp. *baccata, Mesomelaena pseudostygia* and numerous introduced species.	B3
M042	E 372300 N 6517500	Woodland of *Eucalyptus gomphocephala - Banksia prionotes - Banskia attenuata - Allocasuarina fraseriana* over *Jacksonia furcellata, Grevillea vestita* subsp. *vestita* and numerous introduced species.	B2
M043	E 370300 N 6521200	Open Heath of *Eremaea pauciflora* var. *pauciflora*, *Hakea prostrata* and *Melaleuca trichophylla* over *Lyginia barbata Schoenus caespititius, Xanthorrhoea preissii* and *Mesomeleana psuedostygia.*	D1
M044	E 371432 N 6521166	Woodland of *Eucalyptus gomphocephala - Banksia attenuata* over E*remaea pauciflora* var. *pauciflora, Mesomelaena pseudostygia, Acacia sessilis, Xanthorrhoea preissii, Calytrix flavescens* and *Conostephium pendulum.*	B2
M045	E 372516 N 6521140	Low Woodland of *Banksia attenuata -Eucalyptus todtiana - Allocasuarina fraseriana* over *Hibbertia hypericoides, Melaleuca systena Xanthorrhoea preissii* and *Daviesia divaricata* subsp. *divaricata.*	C1
M046	E 371900 N 6521700	Woodland of *Eucalyptus gomphocephala - Banksia grandis* over *Conospermum stoechadis* subsp. *steochadis, Jacksonia sericea* (P3), *Hakea prostrata, Petrophile brevifolia* and *Bossiaea eriocarpa.*	B2
M047	E 371350 N 6522000	Low Forest of *Eucalyptus todtiana - Banksia attenuata- Nuytsia floribunda* over *Conospermum canaliculatum* subsp. *canaliculatum, Xanthorrhoea preissii, Hibbertia hypericoides* and *Jacksonia sericea* (P3).	C1
M048	E 370363 N 6522236	Low Woodland of *Banksia menziesii - Banksia attenuata* over *Eremaea asterocarpa* subsp. *asterocarpa, Xanthorrhoea preissii, Hakea ruscifolia* and *Melaleuca trichophylla.*	E1
M049	E 372617 N 6523550	Low Forest of *Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii, Calytrix flavescens, Stirlingia latifolia, Hibbertia hypericoides, Jacksonia sternbergiana* and *Leucopogon racemulosus.*	E1
M050	E 373674 N 6523736	Low Woodland of *Banksia attenuata - Banksia menziesii - Allocasuarina fraseriana* over *Stirlingia latifolia, Hibbertia hypericoides, Jacksonia sternbergiana, Hakea ruscifolia* and *Xanthorrhoea preissii.*	C1
M051	E 374600 N 6523700	Low Shrubland of *Conospermum canaliculatum* subsp.*canaliculatum, Xanthorrhoea preissii* and *Petrophile macrostachya.*	A1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

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No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M052	E 375364 N 6524213	Low Open Shrubland of *Calothamnus sanguineus, Melaleuca systena, Hibbertia hypericoides, Eremaea asterocarpa* subsp. *asterocarpa* and *Scholtzia involucrata* under scattered *Eucalyptus todtiana -Banksia attenuata -Nuytsia floribunda.*	D1
M053	E 377500 N 6524250	Open Forest of *Eucalyptus rudis - Melaleuca preissiana - Banksia attenuata* over *Kennedia prostrata, Lyginia barbata, Lepidosperma tenue, Jacksonia furcellata* and *Bossiaea eriocarpa* .	K1
M054	E 378321 N 6523322	Open Forest of *Eucalyptus rudis - Melaleuca preissiana* over *Leucopogon propinquus* and *Xanthorrhoea preissii* .	K1
M055	E 379353 N 6523500	Low Woodland of *Banksia menziesii - Banksia attenuata - Banksia ilicifolia* over *Beaufortia elegans, Leucopogon polymorphus, Melaleuca systena, Calytrix angulata, Calytrix flavescens* and *Xanthorrhoea preissii.*	H1
M056	E 379936 N 6522715	Woodland of *Melaleuca preissiana - Nuytsia floribunda* over *Xanthorrhoea preissii, Verticordia nitens, Leucopogon oxycedrus* , *Leucopogon squarrosus* and *Boronia purdieana* subsp. *purdieana.*	K1
M057	E 380401 N 6521769	Low Forest of *Eucalyptus todtiana - Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii, Hibbertia subvaginata, Calytrix flavescens, Melaleuca systena* and *Calytrix angulata.*	G1
M058	E 381111 N 6521160	Open Forest of *Eucalyptus rudis - Melaleuca preissiana - Nuytsia floribunda - Banksia ilicifolia - Banksia menziesii* over *Gompholobium scabrum.*	K1
M059	E 382000 N 6520600	Low Forest of *Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii, Calytrix flavescens, Calytrix angulata, Acacia pulchella, Melaleuca systena* and *Stirlingia latifolia* .	H1
M060	E 382037 N 6520086	Woodland of *Corymbia calophylla* over *Xanthorrhoea preissii, Hibbertia subvaginata* and *Gompholobium scabrum.*	J2
M061	E 376323 N 6531358	Low Woodland of *Banksia attenuata - Banksia menziesii* over Eremaea sp., *Hibbertia hypericoides, Stirlingia latifolia* with occasional *Xanthorrhoea preissii.*	E1
M062	E 377234 N 6531536	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Adenanthos cygnorum, Eremaea pauciflora* var. *pauciflora, Scholtzia involucrata* and *Melaleuca scabra.*	E1
M063	E 377658 N 6530884	Tall Shrubland of *Beaufortia elegans, Kunzea ericifolia* subsp. *ericifolia* and *Hypocalymma angustifolium* with scattered *Banksia attenuata* and *Melaleuca preissiana.*	K1
M064	E 377873 N 6531103	Low Open Forest of *Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii, Dasypogon bromeliifolius, Calytrix fraseri* and *Adenanthos cygnorum.*	H1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

* Denotes introduced species

No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M065	E 379525 N 6530377	Low Open Woodland of *Banksia menziesii - Banksia attenuata - Eucalyptus todtiana* over *Verticordia nitens* and *Beaufortia elegans.*	G1
M066	E 380026 N 6531335	Woodland of *Eucalyptus rudis - Melaleuca preissiana - Banksia littoralis* over *Xanthorrhoea preissii* and *Lepidosperma longitudinale* .	K1
M067	E 380548 N 6532247	Low Woodland of *Banksia attenuata -Banksia menziesii* over *Eremaea* sp. and *Dasypogon bromeliifolius* .	H1
M068	E 380971 N 6532886	Woodland of *Banksia attenuata* over *Kunzea ericifolia* subsp. *ericifolia, Acacia pulchella* and *Dasypogon bromeliifolius* with scattered *Banksia menziesii.*	H1
M069	E 381760 N 6531020	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Adenanthos cygnorum, Hibbertia hypericoides, Eremaea* sp., *Scholtzia involucrata* and *Conospermum incurvum* .	H1
M070	E 382009 N 6530525	Low Open Woodland of *Melaleuca preissiana* over *Pericalymma ellipticum* var. *ellipticum, Xanthorrhoea preissii* and *Hypocalymma angustifolium.*	K1
M071	E 385700 N 6529700	Low Open Woodland of *Banksia attenuata - Banksia menziessii* over *Xanthorrhoea preissii, Verticordia nitens, Calytrix flavescens* and *Eremaea* sp.	G1
M072	E 386192 N 6528667	Low Open Woodland of *Banksia attenuata - Banksia ilicifolia - Nuytsia floribunda* over *Eremaea pauciflora* var. *pauciflora, Xanthorrhoea preissii* and *Hibbertia subvaginata.*	H1
M073	E 387078 N 6527648	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Adenanthos cygnorum* and *Xanthorrhoea preissii.*	H1
M074	E 387509 N 6526572	Low Open Woodland of *Banksia menziesii - Banksia attenuata* over *Adenanthos cygnorum* and *Beaufortia elegans.*	G1
M075	E 388094 N 6525952	Woodland of *Banksia attenuata - Nuytsia floribunda - Melaleuca preissiana* over *Macrozamia riedlei* and introduced pasture species.	K4
M076	E 388018 N 6525727	Open Forest of *Melaleuca preissiana - Eucalyptus rudis* over *Baumea juncea* and *Lepidosperma longitudinale* .	K3
M077	E 387414 N 6526504	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Adenanthos cygnorum* and *Jacksonia floribunda.*	G1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

* Denotes introduced species

No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M078	E 386250 N 6526500	Low Open Forest of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia* over *Xanthorrhoea preissii.*	H1
M079	E 385807 N 6526427	Open Heath of *Myrtaceae - Proteaceae* species over *Dasypogon bromeliifolius, Xanthorrhoea preissii* and *Patersonia occidentalis* with occasional emergent *Banksia menziesii* and *Banksia ilicifolia.*	H1
M080	E 385600 N 6526600	Low Open Forest of *Melaleuca preissiana* over *Hypocalymma angustifolium, Pericalymma ellipticum* var. *ellipticum* and *Baeckea sp .*	K1
M081	E 385440 N 6529674	Closed Heath of *Astartea fascicularis - Kunzea recurva - Hypocalymma angustifolium* over *Drosera* sp., *Centrolepis aristata* and *Siloxerus humifusus.*	K5
M082	E 383971 N 6529411	Closed Heath of *Regelia ciliata - Adenanthos cygnorum* over *Hypolaena exsulca* and *Hypocalymma angustifolium.*	K5
M083	E 383500 N 6530000	Open Heath of *Beaufortia elegans - Jacksonia floribunda* with scattered emergent *Banksia attenuata* and *Nuytsia floribunda.*	G1
M084	E 379274 N 6530548	Low Woodland of *Eucalyptus todtiana - Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii, Melaleuca scabra ,* *Dasypogon bromeliifolius* and *Calytrix flavescens .*	G1
M085	E 378611 N 6530475	Low Woodland of *Eucalyptus todtiana - Nuytsia floribunda - Banksia menziesii* over *Hibbertia hypericoides* and *Jacksonia sternbergiana.*	G1
M086	E 377877 N 6531063	Low Woodland of *Melaleuca preissiana - Nuytsia floribunda - Banksia attenuata - Banksia menziesii* over *Xanthorrhoea preissii* and *Dasypogon bromeliifolius.*	K4
M087	E 376161 N 6524476	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Calothamnus sanguineus, Xanthorrhoea preissii, Melaleuca scabra, Stirlingia latifolia* and *Conostephium pendulum .*	G1
M088	E 376418 N 6524457	Low Open Woodland of Banksia attenuata - Banksia grandis over *Conospermum stoechadis* subsp. *stoechadis, Xanthorrhoea preissii, Eremaea pauciflora* var. *pauciflora* and *Jacksonia calcicola* (ms).	F1
M089	E 377639 N 6524811	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicfolia* over *Scholtzia involucrata .*	H1
M090	E 378240 N 6524792	Low Woodland of *Melaleuca preissiana - Eucalyptus todtiana* over *Xanthorrhoea preissii, Eremaea pauciflora* var. *pauciflora* and *Leucopogon conostephioides.*	K4

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

* Denotes introduced species

No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M091	E 378962 N 6525067	Woodland of *Eucalyptus marginata - Eucalyptus todtiana* over *Xanthorrhoea preissii, Hibbertia hypericoides* and *Phlebocarya ciliata.*	G3
M092	E 379831 N 6525129	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia* over *Adenanthos cygnorum, Eremaea pauciflora* var. *pauciflora* and *Leucopogon conostephioides.*	H1
M093	E 380821 N 6525423	Low Woodland of *Eucalyptus todtiana - Banksia attenuata* over *Adenanthos cygnorum* subsp. *cygnorum, Eremaea* sp., *Scholtzia involucrata* and *Xanthorrhoea preissii.*	G1
M094	E 382469 N 6525630	Low Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia* over *Xanthorrhoea preissii* and *Lyginia barbata*.	H1
M095	E 383250 N 6526000	Open Woodland of *Melaleuca priessiana* over *Kunzea ericifolia* subsp.*ericifolia, Regelia ciliata* and *Astartea fascicularis.*	K1
M096	E 379735 N 6527661	Woodland of *Allocasuarina fraseriana - Banksia menziesii* over *Melaleuca scabra* and *Calytrix fraseri*.	G1
M097	E 379513 N 6528273	Low Woodland of *Banksia attenuata - Melaleuca preissiana -Nuytsia floribunda - Banksia littoralis* over *Dasypogon bromeliifolius.*	K1
M098	E 379783 N 6529926	Woodland of *Melaleuca rhaphiophylla - Nuytsia floribunda* over *Dasypogon bromeliifolius, Xanthorrhoea preissii, Adenanthos cygnorum* and *Regelia ciliata*.	K2
M099	E 380250 N 6526500	Low Woodland of *Melaleuca rhaphiophylla* over *Kunzea ericifolia* subsp. *ericifolia, Regelia ciliata* and *Hypolaena exsulca*.	K2
M100	E 384144 N 6525533	Open Forest of *Melaleuca rhaphiophylla - Banksia ilicifolia* over *Adenanthos cygnorum, Dasypogon bromeliifolius* and *Regelia ciliata.*	K2
M101	E 384850 N 6525243	Low Open Woodland of *Banksia attenuata* over a low understorey of *Scholtzia involucrata* and *Leucopogon conostephioides*.	G1
M102	E 392627 N 6520054	Low Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia* over *Eremaea pauciflora* var. *pauciflora, Conostephium minus* (P4), *Xanthorrhoea preissii* and *Patersonia occidentalis*.	H1
M103	E 393175 N 6520903	Low Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia* over *Dasypogon bromeliifolius, Xanthorrhoea preissii* and *Patersonia occidentalis.*	H1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

* Denotes introduced species

No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M104	E 393150 N 6521300	Very disturbed seasonal lake with Low Shrubland of *Melaleuca viminea* and an abundance of introduced species.	K5
M105	E 392350 N 6521600	Low Forest of mixed *Banksia attenuata - Banksia menziesii - Banksia ilicifolia - Nuytsia floribunda* over *Xanthorrhoea preissii* and *Macrozamia riedlei.*	H1
M106	E 391300 N 6522150	Low Open Woodland of *Banksia menziesii* over *Jacksonia floribunda, Eremaea pauciflora* var. *pauciflora* and *Conostephium incurvum.*	G1
M107	E 393010 N 6517574	Low Open Woodland of *Banksia attenuata - Banksia menziesii* with *Verticordia nitens, Jacksonia floribunda*, *Eremaea pauciflora* var. *pauciflora* and *Beaufortia elegans*.	G1
M108	E 383631 N 6516750	Woodland of *Banksia attenuata - Banksia menziesii - Nuytsia floribunda* over *Melaleuca systena, Allocasuarina humil* is and *Xanthorrhoea preissii.*	F1
M109	E 384027 N 6516581	Low Open Woodland of *Eucalyptus rudis - Melaleuca preissiana* over *Kunzea ericifolia* subsp. *ericifolia* and *Siloxerus humifusus* with occasional emergent *Banksia menziesii.*	K1
M110		No Site established with this number	
M111	E 386010 N 6516876	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Hibbertia hypericoides, Stirlingia latifolia, Calothamnus sanguineus, Beaufortia elegans* and *Phlebocarya ciliata*.	G1
M112	E 386976 N 6517000	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Melaleuca scabra, Phlebocarya ciliata, Hibbertia pachyrrhiza* and *Xanthorrhoea preissii.*	G1
M113	E 390626 N 6522031	Woodland of *Melaleuca preissiana - Banksia ilicifolia - Banksia prionotes -Nuytsia floribunda* over *Regelia ciliata, Kunzea ericifolia* subsp.*ericifolia* and *Pultenaea reticulata*.	K1
M114	E 390550 N 6522250	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Verticordia nitens, Dasypogon bromeliifolius, Melaleuca seriata* and *Patersonia occidentalis*.	I1
M115	E 389850 N 6523000	Woodland of *Corymbia calophylla - Banksia attenuata - Banksia menziesii - Melaleuca preissiana* over *Xanthorrhoea preissii, Regelia ciliata* and *Jacksonia furcellata*.	J1
M116	E 389550 N 6524151	Tall Shrubland of *Regelia ciliata, Adenanthos cygnorum* and *Kunzea ericifolia* subsp. *ericifolia*.	K5

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

* Denotes introduced species

No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M117	E 392250 N 6519500	Low Open Woodland of *Eucalyptus todtiana - Banksia attenuata - Banksia menziesii - Nuytsia floribunda* over *Beaufortia elegans, Melaleuca systena, Patersonia occidentalis* and *Hibbertia subvaginata*.	G1
M118	E 390375 N 6519375	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over low sparse understorey.	G1
M119	E 388250 N 6517373	Low Open Woodland of *Banksia attenuata* over *Allocasuarina humilis, Jacksonia floribunda* and *Persoonia comata*.	G1
M120	E 386200 N 6517855	Low Open Woodland of *Eucalyptus todtiana - Banksia menziesii - Banksia attenuata* over *Calytrix flavescens* and *Eremaea pauciflora* var. *pauciflora.*	G1
M121	E 386044 N 6519659	Low Woodland of *Melaleuca preissana - Banksia menziesii - Banksia attenuata - Eucalyptus todtiana* over *Dasypogon bromeliifolius Kunzea ericifolia* subsp. *ericifolia, Xanthorrhoea preissii* and *Leucopogon conostephioides*.	K1
M122	E 386260 N 6521590	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Eremaea pauciflora* var. *pauciflora, Verticordia nitens* and *Astroloma xerophyllum.*	G1
M123	E 386058 N 6523269	Low Open Woodland of *Banksia menziesii* over *Eremaea pauciflora* var. *pauciflora, Beaufortia elegans, Scholtzia involucrata* and *Jacksonia floribunda.*	G1
M124	E 385442 N 6523195	Open Woodland of *Eucalyptus rudis* over *Melaleuca viminea, Astartea fascicularis* and *Kunzea ericifolia* subsp. *ericifolia* in a wetland depression.	K2
M125	E 384949 N 6523791	Low Woodland of *Melaleuca preissiana - Banksia attenuata - Banksia ilicifolia* over *Dasypogon bromeliifolius Xanthorrhoea preissii, Adenanthos cygnorum* and *Pericalymma ellipticum* var. *ellipticum.*	K1
M126	E 384601 N 6524630	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Melaleuca viminea, Dasypogon bromeliifolius*, *Kunzea ericifolia* subsp. *ericifolia, Xanthorrhoea preissii, Phlebocarya ciliata* and *Hibbertia subvaginata*.	H2
M127	E 385846 N 6524200	Low Woodland of *Melaleuca preissiana* over *Kunzea ericifolia* subsp. *ericifolia, Xanthorrhoea preissii, Gahnia* sp., *Pericalymma ellipticum* var. *ellipticum* and *Hypocalymma angustifolium.*	K1
M128	E 387375 N 6523900	Low Open Woodland of *Eucalyptus rudis - Melaleuca preissiana* over *Pultenaea reticulata, Hypocalymma angustifolium* and *Regelia ciliata.*	J1/K1
M129	E 388033 N 6524027	Low Open Woodland of *Banksia menziesii* over *Jacksonia floribunda, Eremaea pauciflora* var. *pauciflora, Beaufortia elegans* and *Scholtzia involucrata.*	G1

APPENDIX B: SUMMARY OF SITE DESCRIPTIONS, LOCATIONS AND SITE VEGETATION TYPES FOR SITES IN STAGE 1

* Denotes introduced species

No.	Grid. Refs.	MCPL Site Descriptions	Vegetation Code
M130	E 376375 N 6527850	Low Open Woodland of *Eucalyptus todtiana - Allocasuarina fraseriana - Banksia attenuata - Banksia menziesii* over *Verticordia nitens, Hibbertia hypericoides, Philotheca spicata, Bossiaea eriocarpa* and *Eremaea pauciflora* var. *pauciflora*.	G2
M131	E 376700 N 6527450	Low Woodland of *Melaleuca preissiana - Nuytsia floribunda - Banksia menziesii - Allocasuarina fraseriana* over *Xanthorrhoea preissii, Dasypogon bromeliifolius* and *Jacksonia furcellata.*	K4
M132	E 376827 N 6528000	Woodland of *Eucalyptus todtiana -Banksia menziesii* over *Xanthorrhoea preissii, Bossiaea eriocarpa, Tetraria capillaris*, *Conostephium pendulum, Eremaea pauciflora* var. *pauciflora* and *Hibbertia subvaginata*.	G1
M133	E 377626 N 6527805	Woodland of *Eucalyptus todtiana, Allocasuarina fraseriana* and *Banksia menziesii* over *Xanthorrhoea preissii, Dasypogon bromeliifolius* and *Melaleuca scabra*.	G1
M134	E 378283 N 6527803	Woodland of *Melaleuca preissiana - Banksia menziesii- Allocasuarina fraseriana* over *Xanthorrhoea preissii*, *Kunzea ericifolia* subsp. *ericifolia, Lagenophora huegelii, Hibbertia hypericoides* and *Conostephium pendulum.*	K4
M135	E 380570 N 6525634	Low Open Woodland of *Eucalyptus todtiana* over *Adenanthos cygnorum, Kunzea ericifolia* subsp. *ericifolia, Xanthorrhoea preissii, Regelia ciliata* and *Leucopogon conostephioides*.	G1
M135b	E 378625 N 6527794	Low Open Forest of *Eucalyptus rudis - Banksia littoralis* over *Acacia saligna, Hakea varia* and various introduced species.	K2
M136	E 381150 N 6529050	Low Open Woodland of *Melaleuca preissiana* over *Astartea fascicularis, Agonis flexuosa, Pericalymma ellipticum* var. *ellipticum*, *Beaufortia elegans* and *Hypolaena exsulca*.	K1
M137	E 380844 N 6527408	Low Open Woodland of *Melaleuca preissiana - Banksia attenuata - Eucalyptus todtiana* over *Xanthorrhoea preissii, Calytrix flavescens* and *Dasypogon bromeliifolius*.	K1
M138	E 383601 N 6526850	Woodland of *Melaleuca preissiana - Nuytsia floribunda - Banksia ilicifolia* over *Xanthorrhoea preissii, Beaufortia elegans*, *Bossiaea eriocarpa* and *Verticordia nitens*.	K4
M139	E 383283 N 6526988	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia* over *Verticordia nitens*, *Xanthorrhoea preissii, Kunzea ericifolia* subsp. *ericifolia* and *Scholtzia involucrata.*	H1
M140	E 389913 N 6521322	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Melaleuca trichophylla, Beaufortia elegans, Lyginia barbata* and *Hibbertia subvaginata.*	G1
M141	E 389780 N 6521250	Low Open Woodland of *Banksia menziesii - Banksia attenuata* over *Adenanthos cygnorum, Verticordia nitens, Patersonia occidentalis, Dasypogon bromeliifolius* and *Beaufortia elegans*.	G1

APPENDIX C: SUMMARY OF SITE-VEGETATION TYPES FOR SITES ON GNANGARA MOUND AREAS

Site-Vegetation	Site Description
A1	Closed Heath of *Melaleuca huegelii, Trymalium ledifolium, Grevillea preissii* subsp. *preissii, Grevillea vestita* and *Dryandra sessilis.*
B1	Closed Heath of *Jacksonia hakeoides, Conospermum triplinervium, Calothamnus quadrifidus, Melaleuca systena* and *Lechenaultia linarioides.*
B2	Woodland of *Eucalyptus gomphocephala - Banksia attenuata - Allocasuarina fraseriana* over *Hibbertia hypericoides, Hakea trifurcata, Conospermum canaliculatum, Melaleuca systena, Macrozamia riedlei, Acacia pachella* var. *glaberrima* and *Stirlingia latifolia.*
B3	Low Woodland of *Eucalyptus decipiens* subsp. *decipiens - Banksia attenuata - Allocasuarina fraseriana* with pockets of *Eucalyptus foecunda* over *Hakea prostrata, Hakea ruscifolia, Xanthorrhoea preissii, Daviesia divaricata* and *Scholtzia involucrata.*
B4	Shrubland *of Conospermum canaliculatum* subsp. *canaliculatum, Melaleuca systena, Xanthorrhoea preissii* and *Hibbertia hypericoides* with limestone outcropping.
C1	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Allocasuarina fraseriana* over *Hibbertia hypericoides, Hibbertia racemosa, Hakea costata, Petrophile serruriae, Petrophile brevifolia, Jacksonia hakeoides, Jacksonia sternbergiana, Mesomelaena stygia, Xanthorrhoea preissii* and *Stirlingia latifolia.*
D1	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Mesomelaena stygia, Calothamnus sanguineus, Eremaea pauciflora* var. *pauciflora* and *Melaleuca scabra.*
E1	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Eremaea fimbriata, Xanthorrhoea preissii, Synaphea spinulosa* subsp. *spinulosa, Stirlinga latifolia* and *Melaleuca scabra.*
F1	Low Open Woodland of *Banksia attenuata - Banksia grandis* over *Conospermum stoechadis* subsp. *stoechadis* , *Xanthorrhoea preissii, Eremaea pauciflora* var. *pauciflora* and *Jacksonia calcicola* (ms) with pockets of *Banksia attenuata - Banksia menziesii - Nuytsia floribunda* over *Melaleuca systena, Allocasuarina humilis and Xanthorrhoea preissii.*
G1	Low Woodland to Low Open Woodland of *Banksia attenuata - Banksia menziesii - Eucalyptus todtiana - Nuytsia floribunda* with occasional *Allocasuarina fraseriana* and *Banksia grandis* (southern section only) over *Leucopogon conostephioides, Scholtzia involucrata, Eremaea pauciflora* var. *pauciflora, Melaleuca scabra, Boronia purdieana subsp. purdieana and Astroloma xerophyllum.*
G2	Low Open Woodland of *Banksia attenuata - Banksia menziesii - Allocasuarina fraseriana - Eucalyptus todtiana* over *Xanthorrhoea preissii, Lysinema ciliatum* , *Verticordia nitens, Hibbertia hypericoides, Philotheca spicata, Eremaea pauciflora* var. *pauciflora, Bossiaea eriocarpa, Daviesia nudiflora, Mesomelaena pseudostygia* and *Stirlingia latifolia.*
G3	Woodland of *Eucalyptus marginata - Eucalyptus todtiana* over *Xanthorrhoea preissii* , *Hibbertia hypericoides* and *Phlebocarya ciliata.*

APPENDIX C: SUMMARY OF SITE-VEGETATION TYPES FOR SITES ON GNANGARA MOUND AREAS

Site-Vegetation	Site Description
H1	Low Woodland to Low Open Woodland of *Banksia attenuata - Banksia menziesii - Banksia ilicifolia - Nuytsia floribunda* over *Beaufortia elegans, Leucopogon polymorphus, Melaleuca systena, Calytrix angulata, Calytrix flavescens, Stirlingia latifolia, Dasypogon bromeliifolius, Leucopogon conostephioides, Lyginia barbata, Macrozamia riedlei* and *Xanthorrhoea preissii.*
H2	Low Woodland of *Banksia attenuata - Banksia menziesii* over *Melaleuca viminea , Dasypogon bromeliifolius , Kunzea ericifolia* subsp. *ericifolia , Xanthorrhoea preissii, Phlebocarya ciliata* and *Hibbertia subvaginata.*
H3	Low Open Woodland of *Banksia ilicifolia - Hakea prostrata* over *Melaleuca systena, Melaleuca trichophylla, Xanthorrhoea preissii, Scholtzia involucrata, Calytrix flavescens* and *Petrophile brevifolia.*
H4	Low Woodland of *Banksia prionotes* over *Adenanthos cygnorum , Calytrix angulata, Verticordia densifolia* var. *densifolia* and *Regelia ciliata.*
I1	Low Open Woodland of *Banksia attenuata - Banksia menziesii* over *Verticordia nitens, Dasypogon bromeliifolius, Melaleuca seriata* and *Patersonia occidentalis.*
J1	Woodland of *Corymbia calophylla - Banksia attenuata - Banksia menziesii - Melaleuca preissiana* over *Xanthorrhoea preissii, Hypocalymma angustifolium, Pultenaea reticulata, Adenanthos obovatus, Regelia ciliata* and *Jacksonia furcellata.*
J2	Woodland of *Corymbia calophylla* over *Xanthorrhoea preissii, Hibbertia subvaginata* and *Gompholobium scabrum.*
K1	Open Forest of *Eucalyptus rudis - Melaleuca preissiana - Banksia ilicifolia* with occasional *Banksia attenuata, Banksia menziesii, Nuytsia floribunda* and *Eucalyptus todtiana* over *Kennedia prostrata, Lyginia barbata, Xanthorrhoea preissii, Hypocalymma angustifolium, Dasypogon bromeliifolius, Pericalymma ellipticum* var. *ellipticum, Astartea fascicularis, Lepidosperma tenue, Jacksonia furcellata, Kunzea ericifolia* subsp. *ericifolia* and *Bossiaea eriocarpa.*
K2	Open Forest of *Eucalyptus rudis - Melaleuca rhaphiophylla - Banksia ilicifolia* with occasional pockets of *Casuarina obesa, Melaleuca preissiana, Banksia littoralis* over *Baumea juncea, Lepidosperma longitudinale, Regelia ciliata, Hypolaena exsulca* and *Hakea varia.*
K3	Open Forest to Open Woodland of *Eucalyptus rudis - Melaleuca preissiana* over *Acacia saligna* and *Hypocalymma angustifolium.*
K4	Woodland of *Melaleuca preissiana - Banksia attenuata - Nuytsia floribunda* with the occasional *Banksia menziesii* and *Eucalyptus todtiana* over *Xanthorrhoea preissii, Dasypogon bromeliifolius* and *Jacksonia furcellata.*
K5	Closed Heath to Tall Shrubland of Myrtaceae - Proteaceae species including *Acacia saligna, Melaleuca lateriflora, Kunzea ericifolia* subsp. *ericifolia, Astartea fascicularis, Regelia ciliata, Kunzea recurva, Hypocalymma angustifolium* over *Drosera* species.
Q1	Shrubland of *Acacia rostellifera, Acacia lasiocarpa, Calothamnus quadrifidus, Melaleuca systena, Phyllanthus calycinus* and *Leucopogon parviflorus.*

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Acacia alata var. *tetrantha*																																						
Acacia barbinervis subsp. *borealis*																																						
Acacia benthamii (P2)																																						
Acacia cochlearis																																						
Acacia cyclops																						+										+						
Acacia huegelii													+													+												
Acacia lasiocarpa																																						
Acacia lasiocarpa var. *lasiocarpa*	+																																					
Acacia pulchella																																					+	+
Acacia pulchella var. *glaberrima*			+				+		+				+									+							+			+			+	+	+		
Acacia rostellifera																											+											
Acacia saligna																																						
Acacia sessilis			+	+					+																				+					+	+	+		
Acacia sp.																																						
Acacia stenoptera			+	+	+			+									+	+	+	+				+													
Acacia truncata																																						
Acacia xanthina																																						
Acanthocarpus preissii																						+			+													
Adenanthos barbiger																																						
Adenanthos cygnorum		+								+	+																											
Adenanthos cygnorum subsp. *cygnorum*																																						
Adenanthos obovatus																																						
Adenanthos sp.																																						
Agonis flexuosa																																						
Agonis linearifolia																																						
Agrostis avenacea																																						
**Aira caryophyllea*																		+			+					+	+				+	+			+	+		
Aira sp.																																						
Alexgeorgea nitens			+		+						+	+	+				+							+													

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Allocasuarina fraseriana				+				+										+	+	+	+			+	+												
Allocasuarina humilis						+					+																								+	+	+	
Alyogyne huegelii																																						
Amperea ericoides																																						
Amphibromus nervosus																																						
Amphipogon ? amphipogonoides																														+	+							
Amphipogon ?strictus																																						
Amphipogon laguroides																																						
Amphipogon sp.																																						
Amphipogon turbinatus																																	+					
**Anagallis arvensis*	+						+																															
Anarthria gracilis																																						
Andersonia heterophylla																																						
Andersonia lehmanniana																																						
Andersonia lehmanniana subsp. *lehmanniana*					+																																	
Anigozanthos humilis			+	+				+						+														+	+						+	+		
Anigozanthos sp.																	+																					+
Aotus gracillima																																						
Aotus procumbens																																						
Aphelia nutans																																						
**Arctotheca calendula*														+																								
Arnocrinum preissii																																						
Astartea fascicularis																																						
Asteraceae sp.																																						
Asteridea pulverulenta																																						
Astroloma microcalyx																																						
Astroloma pallidum																					+																	
Astroloma xerophyllum																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
**Atriplex prostrata*																																						
Austrodanthonia occidentalis																																				+		
Austrodanthonia ?occidentalis		+																																				
Austrodanthonia sp.																																						
Austropstipa sp.																																						
Austrostipa ?macalpinei																																						
Austrostipa compressa																+											+											
Austrostipa flavescens																																						
Austrostipa macalpinei																																						
Austrostipa sp.																																	+					
**Avellinia michelii*																																						
Azolla filiculoides																																						
Baeckea camphorosmae																												+										
Baeckea robusta																																						
Baeckea sp.																																						
Banksia attenuata			+	+	+	+		+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+		+		+	+	+	+	
Banksia grandis																								+														
Banksia ilicifolia																				+						+					+		+					
Banksia littoralis																																						
Banksia menziesii			+	+	+	+		+	+		+	+	+	+	+		+	+	+	+			+	+				+	+				+		+	+	+	+
Banksia prionotes		+																																				
Baumea juncea																																						
Baumea vaginalis																																						
Beaufortia elegans			+																																			
Beyeria cinerea																																						
Blennospora sp.																																						
Boronia purdieana																																						
Boronia purdieana subsp. *purdieana*																																						
Boronia ramosa																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Boronia ramosa subsp. *anethifolia*																																						
Boronia ramosa subsp. *ramosa*																																		+				
Borya sphaerocephala																																						
Bossiaea eriocarpa			+	+	+			+		+	+	+	+			+	+	+	+	+				+		+	+	+		+		+	+	+		+	+	
Brachyscome iberidifolia																																						
Brachyscome sp.																																						
Brassica sp.	+																																					
**Briza maxima*	+					+						+	+			+																						
**Briza minor*																																						
**Briza* sp.																							+															
**Bromus diandrus*																																						
**Bromus rubens*																																						
**Bromus* sp.																																						
? Bromus sp.																																						
Burchardia bairdiae																																						
Burchardia umbellata			+	+	+	+		+	+		+	+	+	+		+	+	+		+	+	+		+		+		+		+			+	+	+	+	+	
Caesia sp.																																						
Caladenia flava subsp. *flava*	+		+	+	+	+		+				+	+	+	+	+					+	+	+	+		+	+	+	+	+		+		+			+	
Caladenia latifolia																																						
Caladenia marginata																																						
Caladenia paludosa																																						
Caladenia sp.							+		+																													
Calandrinia brevipedata																																						
Calandrinia corrigioloides																																						
Calandrinia granulifera																							+															
Calandrinia liniflora																															+							
Calandrinia sp.		+																																				
Calectasia cyanea (P2)			+	+	+																																	
Calothamnus lateralis																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Calothamnus quadrifidus						+																					+											
Calothamnus sanguineus					+				+								+												+									
Calytrix angulata		+									+			+	+	+								+	+			+								+		
Calytrix flavescens			+	+	+	+		+	+	+		+	+	+		+	+		+	+				+		+	+		+				+			+		+
Calytrix fraseri																														+								
Calytrix sapphirina																																						
Calytrix strigosa																																						
**Carpobrotus edulis*							+	+														+			+	+		+		+	+	+	+					
Carpobrotus virescens																																						
Caryophyllaceae sp.																																						
Cassytha flava																																						
Cassytha glabella																																						
Cassytha pomiformis			+																																		
Cassytha racemosa																																						
Cassytha sp.																																						
Casuarina obesa																																						
Caustis dioica																					+																	+
**Centaurium erythraea*																																						
Centrolepis aristata																																						
Centrolepis drummondiana																																						
Centrolepis mutica																																						
Centrolepis polygyna																																						
**Cerastium glomeratum*																						+			+							+						
Chamaescilla corymbosa																					+																	
**Chenopodium macrospermum*																																						
Chordifex microcodon																																						
Chorizandra enodis																																						
**Cicendia filiformis*																																						
Comesperma calymega																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Comesperma confertum																																						
Comesperma integerrimum																																						
Comesperma sp.																																						
Conospermum acerosum subsp. *acerosum*																																						
Conospermum canaliculatum subsp. *canaliculatum*	+						+		+						+	+							+	+	+		+	+	+			+			+			
Conospermum incurvum																																						
Conospermum stoechadis subsp. *stoechadis*																														+								
Conospermum triplinervium																																					+	
Conostephium pendulum																	+	+																				
Conostephium minus (P4)																																						
Conostephium pendulum			+	+	+	+			+	+		+	+						+	+															+	+	+
Conostephium preissii																					+							+										
Conostylis aculeata			+			+																																
Conostylis aurea																																						
Conostylis candicans subsp. *candicans*	+						+	+				+	+	+	+							+												+		+		
Conostylis juncea																																						
Conostylis pauciflora																																						
Conostylis pauciflora subsp. *euryrhipis* (P3)																																						
Conostylis serrulata					+																																	
Conostylis setigera subsp. *setigera*	+		+	+	+	+		+	+					+	+	+	+	+		+	+					+			+	+	+		+	+			+	+
Conostylis setosa						+																																
Conostylis sp.																																						
**Conyza albida*																																						
Conyza sp.																																						
Corymbia calophylla																																						
Corynotheca micrantha												+		+																								
Cotula coronopifolia																																						
Crassula colorata																																						
Crassula colorata var. *acuminata*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Crassula ?colorata																															+							
Crassula exserta																																						
**Crassula glomerata*																																						
**Crassula natans*																																						
Crassula sp.																																						
Cristonia biloba																																						+
Croninia kingiana																																						
Cryptandra mutila																																						
Cryptandra pungens	+																										+											
Cyanicula deformis																																						
Cyathochaeta avenacea																																		+				
**Cyperus tenellus*																																						
Cyrtostylis robusta																																						
Cyrtostylis sp.																																						
Dampiera linearis												+	+																									
Dampiera sp.																																						
Dasypogon bromeliifolius			+	+					+	+																												
Dasypogon sp.																																						
Daucus glochidiatus	+						+									+						+	+	+	+			+				+						
Daviesia decurrens																																						
Daviesia decurrens subsp. *decurrens* (ms)																																						+
Daviesia divaricata subsp. *divaricata* (ms)																	+		+		+							+	+									
Daviesia nudiflora			+	+					+								+		+	+	+					+												
Daviesia physodes																																						
Daviesia podophylla																																						
Daviesia quadrilatera																																						
Desmocladus fasciculatus																																						
Desmocladus flexuosus	+		+	+	+	+	+					+	+	+				+	+	+	+	+										+	+		+			+	
Dianella revoluta																						+												+				

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Dichelachne crinita																																						
Dichopogon capillipes																																						
Dielsia stenostachya																																						
Dillwynia dillwynioides																																						
Diplolaena angustifolia																																						
Diplopeltis huegelii																																						
Disa bracteata																																						
**Dischisma arenarium*																																						
Dischisma sp.																																						
Diuris longifolia																					+																	
Diuris sp.		+																																				
Drosera erythrorhiza	+	+	+	+	+	+		+	+			+	+	+	+	+	+	+			+		+	+				+	+	+				+	+	+	+	
Drosera gigantea subsp. *gigantea*																																						
Drosera glanduligera																																						
Drosera macrantha subsp. *macrantha*																																						
Drosera menziesii											+	+	+	+			+												+					+				
Drosera menziesii subsp. *penicillaris*																																						
Drosera menziesii subsp. *menziesii*																																						
Drosera neesii																																						
Drosera nitidula																																						
Drosera paleacea																																						
Drosera pallida	+			+									+		+			+			+			+			+				+						
Drosera rosulata																																						
Drosera sp.																																						
Drosera sp. climbing			+		+	+										+				+															+			
Dryandra lindleyana	+													+	+	+		+				+															+		
Dryandra lindleyana var. *lindleyana*					+		+												+	+				+			+	+			+	+	+			+	+	
Dryandra nivea																																						
Dryandra sessilis																												+	+						+	+	+	

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Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Ecdeiocolea monostachya																																						
**Ehrharta calycina*												+																										
**Ehrharta longiflora*																																					+	
Ehrharta sp.											+		+																									
Eleocharis acuta																																						
Eleocharis sp.																																						
Elythranthera brunonis																		+									+	+						+				
Eremaea asterocarpa subsp. *asterocarpa*			+	+	+												+	+	+	+								+					+		+			
Eremaea beaufortioides																																					+	
Eremaea brevifolia																																						
Eremaea pauciflora																																						
Eremaea pauciflora var. *pauciflora*			+	+							+		+		+		+														+		+				+	
Eremaea sp.																																						
Eremophila glabra																																						
Eriochilus dilatatus																																						
**Erodium botrys*																																						
**Erodium cicutarium*							+																															
**Erodium moschatum*																																						
Eryngium pinnatifidum subsp. *palustre* (ms)																																						
Eucalyptus decipiens																																						
Eucalyptus decipiens subsp. *decipiens*																					+									+								
Eucalyptus foecunda																																						
Eucalyptus gomphocephala																						+			+							+						
Eucalyptus marginata																																						
Eucalyptus petrensis																																						
Eucalyptus rudis																																						
Eucalyptus todtiana			+						+			+		+		+			+					+				+						+		+		
Eucalytpus gomphocephala																																						
Euchilopsis linearis																																						

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Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Euchiton sphaericus																																						
**Euphorbia terracina*																																						
Exocarpos sparteus																																						
? *Gahnia* sp.																																						
**Galium murale*																																						
Geranium retrorsum																																						
Geranium solanderi																																						
**Gladiolus caryophyllaceus*		+				+																					+								+		+
Gladiolus sp.																																						
Glossostigma diandrum																																						
Gnephosis tenuissima																																						
Gompholobium capitatum																																						
Gompholobium confertum																																						
Gompholobium knightianum					+																																	
Gompholobium scabrum																																						
Gompholobium shuttleworthii																															+							
Gompholobium sp.			+																																			
Gompholobium tomentosum			+		+			+		+		+	+		+	+		+	+	+				+										+		+	+	
Gonocarpus ?pithyoides																																						
Gonocarpus cordiger																		+	+																				
Gonocarpus pithyoides																																						
Gonocarpus sp.																																						
Goodenia micrantha																																						
Gratiola pubescens																																						
Grevillea preissii																																						
Grevillea preissii subsp. *preissii*							+																				+	+										
Grevillea vestita																																						
Grevillea vestita subsp. *vestita*																																						
Haemodorum laxum														+	+			+	+		+																	

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Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Haemodorum paniculatum																																						
Haemodorum simplex																																						
Haemodorum sp.					+		+	+		+						+	+	+	+	+	+	+							+					+	+	+		
Haemodorum spicatum																																						
Hakea costata																											+	+							+		+	
Hakea erinacea																												+										
Hakea lissocarpha																					+	+																
Hakea prostrata	+																				+					+					+	+	+					
Hakea ruscifolia					+				+					+	+	+					+								+					+		+		
Hakea trifurcata		+														+									+									+				
Hakea varia																																			+			
Hardenbergia comptoniana																						+					+											
**Heliophila pusilla*	+						+																+		+		+	+		+		+			+	+		
Heliotropium curassavicum																																						
Hemiandra pungens		+																																	+			
Hemigenia ? incana																																						
Hensmania turbinata																																						
Hibbertia aff. *pachyrrhiza*										+	+																											
Hibbertia aurea				+	+												+			+																		+
Hibbertia crassifolia																																						
Hibbertia aff. *helianthemoides*																																						
Hibbertia huegelii			+	+	+	+		+	+	+							+	+		+				+		+				+				+		+	+	
Hibbertia hypericoides	+		+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+		+	+	+	+		+	+	+	+					+	+	+	+	
Hibbertia pachyrrhiza																																						
Hibbertia racemosa	+																						+	+	+			+					+		+			
Hibbertia sp.																																						
Hibbertia spicata																																						
Hibbertia spicata subsp. *leptotheca*																																						
Hibbertia stellaris																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Hibbertia subvaginata			+	+					+	+	+	+	+					+	+	+																	
**Holcus setiger*																																						
Homalosciadium homalocarpum																							+	+						+								
Hovea pungens																																						
Hovea trisperma					+																																	
Hyalosperma cotula																																						
Hybanthus calycinus	+						+							+							+						+											
Hydrocotyle alata																																						
Hydrocotyle blepharocarpa																																						
Hydrocotyle callicarpa						+																																
Hydrocotyle hispidula																																						
Hydrocotyle pilifera subsp. *glabrata*																																						
Hydrocotyle sp.																																						
Hydrocotyle tetragonocarpa																																						
Hypocalymma angustifolium										+																												
Hypocalymma xanthopetalum																			+																			
**Hypochaeris glabra*	+	+				+		+	+	+		+	+	+	+	+		+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+		
Hypochaeris sp.																																						
Hypolaena exsulca				+	+					+																								+				
Hypolaena pubescens																																						
Isolepis cernua																																						
Isolepis producta																																						
**Isolepis marginata*																										+												
Isolepis nodosa																																						
Isotoma hypocrateriformis																																						
Isotropis cuneifolia																																						
Isotropis sp.																																						
Jacksonia calcicola (ms)																																						
Jacksonia fasciculata																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Jacksonia floribunda																																						
Jacksonia furcellata		+	+					+						+	+																							
Jacksonia hakeoides																																						
Jacksonia sericea (P3)	+						+		+			+	+	+	+	+							+				+	+				+		+				
Jacksonia sternbergiana						+		+	+			+	+	+	+	+		+		+	+	+		+					+					+				
**Juncus capitatis*																																						
Juncus sp.																																						
Kennedia prostrata							+	+											+			+			+									+				
Kennedia sp.																																						
Kunzea ericifolia																																						
Kunzea ericifolia subsp. *ericifolia*														+	+						+							+	+	+								
Kunzea recurva																																						
Lagenophora huegelii							+	+	+						+	+				+	+	+	+	+	+	+		+	+	+		+	+	+	+		+	
Latrobea tenella var. *tenella*																																						
Laxmannia ramosa											+																											
Laxmannia sessiliflora																																						
Laxmannia sp.																																						
Laxmannia squarrosa																																						
Lechenaultia biloba																																						
Lechenaultia expansa																																						
Lechenaultia floribunda											+																											
Lechenaultia linarioides																							+															
Lemna disperma																																						
Lepidium rotundum																																						
Lepidobolus chaetocephalus																																						
Lepidobolus preissianus																																						
Lepidobolus preissianus subsp. *preissianus*																										+	+		+	+	+	+							
Lepidobolus sp.																																						
Lepidosperma aff. *leptostachyum*									+						+																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Lepidosperma gladiatum																																						
Lepidosperma longitudinale																																						
Lepidosperma pubisquameum	+											+		+		+						+																
Lepidosperma sp.			+						+																													
Lepidosperma squamatum																															+							
Lepidosperma tenue																																						
Leporella fimbriata			+	+	+	+			+					+	+	+	+	+	+	+			+	+														
Leptomeria cunninghamii																																						
Leptomeria empetriformis																																						
Leptomeria pauciflora																																						
Leptorhynchos scaber																																						
Leptospermum spinescens				+	+			+						+			+	+	+									+						+			
Leucopogon ?sprengelioides																																						
Leucopogon conostephioides			+		+					+	+	+	+					+																				
Leucopogon leptanthus																																						
Leucopogon oxycedrus																																						
Leucopogon parviflorus							+																				+			+								
Leucopogon polymorphus			+		+															+								+										
Leucopogon propinquus								+						+	+	+	+	+						+	+			+						+				
Leucopogon racemulosus																																				+		
Leucopogon sp.																																						
Leucopogon sp. (indeterminant) M137-1																																						
Leucopogon sprengelioides																																						
Leucopogon squarrosus																																						
Levenhookia pusilla																																						
Levenhookia sp.																																						
Levenhookia stipitata																																						
Lobelia alata																																						
Lobelia heterophylla																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Lobelia sp.																																						
Lobelia tenuior																																						
**Lolium multiflorum x perenne*																																						
**Lolium rigidum*																																						
Lomandra ?brittanii																																						
Lomandra caespitosa					+					+		+	+	+					+		+										+		+			+		
Lomandra ?caespitosa																																						
Lomandra hermaphrodita			+	+	+				+		+	+	+	+			+		+	+	+										+	+		+		+	+	+
Lomandra ?hermaphrodita																																						
Lomandra maritima																																						
Lomandra micrantha																																						
Lomandra nigricans																																						
Lomandra preissii					+							+																										
Lomandra sericea					+	+		+									+	+	+	+	+			+					+								+	
Lomandra sonderi																																						
Lomandra ?sonderi																																						
Lomandra sp.		+	+		+						+																											
Lomandra suaveolens					+					+																						+						
**Lotus angustissimus*																																						
**Lotus suaveolens*																																						
Loxocarya cinerea																																		+			+	
Lyginia barbata			+		+			+	+	+	+	+	+					+	+	+				+													+	
Lyperanthus serratus																																						
Lysinema ciliatum				+	+																																	
Lysinema elegans											+																		+									
Macarthuria apetala																																						
Macrozamia riedlei						+		+				+										+			+			+					+			+	+	
Meeboldina cana																																						
Melaleuca cardiophylla																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Melaleuca huegelii																																						
Melaleuca lateriflora										+																												
Melaleuca preissiana																																						
Melaleuca rhaphiophylla																																						
Melaleuca scabra																																						
Melaleuca seriata																																						
Melaleuca sp.																																						
Melaleuca systena	+				+	+	+															+				+	+	+	+			+		+	+	+	+	
Melaleuca ?systena																																			+			
Melaleuca aff. *systena*																																						
Melaleuca teretifolia																																						
Melaleuca trichophylla			+	+	+					+								+	+	+				+		+			+					+				+
Melaleuca ?trichophylla																	+																					
Melaleuca aff. *trichophylla*																																						
Melaleuca viminea																																						
**Melilotus indicus*																																						
Mesomelaena graciliceps																																						
Mesomelaena pseudostygia	+		+	+		+		+	+					+	+	+	+	+	+	+	+		+	+	+		+	+	+	+				+	+	+	+	
Mesomelaena stygia					+																																	
Mesomelaena tetragona															+																							
Microlaena stipoides																																						
Microlaena stipoides var. *stipoides*																																						
Microtis alba																																						
Millotia tenuifolia var. *tenuifolia*																																						
**Monopsis debilis*																																						
Muehlenbeckia polybotrya																																						
Myoporum insulare																																						
Myriocephalus helichrysoides																																						
Myrtaceae sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Nemcia capitata			+	+	+				+								+	+																				+
Nemcia reticulata																																						
Notodanthonia sp.																																						
Nuytsia floribunda					+					+								+					+												+	+	+	
Olax benthamiana																																						
Olearia axillaris																																						
Olearia rudis							+																															
Oligochaetochilus vittata																																						
Opercularia echinocephala																																						
Opercularia sp.																																						
Opercularia spermacocea																																						
Opercularia vaginata																								+						+								
**Orobanche minor*																																						
Orchidaceae sp.																																						
Orthrosanthus laxus																																						
Oxalis perennans																																						
? Oxalis corniculata							+																															
Ozothamnus cordatus																																						
**Parentucellia latifolia*																																						
Parietaria debilis																																						
Patersonia occidentalis			+	+	+			+	+	+	+	+	+			+	+	+	+	+	+			+				+	+	+		+			+		+	
Patersonia sp.																																						
**Pelargonium capitatum*							+															+															+	
Pelargonium littorale																						+										+						
**Pentaschistis airoides*																																		+				
Pericalymma ellipticum																																						
Pericalymma ellipticum var. *ellipticum*																																						
Persoonia comata								+			+			+	+						+				+										+			
Petrophile brevifolia	+													+	+	+	+			+	+		+		+	+	+	+	+	+	+	+	+	+	+			

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Petrophile drummondii				+	+	+		+	+	+	+	+	+			+	+	+	+	+						+			+		+			+		+	+	+
Petrophile linearis			+	+	+	+		+	+	+	+	+	+			+	+	+	+	+	+						+	+	+	+		+		+		+	+	+
Petrophile macrostachya	+			+	+	+	+		+						+	+	+		+	+	+							+	+	+		+		+		+	+	
Petrophile seminuda																											+											
Petrophile serruriae																																						
Petrophile sp.																									+													
**Petrorhagia dubia*																																						
**Phalaris minor*																																						
Philotheca spicata			+	+					+			+					+	+																				
Philydrella pygmaea																																						
Phlebocarya ciliata				+								+	+																									
Phyllangium paradoxum														+																								
Phyllanthus calycinus			+																																		
Phylloglossum drummondii																																						
Pimelea calcicola																																						
Pimelea ferruginea																																						
Pimelea floribunda																																						
Pimelea rosea																																						
Pimelea sp.																																						+
Pimelea suaveolens															+		+	+	+	+																		
Pimelea sulphurea					+										+		+	+	+	+																		
**Pinus radiata*																																						
Pithocarpa corymbulosa (P2)																																						
Pithocarpa sp.																																						
Platytheca galioides																																						
**Poa annua*																																						
Poa drummondiana																																						
Poa poiformis																																	+					
**Poa pratensis*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Poaceae sp.																						+																
Podolepis gracilis																																						
Podolepis lessonii							+																															
Podotheca ?chrysantha									+	+																												
Podotheca angustifolia																																						
Podotheca angustifolia/gnaphalioides?																																						
Podotheca chrysantha																																	+					+
Podotheca gnaphalioides	+		+				+					+	+	+		+			+	+		+	+	+	+	+	+	+			+				+	+	+	
Podotheca sp.																																			+			
Pogonolepis stricta																																						
**Polypogon monspeliensis*																																						
Poranthera ericoides											+																											
Poranthera microphylla																																						
Prasophyllum drummondii																																						
Prasophyllum sp.																																						
Pteridium esculentum																																						
Pterostylis ?brevisepala (ms)																																						
Pterostylis aff. *nana* SCP GJK/NG 1867cbs																																						
Pterostylis recurva						+																																
Pterostylis sanguinea																																						
Pterostylis sp.															+																	+				+		
Pterostylis sp. short sepals (W. JacksonBJ 259) (PN)						+																														+		
Ptilotus drummondii																																						
Ptilotus drummondii var. *drummondii*																																						
Ptilotus humilis subsp. *humilis*																																						
Ptilotus manglesii									+					+	+					+						+												
Ptilotus polystachyus var. *polystachyus*																																						
Ptilotus sp.																										+												
? *Puccinellia* sp.																															+							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Pultenaea reticulata																																						
Pyrorchis nigricans		+	+			+			+			+	+		+	+							+	+		+	+	+	+	+		+						
? Pyrorchis nigricans									+																													
Quinetia urvillei																												+										
Regelia ciliata		+		+																																		
Regelia ?ciliata																																						
Regelia inops																																						
Restio sp.																																						
Rhagodia baccata																																						
Rhagodia baccata subsp. *baccata*							+																		+							+						
Rhodanthe citrina														+									+			+	+								+	+		
Rhodanthe corymbosa																																						
Rhodanthe sp.																																						
**Romulea obscura*																																						
Romulea rosea																																						
**Rostraria cristata*																																						
**Sagina apetala*																																						
Santalum acuminatum																																						
Sarcozona bicarinata (P3)																																						
Scaevola canescens									+					+																								
Scaevola ?canescens																					+																	
Scaevola crassifolia																																						
Scaevola crassifolia/nitida																																						
Scaevola nitida																																						
Scaevola paludosa																																						
Scaevola repens																																						
Scaevola repens var. *angustifolia*																																						
Scaevola repens var. *repens*									+					+																								
Scaevola sp.							+																															

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Scaevola thesioides																																						
Schoenolaena juncea																																						
Schoenus aff. *brevisetis*										+																												
Schoenus asperocarpus																																						
Schoenus breviculmis																																						
Schoenus brevisetis																																						
Schoenus caespititius																	+																					+
Schoenus ?caespititius																																						
Schoenus clandestinus						+								+	+	+	+			+	+		+	+		+							+			+		+	+
Schoenus curvifolius					+						+		+																									+	+
Schoenus efoliatus																																						
Schoenus grandiflorus																																						
Schoenus lanatus																																						
Schoenus nanus																																						
Schoenus natans (P4)																																						
Schoenus odontocarpus																																						
Schoenus rigens																																						
Schoenus sp.																																						
Schoenus ?subfascicularis																																						
Scholtzia involucrata			+		+				+	+	+		+	+			+	+	+	+	+			+		+					+					+			
Scholtzia sp.																																						
Selaginella gracillima																																						
Senecio lautus																																						
Senecio lautus subsp. *maritimus*																																						
Senecio lautus subsp. *dissectifolius*																		+																				
Senecio sp.																																						
**Silene gallica*																																						
Siloxerus humifusus																																						
**Solanum americanum*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
**Solanum nigrum*																																						
**Sonchus oleraceus*	+						+															+	+		+							+						
Sowerbaea laxiflora	+		+					+		+		+	+	+	+			+				+							+			+				+	
Sphaerolobium sp.																																						
Sphaerolobium vimineum																																						
Spyridium globulosum																																						
Stachystemon axillaris (P4)																																						
Stackhousia monogyna							+																															
Stackhousia sp.																																						
**Stellaria media*							+																					+				+						
Stenopetalum gracile																																						
Stirlingia latifolia			+	+	+			+			+		+		+	+	+	+	+	+				+					+					+		+		
Stylidium adpressum																																						
Stylidium amoenum																																		+				+
Stylidium brunonianum subsp. *brunonianum*			+		+			+	+	+					+					+	+							+		+			+				
Stylidium bulbiferum																																						
Stylidium calcaratum															+					+				+					+	+			+	+	+	+		
Stylidium crossocephalum																																						
Stylidium diuroides subsp. *diuroides*																																						
Stylidium inundatum																																						
Stylidium junceum																																						
Stylidium lateriticola																																						
Stylidium longitubum (P3)																																						
Stylidium macrocarpum																																						
Stylidium maritimum																																						
Stylidium miniatum																																						
Stylidium petiolare																																						
Stylidium piliferum subsp. *piliferum*			+		+								+				+	+		+																		
Stylidium repens					+					+		+						+			+																		

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Stylidium schoenoides																																						
Stylidium sp.																																						
Synaphea petiolaris																																						
Synaphea sp.																																						
Synaphea spinulosa																																						
Synaphea spinulosa subsp. *spinulosa*					+																														+		+	
Templetonia retusa							+																															
Tersonia cyathiflora							+																															
**Tetragonia decumbens*																																						
Tetraria capillaris																																						
Tetraria octandra	+																																					
Thelymitra antennifera																																						
Thelymitra campanulata																																						
Thelymitra crinita																																						
Thelymitra flexuosa																																						
Thelymitra sp.		+				+																																
Thomasia triphylla																																						
Threlkedia diffusa																																						
Thysanotus arenarius							+														+	+																
Thysanotus dichotomus																																			+		+	
Thysanotus manglesianus	+					+	+					+																							+		+	
Thysanotus manglesianus/patersonii																																						
Thysanotus patersonii																																						
Thysanotus patersonii/manglesianus																																						
Thysanotus sp.																																						
Thysanotus sparteus																																						
Thysanotus thyrsoideus																																						
Thysanotus ?thyrsoideus																																						
Thysanotus triandrus																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Trachymene coerulea																																						
Trachymene pilosa	+	+	+		+	+	+		+	+			+	+		+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Tribonanthes australis																																						
Tribonanthes longipetala																																						
Tricoryne elatior																																						
Tricoryne tenella																																						
**Trifolium arvense*																																						
**Trifolium campestre* var. *campestre*																																						
**Trifolium cernuum*																																						
**Trifolium dubium*																																						
**Trifolium* sp.																																						
Triglochin centrocarpa																																						
Triglochin huegelii/linearis																																						
Triglochin linearis																																						
Triglochin muelleri																																						
Triglochin sp.																																						
Triglochin trichophora																																						
Tripterococcus brunonis																																						
Trithuria bibracteata																																						
Trymalium floribundum																																						
**Typha orientalis*																																						
**Ursinia anthemoides*	+	+					+	+	+	+		+	+	+	+	+			+	+			+	+	+	+	+	+	+	+		+		+	+	+	+	
Utricularia multifida																																						
Utricularia violacea																																						
Velleia trinervis																																						
**Vellereophyton dealbatum*																																						
Verreauxia reinwardtii																																						
Verticordia densiflora																																						
Verticordia densiflora var. *densiflora*		+																																				

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND-STAGE 1

Species / Quadrats	M001	M002	M003	M004	M005	M006	M007	M008	M009	M010	M011	M012	M013	M014	M015	M016	M017	M018	M019	M020	M021	M022	M023	M024	M025	M026	M027	M028	M029	M030	M031	M032	M033	M034	M035	M036	M037	M038
Verticordia nitens										+																												
Verticordia ovalifolia																																						
Verticordia plumosa																																						
Villarsia capitata																																						
**Vulpia bromoides*																																						
**Vulpia myuros*																																						
**Vulpia* sp.																						+																
**Wahlenbergia capensis*											+		+	+																								
Wahlenbergia preissii																																						
Waitzia sp.																																						
Waitzia suaveolens var. *suaveolens*																																						
Westringia dampieri																																						
Wurmbea dioica																																						
Wurmbea monantha																																						
Wurmbea pygmaea																																						
Wurmbea sp.																																						
Xanthorrhoea gracilis																																						
Xanthorrhoea preissii	+		+	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Xanthosia ciliata																																						
Xanthosia huegelii					+					+			+				+			+										+							
**Zantedeschia aethiopica*																									+													

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Acacia alata var. *tetrantha*																																						
Acacia barbinervis subsp. *borealis*																																						
Acacia benthamii (P2)								+																														
Acacia cochlearis		+																																				
Acacia cyclops																																						
Acacia huegelii															+																							
Acacia lasiocarpa																																						
Acacia lasiocarpa var. *lasiocarpa*																																						
Acacia pulchella			+		+	+													+		+									+				+	+			
Acacia pulchella var. *glaberrima*										+				+		+		+		+		+																
Acacia rostellifera																																						
Acacia saligna						+			+																+													
Acacia sessilis						+						+																										
Acacia sp.																																						
Acacia stenoptera															+																							
Acacia truncata																																						
Acacia xanthina																																						
Acanthocarpus preissii																																						
Adenanthos barbiger																											+											
Adenanthos cygnorum																		+						+		+				+	+				+	+		
Adenanthos cygnorum subsp. *cygnorum*																																						
Adenanthos obovatus																																						
Adenanthos sp.																																				+		
Agonis flexuosa																																						
Agonis linearifolia																																						
Agrostis avenacea																																						
**Aira caryophyllea*																+		+		+		+																
Aira sp.																																						
Alexgeorgea nitens																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Allocasuarina fraseriana							+					+																										
Allocasuarina humilis																																						
Alyogyne huegelii																																						
Amperea ericoides																																						
Amphibromus nervosus																																						
Amphipogon ? amphipogonoides																																						
Amphipogon ?strictus																																						
Amphipogon laguroides																																						
Amphipogon sp.																																						
Amphipogon turbinatus																											+									+		
**Anagallis arvensis*		+			+								+															+										
Anarthria gracilis																																						
Andersonia heterophylla																																						
Andersonia lehmanniana																																						
Andersonia lehmanniana subsp. *lehmanniana*																																						
Anigozanthos humilis													+				+		+		+		+						+									
Anigozanthos sp.																																						
Aotus gracillima																																						
Aotus procumbens																																						
Aphelia nutans																																						
**Arctotheca calendula*								+										+					+						+								+	
Arnocrinum preissii																																						
Astartea fascicularis																									+							+						
Asteraceae sp.																																						
Asteridea pulverulenta																																						
Astroloma microcalyx																																						
Astroloma pallidum	+					+																																
Astroloma xerophyllum																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
**Atriplex prostrata*																																						
Austrodanthonia occidentalis																																						
Austrodanthonia ?occidentalis																																						
Austrodanthonia sp.																																						
Austropstipa sp.																																						
Austrostipa ?macalpinei	+			+																																		
Austrostipa compressa																																						
Austrostipa flavescens																																						
Austrostipa macalpinei																																						
Austrostipa sp.									+														+															
**Avellinia michelii*																																						
Azolla filiculoides																																						
Baeckea camphorosmae																																						
Baeckea robusta																																						
Baeckea sp.																																						
Banksia attenuata	+	+				+	+	+	+	+	+	+		+	+		+		+		+	+	+	+	+	+	+		+	+	+		+	+	+	+	+	
Banksia grandis								+																														
Banksia ilicifolia	+																+			+						+									+	+		
Banksia littoralis																											+											
Banksia menziesii	+					+				+	+	+					+		+	+	+	+	+	+		+	+		+	+	+		+	+	+	+		
Banksia prionotes				+																																		
Baumea juncea																																						+
Baumea vaginalis																																						
Beaufortia elegans																	+		+	+	+			+	+	+	+				+				+	+		
Beyeria cinerea																																						
Blennospora sp.																																						
Boronia purdieana																																						
Boronia purdieana subsp. *purdieana*																	+	+	+	+																		
Boronia ramosa																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Boronia ramosa subsp. *anethifolia*															+				+		+						+											
Boronia ramosa subsp. *ramosa*																																						
Borya sphaerocephala																																						
Bossiaea eriocarpa	+	+				+		+	+			+		+	+		+	+	+		+		+	+			+				+		+	+	+			
Brachyscome iberidifolia																																						
Brachyscome sp.																																						
Brassica sp.																																						
**Briza maxima*				+			+						+		+																							
**Briza minor*																																						
**Briza* sp.																																						
**Bromus diandrus*													+																									
**Bromus rubens*																																						+
**Bromus* sp.							+																															
? *Bromus* sp.																																						+
Burchardia bairdiae																																						
Burchardia umbellata	+					+	+			+		+		+			+		+				+	+					+	+		+	+	+		+		
Caesia sp.																												+										
Caladenia flava subsp. *flava*	+	+		+		+	+	+					+																	+								
Caladenia latifolia			+																																			+
Caladenia marginata																																						
Caladenia paludosa																																						
Caladenia sp.																		+																				
Calandrinia brevipedata																																						
Calandrinia corrigioloides																																						
Calandrinia granulifera																+																						
Calandrinia liniflora													+																									
Calandrinia sp.																																						
Calectasia cyanea (P2)																																						
Calothamnus lateralis																																+						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Calothamnus quadrifidus							+																															
Calothamnus sanguineus														+																								
Calytrix angulata											+				+		+		+		+																	
Calytrix flavescens	+	+			+	+				+	+	+		+			+		+		+		+	+		+				+		+	+	+	+		
Calytrix fraseri														+									+	+		+	+		+			+	+	+			
Calytrix sapphirina																																						
Calytrix strigosa																																						
**Carpobrotus edulis*	+	+	+	+		+		+																														
Carpobrotus virescens																																						
Caryophyllaceae sp.																																						
Cassytha flava																																						
Cassytha glabella																																						
Cassytha pomiformis																																						
Cassytha racemosa																								+														
Cassytha sp.																									+													
Casuarina obesa																																						
Caustis dioica					+																																	
**Centaurium erythraea*																																						
Centrolepis aristata																																						
Centrolepis drummondiana																																						
Centrolepis mutica																																						
Centrolepis polygyna																																						
**Cerastium glomeratum*																+																						
Chamaescilla corymbosa																																						
**Chenopodium macrospermum*																																						
Chordifex microcodon																																						
Chorizandra enodis																																						
**Cicendia filiformis*																																						
Comesperma calymega																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Comesperma confertum																																						
Comesperma integerrimum																																						
Comesperma sp.																																						
Conospermum acerosum subsp. *acerosum*																																						
Conospermum canaliculatum subsp. *canaliculatum*									+		+		+																									
Conospermum incurvum																															+							
Conospermum stoechadis subsp. *stoechadis*								+																														
Conospermum triplinervium																																						
Conostephium pendulum																																						
Conostephium minus (P4)																								+			+				+			+				
Conostephium pendulum						+			+	+				+			+	+	+		+		+										+	+				
Conostephium preissii				+																																		
Conostylis aculeata	+																																					
Conostylis aurea																																						
Conostylis candicans subsp. *candicans*	+					+	+		+	+				+																								
Conostylis juncea																													+				+					
Conostylis pauciflora																																						
Conostylis pauciflora subsp. *euryrhipis* (P3)																																						
Conostylis serrulata																								+						+								
Conostylis setigera subsp. *setigera*	+	+	+		+	+					+	+		+									+	+														
Conostylis setosa																																	+					
Conostylis sp.																																						
**Conyza albida*																																						
Conyza sp.																																						
Corymbia calophylla																						+																
Corynotheca micrantha							+																															
Cotula coronopifolia																																						
Crassula colorata																																						
Crassula colorata var. *acuminata*																+																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Crassula ?colorata																																						
Crassula exserta																																						
**Crassula glomerata*																																						
**Crassula natans*																																						
Crassula sp.																																						
Cristonia biloba																																						
Croninia kingiana																																						
Cryptandra mutila																																						
Cryptandra pungens		+																																				
Cyanicula deformis																																						
Cyathochaeta avenacea																																						
**Cyperus tenellus*																																						
Cyrtostylis robusta																																						
Cyrtostylis sp.																																						
Dampiera linearis																																			+			
Dampiera sp.																							+															
Dasypogon bromeliifolius																	+							+		+	+		+	+		+	+					
Dasypogon sp.								+																														
Daucus glochidiatus							+	+					+		+													+										
Daviesia decurrens																																						
Daviesia decurrens subsp. *decurrens* (ms)					+																																	
Daviesia divaricata subsp. *divaricata* (ms)			+				+																															
Daviesia nudiflora																																						
Daviesia physodes																																						
Daviesia podophylla																																						
Daviesia quadrilatera																																						
Desmocladus fasciculatus																											+		+		+		+				+	
Desmocladus flexuosus		+	+		+	+				+		+		+																+								
Dianella revoluta				+				+							+																								

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Dichelachne crinita																																							
Dichopogon capillipes																																							
Dielsia stenostachya																																+						
Dillwynia dillwynioides																																							
Diplolaena angustifolia																																							
Diplopeltis huegelii																																							
Disa bracteata																																							
**Dischisma arenarium*																																							
Dischisma sp.																																							
Diuris longifolia																																							
Diuris sp.																																							
Drosera erythrorhiza									+		+		+		+			+		+				+	+		+	+		+	+	+		+	+	+	+		
Drosera gigantea subsp. *gigantea*																																+							
Drosera glanduligera																																							
Drosera macrantha subsp. *macrantha*																																							
Drosera menziesii		+																							+														
Drosera menziesii subsp. *penicillaris*																																							
Drosera menziesii subsp. *menziesii*																																							
Drosera neesii																																							
Drosera nitidula																																							
Drosera paleacea																																							
Drosera pallida													+						+					+																
Drosera rosulata																																							
Drosera sp.																																							
Drosera sp. climbing							+			+	+	+			+													+		+		+							
Dryandra lindleyana			+			+	+							+																									
Dryandra lindleyana var. *lindleyana*					+																																		
Dryandra nivea																																							
Dryandra sessilis										+				+																									

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Ecdeiocolea monostachya																																						
**Ehrharta calycina*				+			+																															
**Ehrharta longiflora*																														+								
Ehrharta sp.			+					+																														
Eleocharis acuta																																						
Eleocharis sp.																																						
Elythranthera brunonis																																						
Eremaea asterocarpa subsp. *asterocarpa*										+		+		+																			+					
Eremaea beaufortioides																														+								
Eremaea brevifolia																																						
Eremaea pauciflora																																						
Eremaea pauciflora var. *pauciflora*					+	+																		+														
Eremaea sp.																							+				+		+		+		+		+			
Eremophila glabra																															+		+		+			
Eriochilus dilatatus																																						
**Erodium botrys*																																						
**Erodium cicutarium*																																						
**Erodium moschatum*																																						
Eryngium pinnatifidum subsp. *palustre* (ms)																																						
Eucalyptus decipiens																																						
Eucalyptus decipiens subsp. *decipiens*			+																																			
Eucalyptus foecunda																																						
Eucalyptus gomphocephala		+				+		+																														
Eucalyptus marginata																																						
Eucalyptus petrensis																																						
Eucalyptus rudis														+	+																							
Eucalyptus todtiana							+		+				+					+	+							+	+										+	
Eucalytpus gomphocephala																																						
Euchilopsis linearis																															+							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Euchiton sphaericus																																						
**Euphorbia terracina*																																						
Exocarpos sparteus																																						
? *Gahnia* sp.																																						
**Galium murale*																+																						
Geranium retrorsum																																						
Geranium solanderi																																						
**Gladiolus caryophyllaceus*						+	+																															
Gladiolus sp.																																						
Glossostigma diandrum																																						
Gnephosis tenuissima																																						
Gompholobium capitatum																																						
Gompholobium confertum																																						
Gompholobium knightianum																																						
Gompholobium scabrum																				+		+																
Gompholobium shuttleworthii																																						
Gompholobium sp.																																						
Gompholobium tomentosum			+					+	+					+															+	+					+	+		
Gonocarpus ?pithyoides																															+							
Gonocarpus cordiger																																			+				
Gonocarpus pithyoides																		+																				
Gonocarpus sp.																																						
Goodenia micrantha																																						
Gratiola pubescens																																						
Grevillea preissii																																						
Grevillea preissii subsp. *preissii*																																						
Grevillea vestita																																						
Grevillea vestita subsp. *vestita*				+																																		
Haemodorum laxum																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Haemodorum paniculatum																																						
Haemodorum simplex																																						
Haemodorum sp.												+	+	+									+															
Haemodorum spicatum																																						
Hakea costata													+	+																								
Hakea erinacea																																						
Hakea lissocarpha											+																											
Hakea prostrata	+	+			+	+		+			+																											
Hakea ruscifolia						+				+	+	+		+																								
Hakea trifurcata																																						
Hakea varia																																						
Hardenbergia comptoniana			+																																			
**Heliophila pusilla*		+	+	+		+	+	+	+		+		+																									
Heliotropium curassavicum																																						
Hemiandra pungens																		+			+																	
Hemigenia ? incana																																						
Hensmania turbinata																																						
Hibbertia aff. *pachyrrhiza*																																						
Hibbertia aurea																	+																					
Hibbertia crassifolia																																						
Hibbertia aff. *helianthemoides*																																						
Hibbertia huegelii					+	+				+	+	+		+							+		+														+	
Hibbertia hypericoides			+				+	+	+	+	+	+		+									+	+					+		+							
Hibbertia pachyrrhiza																																						
Hibbertia racemosa	+					+																																
Hibbertia sp.																																						
Hibbertia spicata																																						
Hibbertia spicata subsp. *leptotheca*																																						
Hibbertia stellaris																									+							+						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Hibbertia subvaginata																	+	+	+	+	+	+	+	+		+	+		+	+	+		+	+	+	+		
**Holcus setiger*																				+																		
Homalosciadium homalocarpum																																						
Hovea pungens																																						
Hovea trisperma																																						
Hyalosperma cotula					+													+								+			+				+					
Hybanthus calycinus				+																																		
Hydrocotyle alata																																						
Hydrocotyle blepharocarpa																																						
Hydrocotyle callicarpa																																						
Hydrocotyle hispidula																																						
Hydrocotyle pilifera subsp. *glabrata*																																						
Hydrocotyle sp.																																						
Hydrocotyle tetragonocarpa																																						
Hypocalymma angustifolium														+																								
Hypocalymma xanthopetalum																									+							+						
**Hypochaeris glabra*	+	+	+	+	+	+	+	+	+		+		+	+	+	+		+	+	+		+																
Hypochaeris sp.																													+	+			+			+		
Hypolaena exsulca	+									+				+																								
Hypolaena pubescens																																+		+				
Isolepis cernua																																						
Isolepis producta																																						
**Isolepis marginata*																																						
Isolepis nodosa																																						
Isotoma hypocrateriformis																																						
Isotropis cuneifolia																																						
Isotropis sp.																																						
Jacksonia calcicola (ms)																																						
Jacksonia fasciculata																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Jacksonia floribunda																	+		+					+			+							+	+		
Jacksonia furcellata				+											+				+										+								
Jacksonia hakeoides																																						
Jacksonia sericea (P3)				+				+	+				+																									
Jacksonia sternbergiana			+				+				+	+																										
**Juncus capitatis*																																						
Juncus sp.																																						
Kennedia prostrata		+	+					+					+		+																							
Kennedia sp.																																						
Kunzea ericifolia																																						
Kunzea ericifolia subsp. *ericifolia*																									+	+				+								
Kunzea recurva																																						
Lagenophora huegelii		+	+	+		+	+	+				+			+	+		+		+						+		+							+		
Latrobea tenella var. *tenella*																																						
Laxmannia ramosa																																						
Laxmannia sessiliflora																																						
Laxmannia sp.																																						
Laxmannia squarrosa																																						
Lechenaultia biloba																																						
Lechenaultia expansa																																						
Lechenaultia floribunda																																						
Lechenaultia linarioides							+		+																													
Lemna disperma																																						
Lepidium rotundum																																						
Lepidobolus chaetocephalus																																						
Lepidobolus preissianus																																						
Lepidobolus preissianus subsp. *preissianus*	+			+										+																								
Lepidobolus sp.																																						
Lepidosperma aff. *leptostachyum*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Lepidosperma gladiatum																																						
Lepidosperma longitudinale																									+			+										+
Lepidosperma pubisquameum																														+								
Lepidosperma sp.																																						
Lepidosperma squamatum												+																										
Lepidosperma tenue															+								+												+	+		
Leporella fimbriata										+		+						+								+								+				
Leptomeria cunninghamii																																						
Leptomeria empetriformis																																						
Leptomeria pauciflora											+																											
Leptorhynchos scaber																																						
Leptospermum spinescens										+		+																										
Leucopogon ?sprengelioides																																						
Leucopogon conostephioides										+							+												+		+			+	+	+		
Leucopogon leptanthus																																						
Leucopogon oxycedrus																		+	+																+			
Leucopogon parviflorus																																						
Leucopogon polymorphus																	+		+		+															+		
Leucopogon propinquus		+		+			+	+				+	+		+	+						+		+														
Leucopogon racemulosus	+						+			+	+																											
Leucopogon sp.																																						
Leucopogon sp. (indeterminant) M137-1																								+														
Leucopogon sprengelioides																											+		+		+				+			
Leucopogon squarrosus																		+																	+			
Levenhookia pusilla																																						
Levenhookia sp.																																						
Levenhookia stipitata																																						
Lobelia alata																												+										
Lobelia heterophylla																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Lobelia sp.																																						
Lobelia tenuior																																						
**Lolium multiflorum x perenne*																																						
**Lolium rigidum*																																						
Lomandra ?brittanii						+			+																													
Lomandra caespitosa	+								+					+																								
Lomandra ?caespitosa																											+											
Lomandra hermaphrodita	+									+		+		+			+																					
Lomandra ?hermaphrodita																																						
Lomandra maritima																																						
Lomandra micrantha																																						
Lomandra nigricans																																						
Lomandra preissii		+									+																											
Lomandra sericea										+		+		+																								
Lomandra sonderi					+																																	
Lomandra ?sonderi						+																																
Lomandra sp.																																		+				
Lomandra suaveolens				+																																		
**Lotus angustissimus*																																						
**Lotus suaveolens*								+																														
Loxocarya cinerea		+																																		+		
Lyginia barbata	+				+		+			+				+	+		+							+				+		+					+		
Lyperanthus serratus															+																							
Lysinema ciliatum														+																								
Lysinema elegans																														+								
Macarthuria apetala																																						
Macrozamia riedlei			+																																		+	
Meeboldina cana																																						
Melaleuca cardiophylla																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Melaleuca huegelii																																						
Melaleuca lateriflora															+	+		+		+					+			+								+	+
Melaleuca preissiana															+	+		+		+					+			+								+	+
Melaleuca rhaphiophylla																							+	+					+				+	+		+		
Melaleuca scabra																																						
Melaleuca seriata																																						
Melaleuca sp.							+	+						+			+		+		+																
Melaleuca systena	+	+		+			+	+						+			+		+		+																
Melaleuca ?systena																																						
Melaleuca aff. *systena*			+																																		
Melaleuca teretifolia																																						
Melaleuca trichophylla	+				+					+					+						+																
Melaleuca ?trichophylla																																						
Melaleuca aff. *trichophylla*																																						
Melaleuca viminea																																						
**Melilotus indicus*																																						
Mesomelaena graciliceps																																						
Mesomelaena pseudostygia			+		+	+	+	+	+	+		+	+	+									+				+							+	+		
Mesomelaena stygia																																						
Mesomelaena tetragona																																						
Microlaena stipoides																																						
Microlaena stipoides var. *stipoides*																+		+		+																		
Microtis alba																																						
Millotia tenuifolia var. *tenuifolia*													+																									
**Monopsis debilis*																																						
Muehlenbeckia polybotrya																																						
Myoporum insulare																																						
Myriocephalus helichrysoides																																						
Myrtaceae sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Nemcia capitata	+					+				+				+							+										+		+		+			
Nemcia reticulata																																						
Notodanthonia sp.																																						
Nuytsia floribunda									+		+			+				+		+	+											+		+	+		+	
Olax benthamiana																																						
Olearia axillaris																																						
Olearia rudis																																						
Oligochaetochilus vittata																																						
Opercularia echinocephala																																						
Opercularia sp.																																	+					
Opercularia spermacocea																																						
Opercularia vaginata																																						
**Orobanche minor*																																						
Orchidaceae sp.																							+		+				+				+					
Orthrosanthus laxus																																						
Oxalis perennans																																						
? Oxalis corniculata																																						
Ozothamnus cordatus																																						
**Parentucellia latifolia*																																						
Parietaria debilis																																						
Patersonia occidentalis	+	+			+	+		+		+				+			+		+				+	+		+	+		+	+		+	+	+	+		
Patersonia sp.																																						
**Pelargonium capitatum*							+																															
Pelargonium littorale																																						
**Pentaschistis airoides*					+																																	
Pericalymma ellipticum																																						
Pericalymma ellipticum var. *ellipticum*																									+							+						
Persoonia comata	+																	+																				
Petrophile brevifolia			+		+	+		+				+	+		+																			+				

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Petrophile drummondii											+																											
Petrophile linearis	+					+	+			+	+	+		+	+		+	+	+		+	+	+	+		+	+		+		+		+	+	+	+		
Petrophile macrostachya		+			+	+			+		+	+	+	+									+															
Petrophile seminuda																																	+					
Petrophile serruriae				+																																		
Petrophile sp.																																						
**Petrorhagia dubia*			+	+			+																															
**Phalaris minor*																																						
Philotheca spicata												+		+							+			+									+	+	+	+		
Philydrella pygmaea																																						
Phlebocarya ciliata															+											+					+					+		
Phyllangium paradoxum																																						
Phyllanthus calycinus							+		+									+																				
Phylloglossum drummondii																																						
Pimelea calcicola																																						
Pimelea ferruginea																																						
Pimelea floribunda				+																																		
Pimelea rosea																																						
Pimelea sp.																																						
Pimelea suaveolens																																						
Pimelea sulphurea										+		+																										
**Pinus radiata*																																						
Pithocarpa corymbulosa (P2)																																						
Pithocarpa sp.																																						
Platytheca galioides																																						
**Poa annua*																																						
Poa drummondiana																																						
Poa poiformis																																						
**Poa pratensis*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Poaceae sp.																																	+			+	+	
Podolepis gracilis																																						
Podolepis lessonii																																						
Podotheca ?*chrysantha*																																						
Podotheca angustifolia																																						
Podotheca angustifolia/gnaphalioides?																																						
Podotheca chrysantha																																						
Podotheca gnaphalioides	+		+	+			+	+	+			+	+	+		+		+	+	+	+	+	+	+		+		+	+	+			+	+			+	
Podotheca sp.																																						
Pogonolepis stricta																																						
**Polypogon monspeliensis*																																						
Poranthera ericoides																																						
Poranthera microphylla																																						
Prasophyllum drummondii																																						
Prasophyllum sp.																																						
Pteridium esculentum																																						
Pterostylis ?*brevisepala* (ms)															+		+																					
Pterostylis aff. *nana* SCP GJK/NG 1867cbs																																						
Pterostylis recurva																																						
Pterostylis sanguinea																																						
Pterostylis sp.																																		+				
Pterostylis sp. short sepals (W. JacksonBJ 259) (PN)																																						
Ptilotus drummondii																																						
Ptilotus drummondii var. *drummondii*		+																																				
Ptilotus humilis subsp. *humilis*																																						
Ptilotus manglesii	+																																					
Ptilotus polystachyus var. *polystachyus*				+																																		
Ptilotus sp.																																						
? *Puccinellia* sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Pultenaea reticulata																																						
Pyrorchis nigricans	+							+			+							+											+	+		+					
? *Pyrorchis nigricans*																																						
Quinetia urvillei																																+						
Regelia ciliata																									+													
Regelia ?ciliata																																						
Regelia inops																																						
Restio sp.																																						
Rhagodia baccata																																						
Rhagodia baccata subsp. *baccata*		+	+			+																																
Rhodanthe citrina									+		+	+	+	+																								
Rhodanthe corymbosa																																						
Rhodanthe sp.																																						
**Romulea obscura*																																						
Romulea rosea				+																																		
**Rostraria cristata*														+		+																						
**Sagina apetala*																																						
Santalum acuminatum																																						
Sarcozona bicarinata (P3)																																						
Scaevola canescens				+	+	+	+																															
Scaevola ?canescens																																						
Scaevola crassifolia																																						
Scaevola crassifolia/nitida																																						
Scaevola nitida																																						
Scaevola paludosa																																						
Scaevola repens																																						
Scaevola repens var. *angustifolia*																																						
Scaevola repens var. *repens*																																						
Scaevola sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Scaevola thesioides																																						
Schoenolaena juncea																																						
Schoenus aff. *brevisetis*																																						
Schoenus asperocarpus																																						
Schoenus breviculmis																																						
Schoenus brevisetis																																						
Schoenus caespititius					+					+														+														
Schoenus ?caespititius																	+																					
Schoenus clandestinus	+					+																																
Schoenus curvifolius														+			+						+															
Schoenus efoliatus																																+	+					
Schoenus grandiflorus																																						
Schoenus lanatus																																						
Schoenus nanus																																						
Schoenus natans (P4)																																						
Schoenus odontocarpus																																						
Schoenus rigens																																						
Schoenus sp.																																						
Schoenus ?subfascicularis																																						
Scholtzia involucrata	+									+				+				+					+	+														
Scholtzia sp.																											+				+		+		+			
Selaginella gracillima																										+												
Senecio lautus																			+		+																	
Senecio lautus subsp. *maritimus*																																						
Senecio lautus subsp. *dissectifolius*																																						
Senecio sp.																																						
**Silene gallica*																																						
Siloxerus humifusus																																						
**Solanum americanum*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
**Solanum nigrum*																												+										
**Sonchus oleraceus*			+	+				+							+	+												+										+
Sowerbaea laxiflora				+			+	+				+	+	+																								
Sphaerolobium sp.																			+																			
Sphaerolobium vimineum																																						
Spyridium globulosum																																						
Stachystemon axillaris (P4)																		+																				
Stackhousia monogyna						+									+																							
Stackhousia sp.																																						
**Stellaria media*		+	+		+								+																									
Stenopetalum gracile				+																																		
Stirlingia latifolia						+		+		+	+	+		+							+		+	+						+								
Stylidium adpressum																																						
Stylidium amoenum																																						
Stylidium brunonianum subsp. *brunonianum*						+	+		+		+								+		+		+	+		+	+						+	+	+			
Stylidium bulbiferum																																						
Stylidium calcaratum							+		+		+	+		+												+												
Stylidium crossocephalum																															+							
Stylidium diuroides subsp. *diuroides*																								+							+				+			
Stylidium inundatum																																						
Stylidium junceum																																						
Stylidium lateriticola																																						
Stylidium longitubum (P3)																																						
Stylidium macrocarpum																																						
Stylidium maritimum																																						
Stylidium miniatum																																						
Stylidium petiolare																																						
Stylidium piliferum subsp. *piliferum*										+	+										+			+														
Stylidium repens																			+																			

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Stylidium schoenoides																																						
Stylidium sp.																													+									
Synaphea petiolaris																																						
Synaphea sp.																																						
Synaphea spinulosa																																						
Synaphea spinulosa subsp. *spinulosa*	+						+			+				+																								
Templetonia retusa																																						
Tersonia cyathiflora				+																																		
**Tetragonia decumbens*																																						
Tetraria capillaris																																						
Tetraria octandra																																						
Thelymitra antennifera																																						
Thelymitra campanulata																	+																					
Thelymitra crinita																																						
Thelymitra flexuosa																																						
Thelymitra sp.																																						
Thomasia triphylla																																						
Threlkedia diffusa																																						
Thysanotus arenarius				+																																		
Thysanotus dichotomus																																						
Thysanotus manglesianus		+				+	+						+	+																								
Thysanotus manglesianus/patersonii																																						
Thysanotus patersonii																																						
Thysanotus patersonii/manglesianus																																						
Thysanotus sp.																																						
Thysanotus sparteus																																						
Thysanotus thyrsoideus												+																										
Thysanotus ?thyrsoideus																																						
Thysanotus triandrus																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Trachymene coerulea																																						
Trachymene pilosa	+	+	+		+		+	+	+		+	+	+	+		+			+	+	+	+	+			+		+	+	+			+	+				
Tribonanthes australis																																						
Tribonanthes longipetala																																						
Tricoryne elatior																																						
Tricoryne tenella																																		+				
**Trifolium arvense*																																						
**Trifolium campestre* var. *campestre*		+	+																																			
**Trifolium cernuum*																																						
**Trifolium dubium*																																						
**Trifolium* sp.																																						
Triglochin centrocarpa																																						
Triglochin huegelii/linearis																																						
Triglochin linearis																																						
Triglochin muelleri																																						+
Triglochin sp.																																						
Triglochin trichophora																																						
Tripterococcus brunonis																									+													
Trithuria bibracteata																																						
Trymalium floribundum						+																																
**Typha orientalis*																																						
**Ursinia anthemoides*	+	+	+	+		+	+		+		+					+		+				+														+		
Utricularia multifida																												+	+			+				+		
Utricularia violacea																																						
Velleia trinervis																																						
**Vellereophyton dealbatum*																																						
Verreauxia reinwardtii																																						
Verticordia densiflora																																						
Verticordia densiflora var. *densiflora*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M039	M040	M041	M042	M043	M044	M045	M046	M047	M048	M049	M050	M051	M052	M053	M054	M055	M056	M057	M058	M059	M060	M061	M062	M063	M064	M065	M066	M067	M068	M069	M070	M071	M072	M073	M074	M075	M076
Verticordia nitens																	+	+			+						+						+					
Verticordia ovalifolia																																						
Verticordia plumosa																																						
Villarsia capitata																																						
**Vulpia bromoides*																																						
**Vulpia myuros*																																						
**Vulpia* sp.																																						
**Wahlenbergia capensis*																																						
Wahlenbergia preissii														+																								
Waitzia sp.																																						
Waitzia suaveolens var. *suaveolens*																																						
Westringia dampieri																																						
Wurmbea dioica																																						
Wurmbea monantha																																						
Wurmbea pygmaea																																						
Wurmbea sp.																																						
Xanthorrhoea gracilis																																						
Xanthorrhoea preissii	+	+			+	+	+		+	+	+	+	+			+	+	+	+		+	+	+	+		+		+		+		+	+	+	+			
Xanthosia ciliata																								+														
Xanthosia huegelii																												+										
**Zantedeschia aethiopica*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Acacia alata var. *tetrantha*																																						
Acacia barbinervis subsp. *borealis*																																			+			
Acacia benthamii (P2)																																						
Acacia cochlearis																																						
Acacia cyclops																																						
Acacia huegelii																																						
Acacia lasiocarpa																																						
Acacia lasiocarpa var. *lasiocarpa*																																						
Acacia pulchella		+							+				+	+	+	+	+									+			+	+						+			
Acacia pulchella var. *glaberrima*																																+			+			
Acacia rostellifera																																						
Acacia saligna																																						
Acacia sessilis																																						
Acacia sp.																																						
Acacia stenoptera																																						
Acacia truncata																																						
Acacia xanthina																																						
Acanthocarpus preissii																																						
Adenanthos barbiger																																						
Adenanthos cygnorum	+					+								+		+					+	+		+					+									
Adenanthos cygnorum subsp. *cygnorum*																	+																					
Adenanthos obovatus																																						
Adenanthos sp.																																						
Agonis flexuosa																																						
Agonis linearifolia																																						
Agrostis avenacea																																						
**Aira caryophyllea*																																					+	
Aira sp.																																						
Alexgeorgea nitens							+											+																				

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Allocasuarina fraseriana																				+																		
Allocasuarina humilis																																+						
Alyogyne huegelii																																						
Amperea ericoides																																						
Amphibromus nervosus																																						
Amphipogon ? amphipogonoides																																						
Amphipogon ?strictus																																						
Amphipogon laguroides																																			+			
Amphipogon sp.																																						
Amphipogon turbinatus																														+								
**Anagallis arvensis*																												+										
Anarthria gracilis																																						
Andersonia heterophylla																															+							
Andersonia lehmanniana																																						
Andersonia lehmanniana subsp. *lehmanniana*											+																											
Anigozanthos humilis												+	+				+														+				+	+		
Anigozanthos sp.																									+		+				+				+	+		
Aotus gracillima				+																				+														
Aotus procumbens																																						
Aphelia nutans																																						
**Arctotheca calendula*										+																		+	+									
Arnocrinum preissii																																			+			
Astartea fascicularis					+	+													+					+														
Asteraceae sp.																																						
Asteridea pulverulenta																																						
Astroloma microcalyx																																						
Astroloma pallidum																																						
Astroloma xerophyllum																													+		+				+	+		

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
**Atriplex prostrata*																																						
Austrodanthonia occidentalis																																						
Austrodanthonia ?occidentalis																																						
Austrodanthonia sp.																																						
Austropstipa sp.																																						
Austrostipa ?macalpinei																																						
Austrostipa compressa																																						
Austrostipa flavescens																	+												+									
Austrostipa macalpinei																																						
Austrostipa sp.																																						
**Avellinia michelii*																																						
Azolla filiculoides																																						
Baeckea camphorosmae																																						
Baeckea robusta					+																																	
Baeckea sp.	+	+						+	+		+	+	+	+			+	+	+		+	+				+	+	+		+		+	+	+		+	+	+
Banksia attenuata													+																									
Banksia grandis		+	+											+		+						+		+			+	+		+							+	
Banksia ilicifolia																					+																	
Banksia littoralis	+	+	+					+	+	+	+		+	+		+		+		+						+	+		+	+	+	+	+		+	+	+
Banksia menziesii																																						
Banksia prionotes																																						
Baumea juncea																																						
Baumea vaginalis								+																						+	+	+			+	+		+
Beaufortia elegans																																						
Beyeria cinerea																																						
Blennospora sp.																																						
Boronia purdieana															+	+				+																		
Boronia purdieana subsp. *purdieana*																																						
Boronia ramosa																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Boronia ramosa subsp. *anethifolia*	+								+					+			+				+				+									+		+	
Boronia ramosa subsp. *ramosa*																																						
Borya sphaerocephala																				+										+	+	+			+	+		
Bossiaea eriocarpa	+	+	+				+	+	+	+	+		+	+	+	+	+							+	+	+				+	+	+			+	+	+	
Brachyscome iberidifolia																																						
Brachyscome sp.																																						
Brassica sp.																																						
**Briza maxima*																												+										
**Briza minor*																																						
**Briza* sp.																																						
**Bromus diandrus*																																						
**Bromus rubens*																																						
**Bromus* sp.																																						
? *Bromus* sp.																																						
Burchardia bairdiae						+		+	+		+	+	+		+			+							+	+			+		+	+			+	+		
Burchardia umbellata														+							+	+		+									+						
Caesia sp.									+																			+	+										
Caladenia flava subsp. *flava*																																						
Caladenia latifolia																																						
Caladenia marginata																																						
Caladenia paludosa																																						
Caladenia sp.																																						
Calandrinia brevipedata																																						
Calandrinia corrigioloides																													+									
Calandrinia granulifera																																						
Calandrinia liniflora																																						
Calandrinia sp.																																						
Calectasia cyanea (P2)																																						
Calothamnus lateralis																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Calothamnus quadrifidus																																						
Calothamnus sanguineus											+																								+			
Calytrix angulata																										+												
Calytrix flavescens	+	+	+					+	+		+		+	+	+	+		+		+				+	+				+	+	+				+		
Calytrix fraseri	+									+						+				+									+					+			
Calytrix sapphirina								+																	+										+			
Calytrix strigosa																																						
**Carpobrotus edulis*																																						
Carpobrotus virescens																																						
Caryophyllaceae sp.																																						
Cassytha flava																																						
Cassytha glabella																																						
Cassytha pomiformis																																						
Cassytha racemosa					+																											+			+			
Cassytha sp.				+										+		+												+		+	+				+			
Casuarina obesa																																						
Caustis dioica																																						
**Centaurium erythraea*																																						
Centrolepis aristata					+																																	
Centrolepis drummondiana																																						
Centrolepis mutica																																						
Centrolepis polygyna																																						
**Cerastium glomeratum*																																						
Chamaescilla corymbosa																																						
**Chenopodium macrospermum*																																						
Chordifex microcodon																																						
Chorizandra enodis																																						
**Cicendia filiformis*																																						
Comesperma calymega																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Comesperma confertum																																						
Comesperma integerrimum																																						
Comesperma sp.																																						
Conospermum acerosum subsp. *acerosum*																																						
Conospermum canaliculatum subsp. *canaliculatum*																																						
Conospermum incurvum																									+					+								
Conospermum stoechadis subsp. *stoechadis*												+																										
Conospermum triplinervium																																						
Conostephium pendulum																																						
Conostephium minus (P4)	+						+									+		+								+				+								
Conostephium pendulum		+	+				+	+	+		+		+		+	+	+	+		+		+				+					+	+			+	+		
Conostephium preissii																											+											
Conostylis aculeata																																						
Conostylis aurea																																						
Conostylis candicans subsp. *candicans*																																						
Conostylis juncea																				+												+			+			
Conostylis pauciflora																																						
Conostylis pauciflora subsp. *euryrhipis* (P3)																																						
Conostylis serrulata											+				+																							
Conostylis setigera subsp. *setigera*											+																											
Conostylis setosa											+																											
Conostylis sp.																																						
**Conyza albida*																																						
Conyza sp.																																						
Corymbia calophylla																																						
Corynotheca micrantha									+								+																					
Cotula coronopifolia																												+										
Crassula colorata																																						
Crassula colorata var. *acuminata*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Crassula ?colorata																																						
Crassula exserta																																						
**Crassula glomerata*																																						
**Crassula natans*																																						
Crassula sp.																																						
Cristonia biloba																																						
Croninia kingiana																																						
Cryptandra mutila																																						
Cryptandra pungens																																						
Cyanicula deformis																																						
Cyathochaeta avenacea																																					+	
**Cyperus tenellus*																											+		+									
Cyrtostylis robusta																																						
Cyrtostylis sp.																																						
Dampiera linearis																				+											+				+	+		
Dampiera sp.																																						
Dasypogon bromeliifolius		+	+				+	+	+	+				+						+	+	+	+	+		+	+		+			+				+	+
Dasypogon sp.																																						
Daucus glochidiatus																																						
Daviesia decurrens																																						
Daviesia decurrens subsp. *decurrens* (ms)																																						
Daviesia divaricata subsp. *divaricata* (ms)																																						
Daviesia nudiflora																																						
Daviesia physodes																																						
Daviesia podophylla																																						
Daviesia quadrilatera																																						
Desmocladus fasciculatus					+		+	+		+	+		+		+		+																					
Desmocladus flexuosus		+							+																+							+			+			
Dianella revoluta																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Dichelachne crinita																																						
Dichopogon capillipes																																						
Dielsia stenostachya				+																																+	
Dillwynia dillwynioides																																						
Diplolaena angustifolia																																						
Diplopeltis huegelii																																						
Disa bracteata																																						
**Dischisma arenarium*																																						
Dischisma sp.																																						
Diuris longifolia																																						
Diuris sp.																																						
Drosera erythrorhiza	+	+					+	+	+		+		+	+	+	+	+			+		+				+			+		+	+			+	+	+	
Drosera gigantea subsp. *gigantea*					+																																	
Drosera glanduligera																																						
Drosera macrantha subsp. *macrantha*																																						
Drosera menziesii																														+							+	
Drosera menziesii subsp. *penicillaris*																																						
Drosera menziesii subsp. *menziesii*					+		+																															
Drosera neesii																																						
Drosera nitidula																																						
Drosera paleacea																																						
Drosera pallida	+																															+						
Drosera rosulata																																						
Drosera sp.																																						
Drosera sp. climbing							+			+	+		+		+														+						+			
Dryandra lindleyana												+																										
Dryandra lindleyana var. *lindleyana*																																						
Dryandra nivea																																						
Dryandra sessilis																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Ecdeiocolea monostachya							+																															
**Ehrharta calycina*																																						
**Ehrharta longiflora*																																						
Ehrharta sp.																																						
Eleocharis acuta																												+										
Eleocharis sp.																																						
Elythranthera brunonis																				+												+						
Eremaea asterocarpa subsp. *asterocarpa*			+								+		+																									
Eremaea beaufortioides																																						
Eremaea brevifolia																																						
Eremaea pauciflora																																						
Eremaea pauciflora var. *pauciflora*		+							+			+		+		+		+							+	+				+	+					+		
Eremaea sp.	+		+				+	+					+		+		+																					
Eremophila glabra																																						
Eriochilus dilatatus																																						
**Erodium botrys*																																						
**Erodium cicutarium*																																						
**Erodium moschatum*																																						
Eryngium pinnatifidum subsp. *palustre* (ms)																																						
Eucalyptus decipiens																																						
Eucalyptus decipiens subsp. *decipiens*																																						
Eucalyptus foecunda																																						
Eucalyptus gomphocephala																																						
Eucalyptus marginata															+																							
Eucalyptus petrensis																																						
Eucalyptus rudis																																	+					
Eucalyptus todtiana								+	+					+	+		+																					
Eucalytpus gomphocephala																																						
Euchilopsis linearis						+																+		+														

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Euchiton sphaericus																																							
**Euphorbia terracina*																																							
Exocarpos sparteus																																							
? *Gahnia* sp.																								+															
**Galium murale*																																							
Geranium retrorsum																																							
Geranium solanderi																																							
**Gladiolus caryophyllaceus*																																							
Gladiolus sp.																																							
Glossostigma diandrum																																							
Gnephosis tenuissima																																							
Gompholobium capitatum																																							
Gompholobium confertum														+																							+		
Gompholobium knightianum																																							
Gompholobium scabrum																																							
Gompholobium shuttleworthii																																							
Gompholobium sp.																																							
Gompholobium tomentosum		+							+			+			+		+									+				+			+	+					
Gonocarpus ?pithyoides															+																								
Gonocarpus cordiger		+	+									+									+												+						
Gonocarpus pithyoides																																							
Gonocarpus sp.																																							
Goodenia micrantha																																							
Gratiola pubescens																																							
Grevillea preissii																																							
Grevillea preissii subsp. *preissii*																																							
Grevillea vestita																																							
Grevillea vestita subsp. *vestita*																																							
Haemodorum laxum																																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Haemodorum paniculatum																																						
Haemodorum simplex																																						
Haemodorum sp.											+		+																									
Haemodorum spicatum																											+		+									
Hakea costata											+	+																										
Hakea erinacea																																						
Hakea lissocarpha																																						
Hakea prostrata																																						
Hakea ruscifolia											+	+								+																		
Hakea trifurcata																																						
Hakea varia																																						
Hardenbergia comptoniana																																						
**Heliophila pusilla*																																						
Heliotropium curassavicum																												+										
Hemiandra pungens																																						
Hemigenia ? incana																																						
Hensmania turbinata																																						
Hibbertia aff. *pachyrrhiza*																																						
Hibbertia aurea													+																							+		
Hibbertia crassifolia																																						
Hibbertia aff. *helianthemoides*																																						
Hibbertia huegelii	+								+				+																		+				+	+		
Hibbertia hypericoides							+		+						+		+																		+				
Hibbertia pachyrrhiza																																				+		
Hibbertia racemosa																																						
Hibbertia sp.																																						
Hibbertia spicata																																						
Hibbertia spicata subsp. *leptotheca*																																						
Hibbertia stellaris																			+																			

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Hibbertia subvaginata	+	+					+	+	+	+			+	+	+	+	+	+			+	+		+	+	+	+		+	+		+	+		+	+	+	+
**Holcus setiger*																												+										
Homalosciadium homalocarpum																			+			+															+	
Hovea pungens																																						
Hovea trisperma																																						
Hyalosperma cotula			+		+			+		+											+	+				+										+	
Hybanthus calycinus																																						
Hydrocotyle alata																																						
Hydrocotyle blepharocarpa																																						
Hydrocotyle callicarpa																																						
Hydrocotyle hispidula																																						
Hydrocotyle pilifera subsp. *glabrata*																																						
Hydrocotyle sp.																																						
Hydrocotyle tetragonocarpa																																						
Hypocalymma angustifolium				+	+	+					+								+		+	+	+	+									+				+	
Hypocalymma xanthopetalum																																						
**Hypochaeris glabra*				+	+					+		+							+			+					+	+			+		+				+	
Hypochaeris sp.																																						
Hypolaena exsulca						3																+	+														+	
Hypolaena pubescens																																						
Isolepis cernua																																						
Isolepis producta																																						
**Isolepis marginata*																																						
Isolepis nodosa																																						
Isotoma hypocrateriformis																																						
Isotropis cuneifolia																																			+			
Isotropis sp.																																						
Jacksonia calcicola (ms)												+																										
Jacksonia fasciculata																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Jacksonia floribunda	+		+				+								+	+	+	+						+	+				+	+	+			+	+	
Jacksonia furcellata		+													+	+																+					
Jacksonia hakeoides																																						
Jacksonia sericea (P3)																																						
Jacksonia sternbergiana									+																													
**Juncus capitatis*																																						
Juncus sp.																																						
Kennedia prostrata																																						
Kennedia sp.																																						
Kunzea ericifolia																																						
Kunzea ericifolia subsp. *ericifolia*				+															+				+	+		+							+			+	
Kunzea recurva					+																																	
Lagenophora huegelii										+																												
Latrobea tenella var. *tenella*				+																																		
Laxmannia ramosa																																						
Laxmannia sessiliflora																																						
Laxmannia sp.																																						
Laxmannia squarrosa																															+							
Lechenaultia biloba																																						
Lechenaultia expansa																																						
Lechenaultia floribunda																																+						
Lechenaultia linarioides																																						
Lemna disperma																																						
Lepidium rotundum																																						
Lepidobolus chaetocephalus																																						
Lepidobolus preissianus																																						
Lepidobolus preissianus subsp. *preissianus*																																						
Lepidobolus sp.																																						
Lepidosperma aff. *leptostachyum*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Lepidosperma gladiatum																																						
Lepidosperma longitudinale																																						
Lepidosperma pubisquameum																																						
Lepidosperma sp.																																						
Lepidosperma squamatum																																						
Lepidosperma tenue																																						+
Leporella fimbriata		+												+																							+	
Leptomeria cunninghamii																																						
Leptomeria empetriformis									+																													
Leptomeria pauciflora																																						
Leptorhynchos scaber																																						
Leptospermum spinescens											+																									+		
Leucopogon ?sprengelioides																																						
Leucopogon conostephioides	+												+	+	+	+		+						+	+	+					+	+			+		+	
Leucopogon leptanthus																																						
Leucopogon oxycedrus							+																		+							+						
Leucopogon parviflorus				+																																		
Leucopogon polymorphus									+														+		+													
Leucopogon propinquus												+																										
Leucopogon racemulosus											+																											
Leucopogon sp.																																						
Leucopogon sp. (indeterminant) M137-1																									+													
Leucopogon sprengelioides						+	+	+									+																					
Leucopogon squarrosus	+							+					+																									
Levenhookia pusilla																																						
Levenhookia sp.																																						
Levenhookia stipitata																																						
Lobelia alata																																						
Lobelia heterophylla																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Lobelia sp.																																						
Lobelia tenuior																													+									
**Lolium multiflorum x perenne*																																						
**Lolium rigidum*																																						
Lomandra ?brittanii																																						
Lomandra caespitosa																											+											
Lomandra ?caespitosa																																						
Lomandra hermaphrodita	+						+													+										+		+			+			
Lomandra ?hermaphrodita																																						
Lomandra maritima																																						
Lomandra micrantha																																						
Lomandra nigricans																																						
Lomandra preissii																																						
Lomandra sericea											+																											
Lomandra sonderi																																						
Lomandra ?sonderi																																						
Lomandra sp.																						+																
Lomandra suaveolens																																						
**Lotus angustissimus*																																						
**Lotus suaveolens*																			+																			
Loxocarya cinerea																																						
Lyginia barbata		+					+		+							+	+	+							+	+				+	3				+			
Lyperanthus serratus																																						
Lysinema ciliatum							+				+					+									+													
Lysinema elegans																																						
Macarthuria apetala																																						
Macrozamia riedlei																													+						+			
Meeboldina cana																																						
Melaleuca cardiophylla																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Melaleuca huegelii																																						
Melaleuca lateriflora																																						
Melaleuca preissiana				+						+				+							+											+				+	
Melaleuca rhaphiophylla																			+			+	+	+														
Melaleuca scabra	+	+	+				+	+		+	+		+			+		+		+					+	+			+		+				+			
Melaleuca seriata																																						+
Melaleuca sp.																																						
Melaleuca systena																																+			+			
Melaleuca ?systena																																						
Melaleuca aff. *systena*																																						
Melaleuca teretifolia																																						
Melaleuca trichophylla																																+						
Melaleuca ?trichophylla																																						
Melaleuca aff. *trichophylla*																																						
Melaleuca viminea					+									+														+										
**Melilotus indicus*																																						
Mesomelaena graciliceps																																						
Mesomelaena pseudostygia			+						+		+	+				+																						
Mesomelaena stygia																																						
Mesomelaena tetragona																																						
Microlaena stipoides																																						
Microlaena stipoides var. *stipoides*																																						
Microtis alba																												+										
Millotia tenuifolia var. *tenuifolia*												+																										
**Monopsis debilis*																																						
Muehlenbeckia polybotrya																																						
Myoporum insulare																																						
Myriocephalus helichrysoides																																						
Myrtaceae sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Nemcia capitata									+		+																									+		
Nemcia reticulata																																						
Notodanthonia sp.																																						
Nuytsia floribunda							+		+	+							+				+	+	+						+			+					+
Olax benthamiana																																						
Olearia axillaris																																						
Olearia rudis																																						
Oligochaetochilus vittata																																						
Opercularia echinocephala																								+														
Opercularia sp.																																						
Opercularia spermacocea																																						
Opercularia vaginata																																						
**Orobanche minor*																																						
Orchidaceae sp.								+		+			+		+					+																		
Orthrosanthus laxus																																						
Oxalis perennans																																						
? Oxalis corniculata																																						
Ozothamnus cordatus																																						
**Parentucellia latifolia*																																						
Parietaria debilis																																						
Patersonia occidentalis	+	+	+		+		+	+	+		+	+	+	+	+	+	+	+		+		+			+	+	+		+	+	+			+	+	+	+
Patersonia sp.																																						
**Pelargonium capitatum*																																						
Pelargonium littorale																																						
**Pentaschistis airoides*																																						
Pericalymma ellipticum																																						
Pericalymma ellipticum var. *ellipticum*				+		+													+		+	+		+								+					
Persoonia comata																																+						
Petrophile brevifolia												+		+																		+			+			

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Petrophile drummondii																																						
Petrophile linearis	+	+					+	+	+		+		+	+	+	+	+			+					+	+				+	+	+	+		+	+		+
Petrophile macrostachya											+	+																										
Petrophile seminuda							+																															
Petrophile serruriae																																						
Petrophile sp.																																						
**Petrorhagia dubia*																																						
**Phalaris minor*																																						
Philotheca spicata			+				+	+					+	+	+	+	+			+						+									+	+		+
Philydrella pygmaea																																			+	+		
Phlebocarya ciliata	+	+	+				+						+		+											+						+			+	+	+	
Phyllangium paradoxum							+																									+						
Phyllanthus calycinus																																+						
Phylloglossum drummondii																																						
Pimelea calcicola																																						
Pimelea ferruginea																																						
Pimelea floribunda																																						
Pimelea rosea																																						
Pimelea sp.																																						
Pimelea suaveolens																																						
Pimelea sulphurea																																				+		
**Pinus radiata*																																						
Pithocarpa corymbulosa (P2)																																						
Pithocarpa sp.																																						
Platytheca galioides																																						
**Poa annua*																																						
Poa drummondiana																																						
Poa poiformis																																						
**Poa pratensis*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Poaceae sp.																			+	+											+							
Podolepis gracilis																																						
Podolepis lessonii																																						
Podotheca ?chrysantha																																						
Podotheca angustifolia																																						
Podotheca angustifolia/gnaphalioides?																																						
Podotheca chrysantha																																						
Podotheca gnaphalioides	+	+						+	+	+		+					+			+	+	+	+	+		+	+	+	+		+	+			+		+	+
Podotheca sp.																																						
Pogonolepis stricta																																						
**Polypogon monspeliensis*																												+										
Poranthera ericoides																																						
Poranthera microphylla																																						
Prasophyllum drummondii																																						
Prasophyllum sp.																																						
Pteridium esculentum																																						
Pterostylis ?brevisepala (ms)																			+																			
Pterostylis aff. *nana* SCP GJK/NG 1867cbs																																						
Pterostylis recurva																																						
Pterostylis sanguinea																																						
Pterostylis sp.																																					+	
Pterostylis sp. short sepals (W. JacksonBJ 259) (PN)																																						
Ptilotus drummondii																																						
Ptilotus drummondii var. *drummondii*																																						
Ptilotus humilis subsp. *humilis*																																						
Ptilotus manglesii																																						
Ptilotus polystachyus var. *polystachyus*																																						
Ptilotus sp.																																						
? *Puccinellia* sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Pultenaea reticulata																			+																		+	
Pyrorchis nigricans								+					+	+												+	+		+			+	+		+			+
? Pyrorchis nigricans																																						
Quinetia urvillei																																						
Regelia ciliata				+		+													+		+	+	+	+												+		
Regelia ?ciliata																																						+
Regelia inops																																						
Restio sp.																																						
Rhagodia baccata																																						
Rhagodia baccata subsp. *baccata*																																						
Rhodanthe citrina												+																										
Rhodanthe corymbosa																																						
Rhodanthe sp.																																						
**Romulea obscura*																																						
Romulea rosea																																						
**Rostraria cristata*																																						
**Sagina apetala*																																						
Santalum acuminatum																																						
Sarcozona bicarinata (P3)																																						
Scaevola canescens																																						
Scaevola ?canescens																																						
Scaevola crassifolia																																						
Scaevola crassifolia/nitida																																						
Scaevola nitida																																						
Scaevola paludosa																																						
Scaevola repens																																						
Scaevola repens var. *angustifolia*																																						
Scaevola repens var. *repens*																																+						
Scaevola sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Scaevola thesioides																																						
Schoenolaena juncea																																						
Schoenus aff. *brevisetis*	+	+	+										+	+					+																	+		
Schoenus asperocarpus																																						
Schoenus breviculmis																																						
Schoenus brevisetis																																						
Schoenus caespititius																																						
Schoenus ?caespititius																																						
Schoenus clandestinus																																						
Schoenus curvifolius							+																			+												
Schoenus efoliatus																																						
Schoenus grandiflorus																																						
Schoenus lanatus																																						
Schoenus nanus																																						
Schoenus natans (P4)																																						
Schoenus odontocarpus																																						
Schoenus rigens																																						
Schoenus sp.																																						
Schoenus ?subfascicularis					+																																	
Scholtzia involucrata	+	+	+					+			+		+	+			+	+							+	+			+			+			+			
Scholtzia sp.	+																																					
Selaginella gracillima																																						
Senecio lautus																																						
Senecio lautus subsp. *maritimus*																																						
Senecio lautus subsp. *dissectifolius*																																						
Senecio sp.																																						
**Silene gallica*																																						
Siloxerus humifusus					+					+													+									+						
**Solanum americanum*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
**Solanum nigrum*																						+																
**Sonchus oleraceus*																																						
Sowerbaea laxiflora																																						
Sphaerolobium sp.																																						
Sphaerolobium vimineum																																						
Spyridium globulosum																																						
Stachystemon axillaris (P4)																																						
Stackhousia monogyna																																						
Stackhousia sp.																																						
**Stellaria media*																																						
Stenopetalum gracile																																						
Stirlingia latifolia							+				+		+																	+		+			+	+		
Stylidium adpressum																																						
Stylidium amoenum																																						
Stylidium brunonianum subsp. *brunonianum*								+	+					+						+				+						+		+			+	+		
Stylidium bulbiferum																																						
Stylidium calcaratum					+			+		+		+																				+	+					
Stylidium crossocephalum														+			+														+							
Stylidium diuroides subsp. *diuroides*	+									+	+			+							+				+					+		+			+			
Stylidium inundatum																																						
Stylidium junceum																																+						
Stylidium lateriticola																																						
Stylidium longitubum (P3)																																						
Stylidium macrocarpum																																						
Stylidium maritimum																																						
Stylidium miniatum																																						
Stylidium petiolare																																						
Stylidium piliferum subsp. *piliferum*							+				+					+		+							+										+			
Stylidium repens														+				+			+		+	+	+							+				+	+	

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Stylidium schoenoides													+			+																						
Stylidium sp.																										+												
Synaphea petiolaris																																						
Synaphea sp.																																						
Synaphea spinulosa																																						
Synaphea spinulosa subsp. *spinulosa*																																						
Templetonia retusa																																						
Tersonia cyathiflora																																						
**Tetragonia decumbens*																																						
Tetraria capillaris																																						
Tetraria octandra																																						
Thelymitra antennifera																																						
Thelymitra campanulata																																						
Thelymitra crinita																																						
Thelymitra flexuosa																																						
Thelymitra sp.																																						
Thomasia triphylla																																						
Threlkedia diffusa																																						
Thysanotus arenarius																																						
Thysanotus dichotomus																																						
Thysanotus manglesianus																																						
Thysanotus manglesianus/patersonii																																						
Thysanotus patersonii																																						
Thysanotus patersonii/manglesianus																																						
Thysanotus sp.																																						
Thysanotus sparteus																																						
Thysanotus thyrsoideus																																						
Thysanotus ?thyrsoideus	+												+																									
Thysanotus triandrus																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Trachymene coerulea																																						
Trachymene pilosa		+						+	+	+		+		+			+				+	+	+	+		+	+	+	+			+	+			+	
Tribonanthes australis																																						
Tribonanthes longipetala																																						
Tricoryne elatior																																						
Tricoryne tenella																																						
**Trifolium arvense*																																						
**Trifolium campestre* var. *campestre*																												+										
**Trifolium cernuum*																																						
**Trifolium dubium*																																						
**Trifolium* sp.																																						
Triglochin centrocarpa																																						
Triglochin huegelii/linearis																																						
Triglochin linearis																																						
Triglochin muelleri																																						
Triglochin sp.																																						
Triglochin trichophora																																						
Tripterococcus brunonis																																						
Trithuria bibracteata																																						
Trymalium floribundum																																						
**Typha orientalis*																												+										
**Ursinia anthemoides*						+	+	+		+		+											+			+			+							+	
Utricularia multifida																																						
Utricularia violacea																																						
Velleia trinervis																																						
**Vellereophyton dealbatum*																																						
Verreauxia reinwardtii																																						
Verticordia densiflora																																						
Verticordia densiflora var. *densiflora*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M077	M078	M079	M080	M081	M082	M083	M084	M085	M086	M087	M088	M089	M090	M091	M092	M093	M094	M095	M096	M097	M098	M099	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114
Verticordia nitens							+						+																	+	+								+
Verticordia ovalifolia																																						
Verticordia plumosa																																						
Villarsia capitata																																						
**Vulpia bromoides*																																						
**Vulpia myuros*																																						
**Vulpia* sp.																																						
**Wahlenbergia capensis*																																						
Wahlenbergia preissii																																						
Waitzia sp.																																						
Waitzia suaveolens var. *suaveolens*																																						
Westringia dampieri																																						
Wurmbea dioica																																						
Wurmbea monantha																																						
Wurmbea pygmaea																																						
Wurmbea sp.																																						
Xanthorrhoea gracilis																																						
Xanthorrhoea preissii		+	+	+				+		+	+	+	+	+	+	+	+	+		+		+				+	+		+			+				+	+	+
Xanthosia ciliata																																						
Xanthosia huegelii																																			+			
**Zantedeschia aethiopica*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Acacia alata var. *tetrantha*																																						
Acacia barbinervis subsp. *borealis*																																						
Acacia benthamii (P2)																																						
Acacia cochlearis																																						
Acacia cyclops																																						
Acacia huegelii			+												+																	+				+		
Acacia lasiocarpa																																						
Acacia lasiocarpa var. *lasiocarpa*																																						
Acacia pulchella					+		+		+			+	+		+									+	+	+									+	+	+	
Acacia pulchella var. *glaberrima*			+																																			
Acacia rostellifera																																						
Acacia saligna																						+							+		+							
Acacia sessilis																																						
Acacia sp.																																						
Acacia stenoptera							+																													+		
Acacia truncata																																						
Acacia xanthina																																						
Acanthocarpus preissii																																						
Adenanthos barbiger																																						
Adenanthos cygnorum		+									+										+						+	+				+	+					
Adenanthos cygnorum subsp. *cygnorum*																																						
Adenanthos obovatus																																						
Adenanthos sp.																																						
Agonis flexuosa																							+															
Agonis linearifolia																																		+				
Agrostis avenacea																														+								
**Aira caryophyllea*														+						+					+				+		+		+		+		
Aira sp.																																						
Alexgeorgea nitens				+																												+				+		

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Allocasuarina fraseriana																+	+		+	+																		
Allocasuarina humilis					+											+																						
Alyogyne huegelii																																						
Amperea ericoides																																						
Amphibromus nervosus																														+								
Amphipogon ? amphipogonoides																																						
Amphipogon ?strictus																																						
Amphipogon laguroides																																						
Amphipogon sp.																														+								
Amphipogon turbinatus								+																								+				+		
**Anagallis arvensis*																																						
Anarthria gracilis																																						
Andersonia heterophylla																											+	+							+			
Andersonia lehmanniana																																				+		
Andersonia lehmanniana subsp. *lehmanniana*																																						
Anigozanthos humilis			+	+	+	+			+																							+			+	+		
Anigozanthos sp.																																						
Aotus gracillima																							+															
Aotus procumbens	+													+																								
Aphelia nutans																																						
**Arctotheca calendula*																						+																
Arnocrinum preissii																																+						
Astartea fascicularis										+			+	+								+	+		+												
Asteraceae sp.																		+		+																		
Asteridea pulverulenta																																						
Astroloma microcalyx																																						
Astroloma pallidum																																						
Astroloma xerophyllum		+			+			+																														

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
**Atriplex prostrata*																															+								
Austrodanthonia occidentalis																																	+				+		+
Austrodanthonia ?occidentalis																																							
Austrodanthonia sp.																																							
Austropstipa sp.																																							
Austrostipa ?macalpinei																																							
Austrostipa compressa																																	+	+		+	+		
Austrostipa flavescens																																							
Austrostipa macalpinei																																							
Austrostipa sp.						+																																	
**Avellinia michelii*																																							
Azolla filiculoides																															+								
Baeckea camphorosmae																							+	+															
Baeckea robusta																																							
Baeckea sp.																																							
Banksia attenuata		+		+	+	+	+	+	+			+	+				+	+							+		+	+	+				+	+		+	+		+
Banksia grandis																																							
Banksia ilicifolia								+				+	+									+					+							+	+			+	+
Banksia littoralis																							+											+	+			+		
Banksia menziesii		+		+	+	+	+	+	+	+			+			+	+	+		+	+	+					+	+	+				+	+	+		+		+
Banksia prionotes																																			+					
Baumea juncea																																+			+	+				
Baumea vaginalis																																						+		
Beaufortia elegans				+				+	+	+			+			+								+		+	+	+	+				+			+	+		+
Beyeria cinerea																																							
Blennospora sp.																																							
Boronia purdieana																																							
Boronia purdieana subsp. *purdieana*																																							
Boronia ramosa																																				+			+

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Boronia ramosa subsp. *anethifolia*																																						
Boronia ramosa subsp. *ramosa*																																						
Borya sphaerocephala																															+							
Bossiaea eriocarpa	+		+	+	+	+	+		+			+			+	+	+	+	+	+				+	+	+						+			+	+		+
Brachyscome iberidifolia																																						
Brachyscome sp.																													+									
Brassica sp.																																						
**Briza maxima*																													+		+		+					
**Briza minor*																															+							
**Briza* sp.																																						
**Bromus diandrus*																																						
**Bromus rubens*																+																						
**Bromus* sp.																																						
? *Bromus* sp.																																						
Burchardia bairdiae																													+		+							
Burchardia umbellata				+	+				+							+															+				+	+		+
Caesia sp.																																						
Caladenia flava subsp. *flava*										+										+							+					+	+					
Caladenia latifolia																																						
Caladenia marginata														+																								
Caladenia paludosa																													+									
Caladenia sp.																									+				+								+	
Calandrinia brevipedata																																						
Calandrinia corrigioloides																																						
Calandrinia granulifera																															+							
Calandrinia liniflora																																						
Calandrinia sp.																																						
Calectasia cyanea (P2)																																				+		
Calothamnus lateralis																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Calothamnus quadrifidus																																						
Calothamnus sanguineus																																				+		
Calytrix angulata																																	+					
Calytrix flavescens			+	+	+	+		+	+						+	+	+	+	+					+		+		+			+			+	+		
Calytrix fraseri								+																								+						
Calytrix sapphirina				+		+									+																	+			+			
Calytrix strigosa																																						
**Carpobrotus edulis*																																						
Carpobrotus virescens																																						
Caryophyllaceae sp.																																						
Cassytha flava																																			+			
Cassytha glabella																																						
Cassytha pomiformis																																						
Cassytha racemosa	+		+																										+									
Cassytha sp.				+		+														+		+						+										
Casuarina obesa																													+	+	+							
Caustis dioica																																						
**Centaurium erythraea*																																						
Centrolepis aristata																													+		+		+					
Centrolepis drummondiana																																				+		
Centrolepis mutica																																						
Centrolepis polygyna																																						
**Cerastium glomeratum*																																						
Chamaescilla corymbosa																																						
**Chenopodium macrospermum*																														+								
Chordifex microcodon																																						
Chorizandra enodis																																						
**Cicendia filiformis*																															+							
Comesperma calymega																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Comesperma confertum																																						
Comesperma integerrimum																																						
Comesperma sp.																																						
Conospermum acerosum subsp. *acerosum*																												+										
Conospermum canaliculatum subsp. *canaliculatum*																																						
Conospermum incurvum									+																													
Conospermum stoechadis subsp. *stoechadis*																																						
Conospermum triplinervium																																						
Conostephium pendulum																																						
Conostephium minus (P4)			+			+																										+			+			
Conostephium pendulum			+	+		+	+									+		+		+	+			+			+					+	+		+			+
Conostephium preissii																																						
Conostylis aculeata																																						
Conostylis aurea																+																				+		
Conostylis candicans subsp. *candicans*																																						
Conostylis juncea	+																									+						+				+		+
Conostylis pauciflora																																						
Conostylis pauciflora subsp. *euryrhipis* (P3)																																						
Conostylis serrulata																																						
Conostylis setigera subsp. *setigera*					+																															+		
Conostylis setosa																																						
Conostylis sp.								+									+																					
**Conyza albida*																																						
Conyza sp.																																		+				
Corymbia calophylla	+																																					+
Corynotheca micrantha																																						
Cotula coronopifolia																														+								
Crassula colorata																															+							
Crassula colorata var. *acuminata*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Crassula ?colorata																																						
Crassula exserta																															+							
**Crassula glomerata*																																						
**Crassula natans*																														+								
Crassula sp.																																						
Cristonia biloba																																						
Croninia kingiana																																						
Cryptandra mutila																																			+			
Cryptandra pungens																																						
Cyanicula deformis																																					+	
Cyathochaeta avenacea	+																																					
**Cyperus tenellus*																													+									
Cyrtostylis robusta																																						
Cyrtostylis sp.																																						
Dampiera linearis			+		+	+									+	+		+									+										+	+
Dampiera sp.																																						
Dasypogon bromeliifolius	+		+		+		+				+	+					+	+	+	+	+			+				+			+						+	+
Dasypogon sp.																																						
Daucus glochidiatus																																	+					
Daviesia decurrens																																						
Daviesia decurrens subsp. *decurrens* (ms)																																						
Daviesia divaricata subsp. *divaricata* (ms)																																						
Daviesia nudiflora																																						
Daviesia physodes																																						
Daviesia podophylla																																						
Daviesia quadrilatera																																						
Desmocladus fasciculatus								+								+		+																				
Desmocladus flexuosus	+																										+								+	+		
Dianella revoluta																													+									

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Dichelachne crinita																																						
Dichopogon capillipes																													+									
Dielsia stenostachya																																						
Dillwynia dillwynioides																																					+	
Diplolaena angustifolia																																						
Diplopeltis huegelii																																						
Disa bracteata																																						
**Dischisma arenarium*																																						
Dischisma sp.																																						
Diuris longifolia																																						
Diuris sp.																																						
Drosera erythrorhiza	+		+		+																+			+							+					+		+
Drosera gigantea subsp. *gigantea*																													+		+							
Drosera glanduligera																															+							
Drosera macrantha subsp. *macrantha*																																						
Drosera menziesii			+																										+			+				+	+	
Drosera menziesii subsp. *penicillaris*																																						
Drosera menziesii subsp. *menziesii*																															+							
Drosera neesii																																						
Drosera nitidula																																						
Drosera paleacea																																+	+		+			
Drosera pallida																																			+			+
Drosera rosulata																																						
Drosera sp.																																	+		+			
Drosera sp. climbing						+										+										+	+	+							+			
Dryandra lindleyana																		+									+											
Dryandra lindleyana var. *lindleyana*																																						
Dryandra nivea																																						
Dryandra sessilis																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Ecdeiocolea monostachya																																						
**Ehrharta calycina*																													+									
**Ehrharta longiflora*																														+								
Ehrharta sp.																																						
Eleocharis acuta																														+								
Eleocharis sp.																																						
Elythranthera brunonis	+																																				+	
Eremaea asterocarpa subsp. *asterocarpa*																																						
Eremaea beaufortioides																																						
Eremaea brevifolia																																				+		
Eremaea pauciflora																																+			+	+		
Eremaea pauciflora var. *pauciflora*				+	+	+	+	+	+						+	+		+									+										
Eremaea sp.																					+					+												
Eremophila glabra																																						
Eriochilus dilatatus																																						+
**Erodium botrys*																																						
**Erodium cicutarium*																																						
**Erodium moschatum*																																						
Eryngium pinnatifidum subsp. *palustre* (ms)																															+							
Eucalyptus decipiens																																						
Eucalyptus decipiens subsp. *decipiens*																																						
Eucalyptus foecunda																																						
Eucalyptus gomphocephala																																						
Eucalyptus marginata																																						
Eucalyptus petrensis																																						
Eucalyptus rudis										+				+								+												+				
Eucalyptus todtiana			+			+	+									+		+	+		+			+								+			+			
Eucalytpus gomphocephala																																						
Euchilopsis linearis																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Euchiton sphaericus																																						
**Euphorbia terracina*																																						
Exocarpos sparteus																						+																
? *Gahnia* sp.													+																									
**Galium murale*																																						
Geranium retrorsum																																						
Geranium solanderi																																						
**Gladiolus caryophyllaceus*			+																																+			
Gladiolus sp.																																						
Glossostigma diandrum																																						
Gnephosis tenuissima																																						
Gompholobium capitatum																																						
Gompholobium confertum																																						
Gompholobium knightianum																																						
Gompholobium scabrum																																				+		
Gompholobium shuttleworthii																																						
Gompholobium sp.																																						
Gompholobium tomentosum	+		+	+	+		+									+					+														+			
Gonocarpus ?pithyoides																																						
Gonocarpus cordiger												+									+			+														
Gonocarpus pithyoides																																				+		+
Gonocarpus sp.																																						
Goodenia micrantha																																						
Gratiola pubescens																													+					+				
Grevillea preissii																																						
Grevillea preissii subsp. *preissii*																																						
Grevillea vestita																																						
Grevillea vestita subsp. *vestita*																																						
Haemodorum laxum																																				+		

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Haemodorum paniculatum																																						
Haemodorum simplex																													+		+							
Haemodorum sp.																																						
Haemodorum spicatum																																						
Hakea costata																																						
Hakea erinacea																																						
Hakea lissocarpha																																						
Hakea prostrata																																						
Hakea ruscifolia																																				+		
Hakea trifurcata																																	+					
Hakea varia																						+																
Hardenbergia comptoniana																																						
**Heliophila pusilla*																																						
Heliotropium curassavicum																																						
Hemiandra pungens																																						
Hemigenia ? incana																																						
Hensmania turbinata																																						
Hibbertia aff. *pachyrrhiza*																																						
Hibbertia aurea				+																																		
Hibbertia crassifolia																																						
Hibbertia aff. *helianthemoides*																																						
Hibbertia huegelii					+			+	+						+	+		+										+							+	+		
Hibbertia hypericoides					+											+		+		+												+				+		+
Hibbertia pachyrrhiza																																						
Hibbertia racemosa																																						
Hibbertia sp.																																+						
Hibbertia spicata																																						
Hibbertia spicata subsp. *leptotheca*																																						
Hibbertia stellaris																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Hibbertia subvaginata		+		+	+		+	+	+	+		+	+		+	+	+	+	+	+		+			+	+		+	+							+	+		+
**Holcus setiger*																																							
Homalosciadium homalocarpum																														+				+				+	
Hovea pungens																																							
Hovea trisperma																																							+
Hyalosperma cotula		+											+		+			+							+						+								
Hybanthus calycinus																																							
Hydrocotyle alata																																							
Hydrocotyle blepharocarpa																																							
Hydrocotyle callicarpa																																							
Hydrocotyle hispidula																																							
Hydrocotyle pilifera subsp. *glabrata*																																							
Hydrocotyle sp.																																							
Hydrocotyle tetragonocarpa																																+							
Hypocalymma angustifolium								+				+		+	+																								
Hypocalymma xanthopetalum																																							
**Hypochaeris glabra*											+				+			+			+	+	+			+					+			+			+		
Hypochaeris sp.																														+		+							
Hypolaena exsulca			+																+			+		+						+				+			+		
Hypolaena pubescens																														+									
Isolepis cernua																														+	+								
Isolepis producta																															+								
**Isolepis marginata*																														+							+		
Isolepis nodosa																																							
Isotoma hypocrateriformis																																							
Isotropis cuneifolia																																+							
Isotropis sp.																														+									
Jacksonia calcicola (ms)																																							
Jacksonia fasciculata																																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Jacksonia floribunda				+	+	+	+		+	+						+												+	+				+			+			
Jacksonia furcellata		+						+							+		+	+	+		+					+										+	+	+	+
Jacksonia hakeoides																																							
Jacksonia sericea (P3)																																							
Jacksonia sternbergiana																																					+		
**Juncus capitatis*																														+									
Juncus sp.																																							
Kennedia prostrata																																							
Kennedia sp.																																							
Kunzea ericifolia																																						+	
Kunzea ericifolia subsp. *ericifolia*			+					+			+	+	+	+	+						+	+	+				+											+	
Kunzea recurva																														+									
Lagenophora huegelii																			+		+																+		+	
Latrobea tenella var. *tenella*																								+													+		+	
Laxmannia ramosa																																							
Laxmannia sessiliflora																																							
Laxmannia sp.																																							
Laxmannia squarrosa																																							
Lechenaultia biloba				+	+		+																						+									
Lechenaultia expansa																																							
Lechenaultia floribunda																																							
Lechenaultia linarioides																																							
Lemna disperma																															+								
Lepidium rotundum																																							
Lepidobolus chaetocephalus																																							
Lepidobolus preissianus																																							
Lepidobolus preissianus subsp. *preissianus*																																							
Lepidobolus sp.																																							
Lepidosperma aff. *leptostachyum*																																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Lepidosperma gladiatum																																		+				
Lepidosperma longitudinale																																						
Lepidosperma pubisquameum																																						
Lepidosperma sp.																																				+		
Lepidosperma squamatum	+		+									+																								+		+
Lepidosperma tenue																																						
Leporella fimbriata							+																									+			+	+		+
Leptomeria cunninghamii																																						
Leptomeria empetriformis																																						
Leptomeria pauciflora																																						
Leptorhynchos scaber																																						
Leptospermum spinescens																																				+		
Leucopogon ?sprengelioides															+																							
Leucopogon conostephioides			+	+			+	+	+	+	+	+			+						+			+			+	+				+			+			
Leucopogon leptanthus																																						
Leucopogon oxycedrus				+											+																	+						
Leucopogon parviflorus																																						
Leucopogon polymorphus							+		+						+	+		+																				
Leucopogon propinquus																																						
Leucopogon racemulosus																																						
Leucopogon sp.																								+														
Leucopogon sp. (indeterminant) M137-1																								+														
Leucopogon sprengelioides						+		+																+								+						
Leucopogon squarrosus																																			+			
Levenhookia pusilla																																						
Levenhookia sp.																																						
Levenhookia stipitata																																						
Lobelia alata																																						
Lobelia heterophylla																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Lobelia sp.																																						
Lobelia tenuior																													+									
**Lolium multiflorum x perenne*																													+									
**Lolium rigidum*																																						
Lomandra ?brittanii																																						
Lomandra caespitosa																																				+		
Lomandra ?caespitosa																		+																				
Lomandra hermaphrodita												+									+						+					+			+			+
Lomandra ?hermaphrodita																+		+		+															+	+			
Lomandra maritima																															+							
Lomandra micrantha																																						
Lomandra nigricans																																						+
Lomandra preissii																																+				+		
Lomandra sericea																																				+		
Lomandra sonderi																																						
Lomandra ?sonderi																																						
Lomandra sp.	+																		+																			
Lomandra suaveolens																													+							+		
**Lotus angustissimus*																													+	+	+							
**Lotus suaveolens*																																						
Loxocarya cinerea					+			+	+																													
Lyginia barbata		+	+	+	+	+		+	+			+			+	+											+	+				+	+		+	+		
Lyperanthus serratus																																						
Lysinema ciliatum																																				+		
Lysinema elegans																																						
Macarthuria apetala																										+												
Macrozamia riedlei																																			+			+
Meeboldina cana																													+									
Melaleuca cardiophylla																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Melaleuca huegelii																																						
Melaleuca lateriflora																																					+	
Melaleuca preissiana							+				+		+	+			+			+		+	+	+	+									+		+	
Melaleuca rhaphiophylla										+																			+					+		+	
Melaleuca scabra				+	+		+	+	+						+		+		+																+	
Melaleuca seriata																		+																			
Melaleuca sp.			+			+																															
Melaleuca systena																																						
Melaleuca ?*systena*																																						
Melaleuca aff. *systena*																																						
Melaleuca teretifolia																																				+		
Melaleuca trichophylla	+		+																								+					+					
Melaleuca ?*trichophylla*																																						
Melaleuca aff. *trichophylla*																																						
Melaleuca viminea										+		+																	+								
**Melilotus indicus*																																						
Mesomelaena graciliceps																																						
Mesomelaena pseudostygia																+																				+		
Mesomelaena stygia																																						
Mesomelaena tetragona																																						
Microlaena stipoides																																						
Microlaena stipoides var. *stipoides*																																						
Microtis alba																																						
Millotia tenuifolia var. *tenuifolia*																															+		+					
**Monopsis debilis*																													+									
Muehlenbeckia polybotrya																																						
Myoporum insulare																																						
Myriocephalus helichrysoides																													+	+								
Myrtaceae sp.																				+							+											

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Nemcia capitata				+		+	+		+						+			+						+		+											
Nemcia reticulata																																+			+	+		
Notodanthonia sp.																																			+			
Nuytsia floribunda			+								+						+								+								+					
Olax benthamiana																																						
Olearia axillaris																		+																				
Olearia rudis																																						
Oligochaetochilus vittata																																			+	+	+	
Opercularia echinocephala																																						
Opercularia sp.																																						
Opercularia spermacocea																																						
Opercularia vaginata																																						
**Orobanche minor*																																						
Orchidaceae sp.																+		+				+																
Orthrosanthus laxus																																						
Oxalis perennans																																						
? *Oxalis corniculata*																																						
Ozothamnus cordatus																																						
**Parentucellia latifolia*																															+							
Parietaria debilis																																						
Patersonia occidentalis	+		+	+		+	+	+	+		+					+	+	+	+	+	+						+	+	+			+		+	+			+
Patersonia sp.																																						
**Pelargonium capitatum*																																						
Pelargonium littorale																																						
**Pentaschistis airoides*																																						
Pericalymma ellipticum																																	+					
Pericalymma ellipticum var. *ellipticum*											+		+										+															
Persoonia comata					+																																	+
Petrophile brevifolia																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Petrophile drummondii																																						
Petrophile linearis	+		+	+	+	+	+	+	+		+	+			+	+	+	+						+			+	+				+	+		+	+		+
Petrophile macrostachya																																				+		
Petrophile seminuda																																	+					
Petrophile serruriae																																						
Petrophile sp.																																						
**Petrorhagia dubia*																																						
**Phalaris minor*																															+							
Philotheca spicata			+	+				+								+		+									+	+			+			+			
Philydrella pygmaea																															+							
Phlebocarya ciliata			+		+	+						+				+											+				+				+	+		
Phyllangium paradoxum																																	+			+		
Phyllanthus calycinus																														+								
Phylloglossum drummondii																															+							
Pimelea calcicola																																						
Pimelea ferruginea																																						
Pimelea floribunda																																						
Pimelea rosea																																						
Pimelea sp.																																						
Pimelea suaveolens																																						
Pimelea sulphurea																																				+		
**Pinus radiata*																																						
Pithocarpa corymbulosa (P2)																																						
Pithocarpa sp.																																						
Platytheca galioides							+																															
**Poa annua*																																						
Poa drummondiana																																				+		
Poa poiformis																																						
**Poa pratensis*																																						

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Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Poaceae sp.								+																												+		
Podolepis gracilis																													+		+							
Podolepis lessonii																																						
Podotheca ?chrysantha																																						
Podotheca angustifolia																																	+					
Podotheca angustifolia/gnaphalioides?																																						
Podotheca chrysantha																																						
Podotheca gnaphalioides	+		+		+					+				+			+		+					+	+													
Podotheca sp.																																						
Pogonolepis stricta																															+							
**Polypogon monspeliensis*																																						
Poranthera ericoides																																						
Poranthera microphylla																																						
Prasophyllum drummondii																													+									
Prasophyllum sp.																																						+
Pteridium esculentum																																		+				
Pterostylis ?brevisepala (ms)																																						
Pterostylis aff. *nana* SCP GJK/NG 1867cbs																													+									+
Pterostylis recurva																																						
Pterostylis sanguinea																																						
Pterostylis sp.																																						
Pterostylis sp. short sepals (W. JacksonBJ 259) (PN)																																						
Ptilotus drummondii																																						
Ptilotus drummondii var. *drummondii*																																						
Ptilotus humilis subsp. *humilis*																																						
Ptilotus manglesii																																						
Ptilotus polystachyus var. *polystachyus*																																						
Ptilotus sp.																																						
? *Puccinellia* sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Pultenaea reticulata														+																								
Pyrorchis nigricans	+					+											+															+	+			+	+	
? *Pyrorchis nigricans*																																						
Quinetia urvillei																															+		+					
Regelia ciliata	+	+								+				+							+			+													
Regelia ?ciliata																																						
Regelia inops						+																																
Restio sp.																						+																
Rhagodia baccata																																						
Rhagodia baccata subsp. *baccata*																																						
Rhodanthe citrina														+																								
Rhodanthe corymbosa																																						
Rhodanthe sp.																			+		+																	
**Romulea obscura*																													+									
Romulea rosea																													+									
**Rostraria cristata*																																						
**Sagina apetala*																																						
Santalum acuminatum																																						
Sarcozona bicarinata (P3)																																						
Scaevola canescens																																						
Scaevola ?canescens																																						
Scaevola crassifolia																																						
Scaevola crassifolia/nitida																																						
Scaevola nitida																																						
Scaevola paludosa																																						
Scaevola repens																																						
Scaevola repens var. *angustifolia*																																						
Scaevola repens var. *repens*																																						
Scaevola sp.																																		+				

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Scaevola thesioides																																						
Schoenolaena juncea																															+							
Schoenus aff. *brevisetis*	+		+																																			
Schoenus asperocarpus																																						
Schoenus breviculmis																																						
Schoenus brevisetis																																+				+		
Schoenus caespititius																																						
Schoenus ?caespititius											+																											
Schoenus clandestinus																																+						
Schoenus curvifolius			+					+																				+				+			+	+		
Schoenus efoliatus																																						
Schoenus grandiflorus																																						
Schoenus lanatus																																						
Schoenus nanus																																						
Schoenus natans (P4)																																						
Schoenus odontocarpus																																						
Schoenus rigens																															+							
Schoenus sp.																																						
Schoenus ?subfascicularis												+		+																								
Scholtzia involucrata	+		+	+	+	+		+	+						+						+			+		+		+				+			+	+		
Scholtzia sp.																																						
Selaginella gracillima																															+							
Senecio lautus																																						
Senecio lautus subsp. *maritimus*																																						
Senecio lautus subsp. *dissectifolius*																																						
Senecio sp.																																						
**Silene gallica*																																						
Siloxerus humifusus																													+				+					
**Solanum americanum*																																		+				

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
**Solanum nigrum*																																						
**Sonchus oleraceus*																													+				+					
Sowerbaea laxiflora	+																														+							
Sphaerolobium sp.																																						
Sphaerolobium vimineum													+																									
Spyridium globulosum																																						
Stachystemon axillaris (P4)																																						
Stackhousia monogyna																																						
Stackhousia sp.																																						
**Stellaria media*																																						
Stenopetalum gracile																																						
Stirlingia latifolia			+		+										+													+				+	+		+	+		
Stylidium adpressum																																						
Stylidium amoenum																																						
Stylidium brunonianum subsp. *brunonianum*			+	+	+		+								+	+	+	+			+					+	+	+				+	+		+			
Stylidium bulbiferum																																						
Stylidium calcaratum															+																							
Stylidium crossocephalum									+						+																					+		
Stylidium diuroides subsp. *diuroides*				+																								+				+			+	+		
Stylidium inundatum																																						
Stylidium junceum																																						
Stylidium lateriticola																+		+									+											
Stylidium longitubum (P3)																														+	+							
Stylidium macrocarpum																																			+			
Stylidium maritimum																																						
Stylidium miniatum																																						
Stylidium petiolare																															+							
Stylidium piliferum subsp. *piliferum*					+	+																				+	+					+				+		
Stylidium repens			+	+		+	+			+							+		+		+										+	+			+		+	

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Stylidium schoenoides																																						
Stylidium sp.																																						
Synaphea petiolaris																																				+		
Synaphea sp.																																						
Synaphea spinulosa																																						
Synaphea spinulosa subsp. *spinulosa*																																						
Templetonia retusa																																						
Tersonia cyathiflora																																						
**Tetragonia decumbens*																																						
Tetraria capillaris																		+																				
Tetraria octandra																																						
Thelymitra antennifera																													+		+							
Thelymitra campanulata																																						
Thelymitra crinita																																						
Thelymitra flexuosa																													+		+							
Thelymitra sp.																															+						+	
Thomasia triphylla																																						
Threlkedia diffusa																																						
Thysanotus arenarius																																						
Thysanotus dichotomus																																						
Thysanotus manglesianus																													+									
Thysanotus manglesianus/patersonii																																						
Thysanotus patersonii																													+									
Thysanotus patersonii/manglesianus																																						
Thysanotus sp.																																			+			
Thysanotus sparteus																																				+		
Thysanotus thyrsoideus																													+			+						
Thysanotus ?thyrsoideus						+													+																			
Thysanotus triandrus																																	+					

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Trachymene coerulea																																						
Trachymene pilosa	+		+							+				+		+	+	+	+	+	+	+		+	+	+							+			+		+
Tribonanthes australis																													+									
Tribonanthes longipetala																																						
Tricoryne elatior																																						
Tricoryne tenella																																						+
**Trifolium arvense*																																						
**Trifolium campestre* var. *campestre*																																						
**Trifolium cernuum*																															+							
**Trifolium dubium*																													+									
**Trifolium* sp.																																						
Triglochin centrocarpa																																						
Triglochin huegelii/linearis																													+	+				+				
Triglochin linearis																																						
Triglochin muelleri																														+								
Triglochin sp.																																						
Triglochin trichophora																																						
Tripterococcus brunonis																																						
Trithuria bibracteata																																						
Trymalium floribundum																																						
**Typha orientalis*																																						
**Ursinia anthemoides*			+																+			+									+		+				
Utricularia multifida																																						
Utricularia violacea																																						
Velleia trinervis																																						
**Vellereophyton dealbatum*																																						
Verreauxia reinwardtii																																						
Verticordia densiflora																													+									
Verticordia densiflora var. *densiflora*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M135b	M136	M137	M138	M139	M140	M141	BAM1	BAM2	BAM3	ELDO1	MILT1	MILT2	MILT3	MILT4	MILT5	MILT6
Verticordia nitens				+				+							+	+		+			+				+	+		+				+				+		
Verticordia ovalifolia																																						
Verticordia plumosa																																						
Villarsia capitata																														+								
**Vulpia bromoides*																													+		+		+					
**Vulpia myuros*																																				+		
**Vulpia* sp.																																						
**Wahlenbergia capensis*																+																	+			+		
Wahlenbergia preissii																																	+			+		
Waitzia sp.																																						
Waitzia suaveolens var. *suaveolens*																+	+		+	+					+													
Westringia dampieri																																						
Wurmbea dioica																																						
Wurmbea monantha																																						
Wurmbea pygmaea																																						
Wurmbea sp.																																						
Xanthorrhoea gracilis							+																															
Xanthorrhoea preissii	+				+		+	+			+	+	+			+	+	+	+	+	+			+	+	+	+					+			+		+
Xanthosia ciliata			+																																			
Xanthosia huegelii									+																							+			+	+		
**Zantedeschia aethiopica*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Acacia alata var. *tetrantha*																																	+					
Acacia barbinervis subsp. *borealis*														+											+													
Acacia benthamii (P2)																																					+	
Acacia cochlearis																										+												
Acacia cyclops																				+							+										+	
Acacia huegelii						+						+																									+	
Acacia lasiocarpa															+			+	+		+		+			+	+		+			+		+				
Acacia lasiocarpa var. *lasiocarpa*																																						
Acacia pulchella					+	+							+	+		+						+	+	+	+		+			+						+	+	
Acacia pulchella var. *glaberrima*																																						
Acacia rostellifera																					+		+								+							
Acacia saligna																+																						
Acacia sessilis																																						
Acacia sp.						+																																
Acacia stenoptera							+									+																						
Acacia truncata																			+										+				+					
Acacia xanthina																																	+					
Acanthocarpus preissii																				+						+	+					+		+	+	+		
Adenanthos barbiger																																						
Adenanthos cygnorum	+	+				+				+														+														
Adenanthos cygnorum subsp. *cygnorum*																																						
Adenanthos obovatus								+																														
Adenanthos sp.																																						
Agonis flexuosa																																						
Agonis linearifolia																																						
Agrostis avenacea																																						
**Aira caryophyllea*				+											+	+	+	+		+		+			+				+	+	+					+	+	
Aira sp.																							+	+														
Alexgeorgea nitens	+	+	+		+							+	+			+								+	+													

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Allocasuarina fraseriana																																						
Allocasuarina humilis													+															+	+			+						
Alyogyne huegelii																																+						
Amperea ericoides			+																																			
Amphibromus nervosus																																						
Amphipogon ? amphipogonoides																																						
Amphipogon ?strictus																																						
Amphipogon laguroides																																						
Amphipogon sp.																																						
Amphipogon turbinatus	+		+		+							+	+	+		+																						
**Anagallis arvensis*															+		+												+	+					+	+	+	+
Anarthria gracilis			+																																			
Andersonia heterophylla		+			+	+								+																								
Andersonia lehmanniana	+											+		+											+													
Andersonia lehmanniana subsp. *lehmanniana*																																						
Anigozanthos humilis	+		+		+							+	+	+		+								+													
Anigozanthos sp.																																						
Aotus gracillima																									+													
Aotus procumbens																																						
Aphelia nutans				+																																		
**Arctotheca calendula*																																						
Arnocrinum preissii																																						+
Astartea fascicularis				+																																		
Asteraceae sp.																																						
Asteridea pulverulenta																	+											+										
Astroloma microcalyx																													+									
Astroloma pallidum																																						
Astroloma xerophyllum					+	+							+	+																								

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
**Atriplex prostrata*																																						
Austrodanthonia occidentalis											+				+	+	+	+	+				+		+	+		+	+	+	+	+	+	+	+	+	+	
Austrodanthonia ?*occidentalis*																																						
Austrodanthonia sp.																																						
Austropstipa sp.																																						
Austrostipa ?*macalpinei*																																						
Austrostipa compressa					+	+					+		+		+		+	+			+			+	+				+							+	
Austrostipa flavescens															+		+		+	+	+	+	+			+	+		+	+	+	+	+	+	+	+	+	+
Austrostipa macalpinei																																						
Austrostipa sp.																																						
**Avellinia michelii*																																						
Azolla filiculoides																																						
Baeckea camphorosmae							+																															
Baeckea robusta																		+																				
Baeckea sp.																																						
Banksia attenuata	+	+	+		+	+				+	+	+	+	+		+	+			+				+	+					+						+	
Banksia grandis																						+																
Banksia ilicifolia		+	+					+		+																												
Banksia littoralis																																						
Banksia menziesii	+	+	+		+	+		+			+	+	+	+		+								+	+					+							
Banksia prionotes																																						
Baumea juncea										+																												
Baumea vaginalis								+																														
Beaufortia elegans		+			+	+						+							+																		
Beyeria cinerea																		+	+																		
Blennospora sp.				+																																		
Boronia purdieana	+	+				+																																
Boronia purdieana subsp. *purdieana*																																						
Boronia ramosa	+											+	+																									

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Boronia ramosa subsp. *anethifolia*																																						
Boronia ramosa subsp. *ramosa*																																						
Borya sphaerocephala																																						
Bossiaea eriocarpa	+	+	+		+	+	+					+	+	+		+	+								+			+	+									+
Brachyscome iberidifolia																																+		+				
Brachyscome sp.																																						
Brassica sp.																																						
**Briza maxima*																+																						
**Briza minor*				+																																		
**Briza* sp.																																						
**Bromus diandrus*																										+	+					+	+	+	+	+		
**Bromus rubens*																																						
**Bromus* sp.																																						+
? *Bromus* sp.																																						
Burchardia bairdiae																																						
Burchardia umbellata			+			+						+	+	+		+								+					+	+							
Caesia sp.																																						
Caladenia flava subsp. *flava*							+				+																									+		
Caladenia latifolia																																						
Caladenia marginata										+																												
Caladenia paludosa																																						
Caladenia sp.				+						+					+		+		+			+	+	+	+						+						+
Calandrinia brevipedata																		+					+															
Calandrinia corrigioloides															+																							
Calandrinia granulifera																																						
Calandrinia liniflora																													+				+		+	+		
Calandrinia sp.				+																				+									+					
Calectasia cyanea (P2)	+													+		+																						
Calothamnus lateralis																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Calothamnus quadrifidus															+			+										+	+	+	+	+	+	+				
Calothamnus sanguineus						+							+												+			+										
Calytrix angulata																																						
Calytrix flavescens	+		+		+	+						+	+	+		+									+												
Calytrix fraseri														+																								
Calytrix sapphirina		+			+																																	
Calytrix strigosa																													+									
**Carpobrotus edulis*																																+						
Carpobrotus virescens																	1			1										+					1		+	
Caryophyllaceae sp.																																						
Cassytha flava					+							+		+				+	+		+							+	+			+	+				
Cassytha glabella																					+		+			+		+				+		+				
Cassytha pomiformis																																						
Cassytha racemosa						+	+														+		+										+			+		
Cassytha sp.																																						
Casuarina obesa																																						
Caustis dioica																																						
**Centaurium erythraea*																											+											
Centrolepis aristata				+				+																														
Centrolepis drummondiana															+	+	+						+	+	+										+			+	
Centrolepis mutica				+																																		
Centrolepis polygyna				+																																		
**Cerastium glomeratum*																	+	+		+		+														+	+	
Chamaescilla corymbosa																																						
**Chenopodium macrospermum*																																						
Chordifex microcodon	+				+	+						+																										
Chorizandra enodis				+																																		
**Cicendia filiformis*				+																																		
Comesperma calymega																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Comesperma confertum																							+															
Comesperma integerrimum																					+																	
Comesperma sp.																									+													
Conospermum acerosum subsp. *acerosum*														+																								
Conospermum canaliculatum subsp. *canaliculatum*																																						
Conospermum incurvum														+																								
Conospermum stoechadis subsp. *stoechadis*																															+							
Conospermum triplinervium													+		+		+							+														
Conostephium pendulum																																						
Conostephium minus (P4)	+	+			+	+					+	+	+	+																								
Conostephium pendulum	+		+		+		+				+	+		+		+								+														
Conostephium preissii																+																							
Conostylis aculeata													+											+														
Conostylis aurea																																						+
Conostylis candicans subsp. *candicans*																+	+	+			+	+	+	+		+	+	+	+	+	+	+	+	+	+		+	+
Conostylis juncea	+	+	+				+					+		+											+													+
Conostylis pauciflora																																						
Conostylis pauciflora subsp. *euryrhipis* (P3)																																						
Conostylis serrulata																																						
Conostylis setigera subsp. *setigera*													+	+		+		+						+	+						+	+						
Conostylis setosa																																						
Conostylis sp.																				+																		+
**Conyza albida*											+																												
Conyza sp.																																						
Corymbia calophylla							+																															
Corynotheca micrantha																+									+					+								
Cotula coronopifolia																																						
Crassula colorata																+	+	+	+	+		+	+		+			+				+	+			+		+
Crassula colorata var. *acuminata*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Crassula ?colorata																																						
Crassula exserta																																						
**Crassula glomerata*																		+	+							+	+					+	+		+	+		
**Crassula natans*				+																																		
Crassula sp.																									+													
Cristonia biloba																													+									
Croninia kingiana					+	+																																
Cryptandra mutila																		+								+	+		+									
Cryptandra pungens																														+					+			
Cyanicula deformis				+																																		
Cyathochaeta avenacea								+																														
**Cyperus tenellus*																																						
Cyrtostylis robusta																					+																	
Cyrtostylis sp.																																						
Dampiera linearis	+		+				+					+	+	+															+									
Dampiera sp.																																						
Dasypogon bromeliifolius	+	+	+			+	+					+																										
Dasypogon sp.																																						
Daucus glochidiatus											+				+	+		+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	+
Daviesia decurrens																+																						
Daviesia decurrens subsp. *decurrens* (ms)																																						
Daviesia divaricata subsp. *divaricata* (ms)																																						
Daviesia nudiflora																																						
Daviesia physodes										+																												
Daviesia podophylla																																						
Daviesia quadrilatera														+																								
Desmocladus fasciculatus																														+								
Desmocladus flexuosus						+							+	+	+	+	+	+	+	+	+	+		+		+	+	+	+		+	+	+	+	+	+	+	+
Dianella revoluta																	+					+	+						+								+	+

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Dichelachne crinita																																						
Dichopogon capillipes																																						
Dielsia stenostachya																																						
Dillwynia dillwynioides																																						
Diplolaena angustifolia																																						
Diplopeltis huegelii																												+										
Disa bracteata																																						
**Dischisma arenarium*															+			+	+		+	+				+			+			+	+		+	+		
Dischisma sp.																							+				+					+							
Diuris longifolia																																						
Diuris sp.																																						
Drosera erythrorhiza			+			+	+					+	+	+	+	+		+				+	+	+	+													+
Drosera gigantea subsp. *gigantea*																																						
Drosera glanduligera								+		+																												
Drosera macrantha subsp. *macrantha*		+																+	+								+										
Drosera menziesii	+	+										+	+	+		+								+	+					+	+						
Drosera menziesii subsp. *penicillaris*					+																+																	
Drosera menziesii subsp. *menziesii*																																						
Drosera neesii			+																																			
Drosera nitidula														+																								
Drosera paleacea	+				+					+			+																									
Drosera pallida						+	+										+			+																		
Drosera rosulata				+																																		
Drosera sp.																																						
Drosera sp. climbing																																						
Dryandra lindleyana																																						
Dryandra lindleyana var. *lindleyana*																																						
Dryandra nivea															+		+	+		+		+						+	+	+	+					+	+
Dryandra sessilis															+		+	+	+		+	+		+				+		+	+		+			+	+

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Ecdeiocolea monostachya																																					
**Ehrharta calycina*																																					
**Ehrharta longiflora*																																					
Ehrharta sp.																																			+			+
Eleocharis acuta																																					
Eleocharis sp.																																					
Elythranthera brunonis							+			+																											
Eremaea asterocarpa subsp. *asterocarpa*																																					
Eremaea beaufortioides																																					
Eremaea brevifolia																+																					
Eremaea pauciflora	+		+		+							+	+	+		+								+												
Eremaea pauciflora var. *pauciflora*						+																															
Eremaea sp.																																					
Eremophila glabra																																		+			
Eriochilus dilatatus							+											+	+		+															
**Erodium botrys*																				+		+														
**Erodium cicutarium*																																					
**Erodium moschatum*																																				+	
Eryngium pinnatifidum subsp. *palustre* (ms)																																					+
Eucalyptus decipiens																						+															
Eucalyptus decipiens subsp. *decipiens*																																					
Eucalyptus foecunda																							+														
Eucalyptus gomphocephala																				+																	+
Eucalyptus marginata							+																														
Eucalyptus petrensis																																					
Eucalyptus rudis											+																										
Eucalyptus todtiana													+			+																					
Eucalytpus gomphocephala																																				+	
Euchilopsis linearis			+																																		

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Euchiton sphaericus																+	+	+											+									+	
**Euphorbia terracina*																					+		+																
Exocarpos sparteus																																							
? *Gahnia* sp.																																							
**Galium murale*																																						+	+	
Geranium retrorsum																						+																		
Geranium solanderi																																							
**Gladiolus caryophyllaceus*																																+							
Gladiolus sp.														+																									
Glossostigma diandrum					+																																		
Gnephosis tenuissima					+					+																													
Gompholobium capitatum													+																										
Gompholobium confertum								+							+										+														
Gompholobium knightianum																																							
Gompholobium scabrum												+																											
Gompholobium shuttleworthii																																							
Gompholobium sp.																																							
Gompholobium tomentosum			+					+		+		+					+		+			+			+				+	+	+	+	+	+	+			
Gonocarpus ?pithyoides																																							
Gonocarpus cordiger																																							
Gonocarpus pithyoides			+					+																															
Gonocarpus sp.								+																															
Goodenia micrantha					+																																		
Gratiola pubescens					+																																		
Grevillea preissii																+			+	+		+		+					+	+				+			+		
Grevillea preissii subsp. *preissii*																																							
Grevillea vestita																																						+	
Grevillea vestita subsp. *vestita*																																							
Haemodorum laxum																	+																				+	+	

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Haemodorum paniculatum																																							
Haemodorum simplex					+																		+							+									
Haemodorum sp.										+															+														
Haemodorum spicatum		+																												+									
Hakea costata																															+								
Hakea erinacea																																							
Hakea lissocarpha																+		+						+				+	+										
Hakea prostrata																							+		+				+										
Hakea ruscifolia																	+									+													
Hakea trifurcata																														+	+								
Hakea varia										+	+																													
Hardenbergia comptoniana																				+						+			+										
**Heliophila pusilla*																+	+	+	+	+		+	+			+	+												
Heliotropium curassavicum																											+	+					+	+					
Hemiandra pungens																																	+		+				
Hemigenia ? incana																								+															
Hensmania turbinata		+				+	+						+	+																									
Hibbertia aff. *pachyrrhiza*															+											+													
Hibbertia aurea		+													+																									
Hibbertia crassifolia															+																									
Hibbertia aff. *helianthemoides*						+	+						+		+											+													
Hibbertia huegelii														+	+																									
Hibbertia hypericoides		+		+			+	+						+	+	+	+	+			+			+	+	+				+	+	+	+						
Hibbertia pachyrrhiza																																							
Hibbertia racemosa																+		+			+		+	+	+				+	+	+		+						
Hibbertia sp.							+																																	
Hibbertia spicata																											+												
Hibbertia spicata subsp. *leptotheca*																														+			+		+				
Hibbertia stellaris																																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Hibbertia subvaginata	+	+	+		+		+	+			+	+	+	+										+	+													
**Holcus setiger*																																						
Homalosciadium homalocarpum															+	+	+	+				+		+					+									
Hovea pungens																																						
Hovea trisperma			+											+																								
Hyalosperma cotula								+										+	+		+			+				+										
Hybanthus calycinus				+													+		+					+	+			+		+						+	+	
Hydrocotyle alata																																						
Hydrocotyle blepharocarpa									+																													
Hydrocotyle callicarpa																																						
Hydrocotyle hispidula									+		+								+		+						+					+		+			
Hydrocotyle pilifera subsp. *glabrata*																		+																				
Hydrocotyle sp.																																						
Hydrocotyle tetragonocarpa																																						
Hypocalymma angustifolium																						+		+														
Hypocalymma xanthopetalum																																						
**Hypochaeris glabra*				+					+		+				+	+	+	+	+	+		+		+	+			+	+	+	+					+	+	
Hypochaeris sp.																																						
Hypolaena exsulca			+				+							+		+									+													
Hypolaena pubescens																																						
Isolepis cernua																																						
Isolepis producta																																						
**Isolepis marginata*											+					+		+		+		+	+					+			+							
Isolepis nodosa																											+								+			
Isotoma hypocrateriformis																		+								+	+					+						
Isotropis cuneifolia						+						+				+		+						+	+						+				+			
Isotropis sp.																																						
Jacksonia calcicola (ms)																																						
Jacksonia fasciculata																						+						+		+	+						+	

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Jacksonia floribunda	+	+			+	+						+	+	+																								
Jacksonia furcellata											+																											
Jacksonia hakeoides																	+							+														
Jacksonia sericea (P3)																																						
Jacksonia sternbergiana																								+	+													
**Juncus capitatis*				+																																		
Juncus sp.				+																																		
Kennedia prostrata											+				+	+	+				+	+	+	+			+					+						+
Kennedia sp.																																						
Kunzea ericifolia									+		+														+													
Kunzea ericifolia subsp. *ericifolia*																																						
Kunzea recurva																																						
Lagenophora huegelii											+				+	+	+			+		+		+	+					+						+	
Latrobea tenella var. *tenella*																																						
Laxmannia ramosa	+																																					
Laxmannia sessiliflora																															+							
Laxmannia sp.					+																																	
Laxmannia squarrosa																																						
Lechenaultia biloba																																						
Lechenaultia expansa											+																											
Lechenaultia floribunda													+	+																								
Lechenaultia linarioides																	+															+						
Lemna disperma																																						
Lepidium rotundum																																						
Lepidobolus chaetocephalus																	+							+														
Lepidobolus preissianus																															+							
Lepidobolus preissianus subsp. *preissianus*																																						
Lepidobolus sp.																														+								
Lepidosperma aff. *leptostachyum*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Lepidosperma gladiatum																																							
Lepidosperma longitudinale																																							
Lepidosperma pubisquameum																																							
Lepidosperma sp.																									+														
Lepidosperma squamatum				+				+	+					+	+	+	+					+	+	+		+	+	+	+	+	+	+	+	+	+			+	
Lepidosperma tenue																																							
Leporella fimbriata			+	+			+		+					+											+														
Leptomeria cunninghamii																																							
Leptomeria empetriformis																																	+						
Leptomeria pauciflora																																							
Leptorhynchos scaber																										+						+							
Leptospermum spinescens														+			+													+	+								
Leucopogon ?sprengelioides																																							
Leucopogon conostephioides			+			+	+						+	+	+																								
Leucopogon leptanthus							+																																
Leucopogon oxycedrus		+	+			+							+		+																								
Leucopogon parviflorus																+	+					+		+				+		+					+				
Leucopogon polymorphus				+										+	+										+														
Leucopogon propinquus										+		+											+								+								
Leucopogon racemulosus								+									+	+							+														+
Leucopogon sp.						+																															+		
Leucopogon sp. (indeterminant) M137-1																																							
Leucopogon sprengelioides		+				+	+																																
Leucopogon squarrosus		+	+																																				
Levenhookia pusilla										+				+											+														
Levenhookia sp.																									+														
Levenhookia stipitata																															+								
Lobelia alata																				+																			
Lobelia heterophylla																						+																	

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Lobelia sp.																																						
Lobelia tenuior				+											+		+	+		+							+	+	+				+	+		+	+
**Lolium multiflorum x perenne*																																						
**Lolium rigidum*																										+												
Lomandra ?brittanii																																						
Lomandra caespitosa							+																								+							
Lomandra ?caespitosa																																						+
Lomandra hermaphrodita	+	+	+			+	+					+		+		+						+		+	+											+		
Lomandra ?hermaphrodita																																						
Lomandra maritima																										+	+	+	+			+		+			+	+
Lomandra micrantha																																						
Lomandra nigricans																																						
Lomandra preissii	+						+								+	+								+														
Lomandra sericea					+								+			+																						
Lomandra sonderi																																						
Lomandra ?sonderi																																						
Lomandra sp.																								+														
Lomandra suaveolens																	+								+					+								
**Lotus angustissimus*																																						
**Lotus suaveolens*																																						
Loxocarya cinerea																																						
Lyginia barbata	+	+	+		+	+				+	+	+	+	+																								
Lyperanthus serratus																																						
Lysinema ciliatum	+											+		+																								
Lysinema elegans		+																																				
Macarthuria apetala																																						
Macrozamia riedlei																+				+																	+		
Meeboldina cana																																						
Melaleuca cardiophylla																																						+

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Melaleuca huegelii																			+		+		+						+									
Melaleuca lateriflora				+																									+				+			+		
Melaleuca preissiana								+			+																												
Melaleuca rhaphiophylla				+																																		
Melaleuca scabra		+																																				
Melaleuca seriata																																						
Melaleuca sp.												+																										
Melaleuca systena					1										+	+	+	+	+		+	+	+		+	+	+	+	+	+		+	+	+		+		
Melaleuca ?systena																																						
Melaleuca aff. *systena*																																						
Melaleuca teretifolia																																						
Melaleuca trichophylla			+									+	+	+																								
Melaleuca ?trichophylla																																						
Melaleuca aff. *trichophylla*	+																																					
Melaleuca viminea				+																																		
**Melilotus indicus*																																				+		
Mesomelaena graciliceps			+																																			
Mesomelaena pseudostygia														+	+	+	+						+	+			+		+		+					+	+	
Mesomelaena stygia																																						
Mesomelaena tetragona																																						
Microlaena stipoides											+				+		+			+		+							+								
Microlaena stipoides var. *stipoides*															+		+			+		+							+							+	+	
Microtis alba																																						
Millotia tenuifolia var. *tenuifolia*				+											+		+	+	+	+	+	+	+	+	+				+	+		+				+	+	
**Monopsis debilis*																																						
Muehlenbeckia polybotrya																+																						
Myoporum insulare																																			+			
Myriocephalus helichrysoides				+																																		
Myrtaceae sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Nemcia capitata																																			+				
Nemcia reticulata	+	+										+													+	+	+	+	+									
Notodanthonia sp.																																						
Nuytsia floribunda									+				+							+					+													
Olax benthamiana																																	+					
Olearia axillaris																										+									+			
Olearia rudis																												+										
Oligochaetochilus vittata															+							+																
Opercularia echinocephala																																						
Opercularia sp.																																						
Opercularia spermacocea																																			+			
Opercularia vaginata									+										+		+				+	+	+	+	+	+		+		+				
**Orobanche minor*																										+									+			
Orchidaceae sp.																			+																			
Orthrosanthus laxus																															+							
Oxalis perennans																						+																
? *Oxalis corniculata*																																						
Ozothamnus cordatus																										+									+			
**Parentucellia latifolia*																																						
Parietaria debilis																			+		+																	
Patersonia occidentalis	+	+	+		+	+	+	+				+		+		+								+	+				+	+								
Patersonia sp.																																						
**Pelargonium capitatum*																																					+	+
Pelargonium littorale																			+		+	+															+	+
**Pentaschistis airoides*																																						
Pericalymma ellipticum			+					+																														
Pericalymma ellipticum var. *ellipticum*											+			+			+			+		+																
Persoonia comata															+	+	+							+													+		
Petrophile brevifolia																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Petrophile drummondii	+	+	+		+	+	+					+	+	+		+						+			+													
Petrophile linearis																+	+					+		+						+	+					+	+	
Petrophile macrostachya			+											+																								
Petrophile seminuda																						+														+	+	
Petrophile serruriae									+																													
Petrophile sp.																																						
**Petrorhagia dubia*																																						
**Phalaris minor*																																						
Philotheca spicata	+	+	+			+	+					+	+	+																							
Philydrella pygmaea				+																																		
Phlebocarya ciliata	+	+	+		+		+	+			+	+	+	+											+													
Phyllangium paradoxum	+			+	+								+	+		+					+				+	+												
Phyllanthus calycinus															+			+	+				+			+	+											
Phylloglossum drummondii																												+										
Pimelea calcicola																													+									
Pimelea ferruginea																														+								
Pimelea floribunda																																					+	
Pimelea rosea																									+													
Pimelea sp.																																						
Pimelea suaveolens														+		+														+								
Pimelea sulphurea																																						
**Pinus radiata*													+																									
Pithocarpa corymbulosa (P2)																																						
Pithocarpa sp.																																						
Platytheca galioides																																						
**Poa annua*					+												+			+		+		+	+			+	+	+					+		+	
Poa drummondiana																										+	+			+								
Poa poiformis																																						
**Poa pratensis*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Poaceae sp.									+																							+						
Podolepis gracilis																																						
Podolepis lessonii																																						
Podotheca ?chrysantha															+		+							+	+			+	+	+		+						
Podotheca angustifolia																														+								
Podotheca angustifolia/gnaphalioides?			+													+	+														+							
Podotheca chrysantha																						+									+		+						
Podotheca gnaphalioides				+																																			
Podotheca sp.																																						
Pogonolepis stricta																																						
**Polypogon monspeliensis*																																						
Poranthera ericoides														+			+		+		+			+				+										
Poranthera microphylla																																						
Prasophyllum drummondii																+							+															
Prasophyllum sp.																																						
Pteridium esculentum																																						
Pterostylis ?brevisepala (ms)											+								+			+	+	+														
Pterostylis aff. *nana* SCP GJK/NG 1867cbs																					+								+									
Pterostylis recurva																									+													
Pterostylis sanguinea																		+																				
Pterostylis sp.																																						
Pterostylis sp. short sepals (W. JacksonBJ 259) (PN)																													+									
Ptilotus drummondii																																						
Ptilotus drummondii var. *drummondii*										+																												
Ptilotus humilis subsp. *humilis*																									+													
Ptilotus manglesii																+																						
Ptilotus polystachyus var. *polystachyus*																																						
Ptilotus sp.																																						
? *Puccinellia* sp.																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Pultenaea reticulata							+	+					+	+											+													
Pyrorchis nigricans									+																		+											
? *Pyrorchis nigricans*								+		+								+	+	+	+					+		+										
Quinetia urvillei															+		+		+	+	+								+			+	+						
Regelia ciliata																			+	+																			
Regelia ?ciliata																																							
Regelia inops																																							
Restio sp.																																							
Rhagodia baccata																																							
Rhagodia baccata subsp. *baccata*																																							
Rhodanthe citrina																																							
Rhodanthe corymbosa																																							
Rhodanthe sp.																																							
**Romulea obscura*																																							
Romulea rosea																																							
**Rostraria cristata*																																							
**Sagina apetala*																																							
Santalum acuminatum																																							
Sarcozona bicarinata (P3)																																							
Scaevola canescens																																							
Scaevola ?canescens																																							
Scaevola crassifolia																																							
Scaevola crassifolia/nitida																																							
Scaevola nitida																																							
Scaevola paludosa																																							
Scaevola repens																																							
Scaevola repens var. *angustifolia*																																							
Scaevola repens var. *repens*																																							
Scaevola sp.																																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Scaevola thesioides																					+		+																
Schoenolaena juncea																																						
Schoenus aff. *brevisetis*			+																																			
Schoenus asperocarpus			+																																			
Schoenus breviculmis	+	+			+	+	+		+			+	+																									
Schoenus brevisetis															+	+	+			+			+							+									
Schoenus caespititius																																						
Schoenus ?caespititius	+	+			+	+						+	+	+																								
Schoenus clandestinus															+	+	+			+			+	+						+	+								
Schoenus curvifolius	+	+			+	+						+	+	+																								
Schoenus efoliatus															+		+										+	+										
Schoenus grandiflorus																										+	+	+										
Schoenus lanatus										+																												
Schoenus nanus				+																																		
Schoenus natans (P4)				+																																		
Schoenus odontocarpus				+																																		
Schoenus rigens				+		+				+																												
Schoenus sp.				+		+				+																												
Schoenus ?subfascicularis	+	+										+	+	+		+																						
Scholtzia involucrata																		+		+								+				+						
Scholtzia sp.																											+											
Selaginella gracillima																																						
Senecio lautus																																						
Senecio lautus subsp. *maritimus*																																						
Senecio lautus subsp. *dissectifolius*																																						
Senecio sp.																																						
**Silene gallica*																																						
Siloxerus humifusus					+					+																												
**Solanum americanum*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
**Solanum nigrum*											+				+		+		+	+		+						+							+	+	+
**Sonchus oleraceus*															+					+									+	+					+	+	+
Sowerbaea laxiflora																+				+																		
Sphaerolobium sp.																																						
Sphaerolobium vimineum																		+	+		+		+			+	+		+				+			+		
Spyridium globulosum																																						
Stachystemon axillaris (P4)								+																														
Stackhousia monogyna																		+																				
Stackhousia sp.															+					+		+																+
**Stellaria media*																																						
Stenopetalum gracile						+		+		+			+	+		+						+															
Stirlingia latifolia	+												+	+											+					+								
Stylidium adpressum																																						
Stylidium amoenum					+			+				+	+			+	+							+	+													
Stylidium brunonianum subsp. *brunonianum*																																						
Stylidium bulbiferum						+	+					+	+			+								+	+				+	+								
Stylidium calcaratum	+																																					
Stylidium crossocephalum	+	+	+									+	+	+																								
Stylidium diuroides subsp. *diuroides*					+																																	
Stylidium inundatum																																						
Stylidium junceum																																						
Stylidium lateriticola																																						
Stylidium longitubum (P3)																																						
Stylidium macrocarpum																																						
Stylidium maritimum																																						
Stylidium miniatum																																						
Stylidium petiolare					+																																	
Stylidium piliferum subsp. *piliferum*	+	+										+	+	+											+												
Stylidium repens	+	+	+			+	+	+	+		+	+				+											+										

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Stylidium schoenoides		+			+	+	+						+												+													
Stylidium sp.																																						
Synaphea petiolaris														+											+													+
Synaphea sp.																																						
Synaphea spinulosa														+											+													
Synaphea spinulosa subsp. *spinulosa*																			+		+		+										+			+		
Templetonia retusa																												+		+								
Tersonia cyathiflora																																			+			
**Tetragonia decumbens*																																						
Tetraria capillaris																																				+		
Tetraria octandra																																						
Thelymitra antennifera																																						
Thelymitra campanulata																																						
Thelymitra crinita																																						
Thelymitra flexuosa									+	+																												
Thelymitra sp.																																						
Thomasia triphylla																																						
Threlkedia diffusa																	+												+			+						
Thysanotus arenarius																																						
Thysanotus dichotomus															+																							
Thysanotus manglesianus																+	+	+	+		+	+				+					+							+
Thysanotus manglesianus/patersonii											+																											
Thysanotus patersonii				+																						+												
Thysanotus patersonii/manglesianus																												+										
Thysanotus sp.		+																																				
Thysanotus sparteus														+																								
Thysanotus thyrsoideus														+		+																						
Thysanotus ?thyrsoideus																												+										
Thysanotus triandrus																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATR1	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YAN1
Trachymene coerulea				+					+		+				+	+	+	+	+	+	+	+	+	+			+	+		+	+	+	+	+		+	+	+
Tribonanthes australis				+							+										+	+	+					+										
Tricoryne elatior					+																				+													
*Trifolium arvense																																				+		+	
*Trifolium campestre var. *campestre*				+																																		+	
*Trifolium cernuum																																							
*Trifolium dubium																																							
*Trifolium sp.																																							
Triglochin centrocarpa																														+									
Triglochin huegelii/linearis																																							
Triglochin linearis																																							
Triglochin muelleri				+											+							+																	
*Triglochin sp.																																							+
Triglochin trichophora												+				+																							
Tripterococcus brunonis				+																																			
Trithuria bibracteata																																							
Trymalium floribundum																																							
*Typha orientalis																																							
*Ursinia anthemoides			+					+	+						+									+	+				+									
Utricularia multifida				+																																			
Utricularia violacea				+																																			
Velleia trinervis									+																														
*Vellereophyton dealbatum				+																																			
Verreauxia reinwardtii													+																										
Verticordia densiflora																																							
Verticordia densiflora var. *densiflora*																																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	MILT7	MILT8	MUCK1	MUCK2	PLINE1	PLINE2	PLINE3	PLINE4	PLINE5	PLINE6	PLINE7	RAAF1	RAAF2	RAAF3	SHE1	SHE2	SHE3	SHE4	SHE5	SHE6	WABL1	WABL2	WABL3	WABL4	WATRI	WILB1	WILB3	WILB4	WILB5	WILB6	WILB7	WILB8	WILB9	WILB10	WILB11	WILB12	WILB13	YANI
Verticordia nitens	+	+	+		+	+						+																										
Verticordia ovalifolia						+																																
Verticordia plumosa				+																																		
Villarsia capitata				+																																		
**Vulpia bromoides*									+																												+	
**Vulpia myuros*				+							+					+	+	+	+	+	+	+				+	+	+							+			
**Vulpia* sp.																								+	+					+		+				+		
**Wahlenbergia capensis*																														+								
Wahlenbergia preissii															+	+	+			+		+	+	+	+			+			+							
Waitzia sp.																																						
Waitzia suaveolens var. *suaveolens*																								+	+					+								
Westringia dampieri																																				+		
Wurmbea dioica																																						
Wurmbea monantha																			+		+		+			+	+											
Wurmbea pygmaea																	+																					
Wurmbea sp.																																						
Xanthorrhoea gracilis																																						
Xanthorrhoea preissii		+	+				+	+							+	+	+			+		+	+	+	+				+	+	+						+	+
Xanthosia ciliata																																						
Xanthosia huegelii	+	+	+										+	+	+	+									+			+		+								
**Zantedeschia aethiopica*																																						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Acacia alata var. *tetrantha*																							
Acacia barbinervis subsp. *borealis*																							
Acacia benthamii (P2)																							
Acacia cochlearis																							
Acacia cyclops		+						+															
Acacia huegelii		+													+								
Acacia lasiocarpa	+										+	+	+									+	
Acacia lasiocarpa var. *lasiocarpa*																							
Acacia pulchella		+	+			+	+							+				+			+		+
Acacia pulchella var. *glaberrima*								+															
Acacia rostellifera																							
Acacia saligna																			+				
Acacia sessilis																							
Acacia sp.																							
Acacia stenoptera															+					+			
Acacia truncata	+										+											+	
Acacia xanthina																							
Acanthocarpus preissii				+	+	+																	
Adenanthos barbiger																							
Adenanthos cygnorum															+	+	+			+			
Adenanthos cygnorum subsp. *cygnorum*																							
Adenanthos obovatus																							
Adenanthos sp.																							
Agonis flexuosa																							
Agonis linearifolia																							
Agrostis avenacea																							
**Aira caryophyllea*				+		+	+				+	+	+	+							+		+
Aira sp.	+	+						+	+									+					
Alexgeorgea nitens																	+	+					

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Allocasuarina fraseriana					+																		
Allocasuarina humilis			+																				
Alyogyne huegelii																							
Amperea ericoides																							
Amphibromus nervosus																							
Amphipogon ? amphipogonoides																							
Amphipogon ?strictus																							
Amphipogon laguroides																+							
Amphipogon sp.																							
Amphipogon turbinatus																							
**Anagallis arvensis*	+			+				+	+			+	+	+					+			+	
Anarthria gracilis																							
Andersonia heterophylla																	+						
Andersonia lehmanniana																							
Andersonia lehmanniana subsp. *lehmanniana*																							
Anigozanthos humilis	+		+			+											+	+					
Anigozanthos sp.																							
Aotus gracillima																			+				
Aotus procumbens																+				+			
Aphelia nutans																							
**Arctotheca calendula*																							
Arnocrinum preissii																							
Astartea fascicularis																							
Asteraceae sp.																							
Asteridea pulverulenta																							
Astroloma microcalyx											+	+	+								+	+	
Astroloma pallidum							+																
Astroloma xerophyllum																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
**Atriplex prostrata*																							
Austrodanthonia occidentalis	+		+					+		+		+	+	+				+				+	
Austrodanthonia ?occidentalis																							
Austrodanthonia sp.																							+
Austropstipa sp.							+	+															
Austrostipa ?macalpinei																							
Austrostipa compressa	+			+										+							+	+	
Austrostipa flavescens	+		+								+		+									+	
Austrostipa macalpinei																							
Austrostipa sp.																							
**Avellinia michelii*				+																			
Azolla filiculoides																							
Baeckea camphorosmae																							
Baeckea robusta												+											
Baeckea sp.																							
Banksia attenuata		+	+	+	+	+	+								+		+	+		+			+
Banksia grandis			+		+			+	+						+				+				
Banksia ilicifolia															+	+	+			+			
Banksia littoralis																							
Banksia menziesii		+	+		+												+	+		+			
Banksia prionotes																							
Baumea juncea																			+				
Baumea vaginalis															+	+			+				
Beaufortia elegans															+		+			+			
Beyeria cinerea												+	+										
Blennospora sp.				+																			
Boronia purdieana																							
Boronia purdieana subsp. *purdieana*																							
Boronia ramosa																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Boronia ramosa subsp. *anethifolia*																							
Boronia ramosa subsp. *ramosa*																							
Borya sphaerocephala		+				+	+	+				+	+	+			+	+			+		+
Bossiaea eriocarpa						+								+									
Brachyscome iberidifolia	+																						
Brachyscome sp.																							
Brassica sp.	+	+	+																				+
**Briza maxima*																			+				
**Briza minor*																							
**Briza* sp.																							
**Bromus diandrus*																							
**Bromus rubens*																							
**Bromus* sp.																							
? *Bromus* sp.																							
Burchardia bairdiae				+	+	+	+	+									+	+	+				
Burchardia umbellata																							
Caesia sp.																							
Caladenia flava subsp. *flava*	+																						
Caladenia latifolia																							
Caladenia marginata																							
Caladenia paludosa																							
Caladenia sp.	+	+	+	+	+	+	+	+	+			+	+	+							+	+	+
Calandrinia brevipedata																							
Calandrinia corrigioloides																							
Calandrinia granulifera																							
Calandrinia liniflora																							
Calandrinia sp.																			+				
Calectasia cyanea (P2)																							
Calothamnus lateralis																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Calothamnus quadrifidus			+			+	+					+											
Calothamnus sanguineus			+				+																
Calytrix angulata																	+	+					
Calytrix flavescens																							
Calytrix fraseri																							
Calytrix sapphirina																							
Calytrix strigosa				+																			
**Carpobrotus edulis*																							
Carpobrotus virescens								+					+	+									
Caryophyllaceae sp.																							
Cassytha flava	+																+				+		
Cassytha glabella											+		+								+	+	
Cassytha pomiformis																							
Cassytha racemosa			+			+	+																
Cassytha sp.							+											+					
Casuarina obesa																							
Caustis dioica																	+	+					
**Centaurium erythraea*									+														
Centrolepis aristata																							
Centrolepis drummondiana			+		+	+		+	+									+					+
Centrolepis mutica																							
Centrolepis polygyna																							
**Cerastium glomeratum*								+	+			+		+							+		
Chamaescilla corymbosa				+																			
**Chenopodium macrospermum*																							
Chordifex microcodon															+					+			
Chorizandra enodis																							
**Cicendia filiformis*																							
Comesperma calymega															+								

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Comesperma confertum																							
Comesperma integerrimum																							
Comesperma sp.			+																				
Conospermum acerosum subsp. *acerosum*																							
Conospermum canaliculatum subsp. *canaliculatum*																							
Conospermum incurvum																	+						
Conospermum stoechadis subsp. *stoechadis*				+		+																	
Conospermum triplinervium																							
Conostephium pendulum																							
Conostephium minus (P4)																							
Conostephium pendulum		+	+					+	+						+	+	+	+		+			+
Conostephium preissii																							+
Conostylis aculeata			+				+						+	+			+	+					
Conostylis aurea																							
Conostylis candicans subsp. *candicans*		+		+	+			+			+												
Conostylis juncea																	+						
Conostylis pauciflora						+								+									
Conostylis pauciflora subsp. *euryrhipis* (P3)												+		+									
Conostylis serrulata																							
Conostylis setigera subsp. *setigera*		+	+	+	+	+	+	+	+				+				+	+		+			+
Conostylis setosa																						+	
Conostylis sp.																							
**Conyza albida*								+															
Conyza sp.																							
Corymbia calophylla																							
Corynotheca micrantha					+			+									+	+					
Cotula coronopifolia																							
Crassula colorata	+				+			+	+		+		+										
Crassula colorata var. *acuminata*																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Crassula ?colorata																							
Crassula exserta																							
**Crassula glomerata*																							
**Crassula natans*																							
Crassula sp.																							
Cristonia biloba																							
Croninia kingiana											+		+										
Cryptandra mutila						+	+																
Cryptandra pungens																							
Cyanicula deformis																							
Cyathochaeta avenacea																							
**Cyperus tenellus*																							
Cyrtostylis robusta													+					+					
Cyrtostylis sp.																				+			
Dampiera linearis	+																						
Dampiera sp.																							
Dasypogon bromeliifolius																							
Dasypogon sp.																					+	+	+
Daucus glochidiatus	+	+	+	+	+		+	+	+	+		+	+	+	+								
Daviesia decurrens		+																					
Daviesia decurrens subsp. *decurrens* (ms)																	+	+					
Daviesia divaricata subsp. *divaricata* (ms)																							
Daviesia nudiflora																							
Daviesia physodes																+							
Daviesia podophylla																	+	+					+
Daviesia quadrilatera																			+				
Desmocladus fasciculatus																						+	+
Desmocladus flexuosus	+	+	+	+	+		+	+		+		+	+	+	+		+	+					
Dianella revoluta		+																					

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Dichelachne crinita											+												
Dichopogon capillipes																							
Dielsia stenostachya																							
Dillwynia dillwynioides												+											
Diplolaena angustifolia											+												
Diplopeltis huegelii												+											
Disa bracteata	+											+	+										
**Dischisma arenarium*																			+				
Dischisma sp.		+																					
Diuris longifolia																							
Diuris sp.	+	+	+	+	+	+	+	+	+			+		+			+	+			+		+
Drosera erythrorhiza																+							
Drosera gigantea subsp. *gigantea*													+			+							
Drosera glanduligera																	+						
Drosera macrantha subsp. *macrantha*						+																	
Drosera menziesii	+						+																
Drosera menziesii subsp. *penicillaris*																				+			
Drosera menziesii subsp. *menziesii*															+								
Drosera neesii											+							+			+	+	
Drosera nitidula	+											+											
Drosera paleacea																+							
Drosera pallida	+													+									+
Drosera rosulata											+	+	+	+									
Drosera sp.	+										+	+	+	+									
Drosera sp. climbing																					+	+	+
Dryandra lindleyana																					+	+	
Dryandra lindleyana var. *lindleyana*																							
Dryandra nivea					+			+			+	+	+	+							+	+	+
Dryandra sessilis	+					+					+	+	+								+	+	

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Ecdeiocolea monostachya																							
**Ehrharta calycina*																							
**Ehrharta longiflora*																							
Ehrharta sp.																							
Eleocharis acuta																							
Eleocharis sp.			+		+																		+
Elythranthera brunonis																		+					+
Eremaea asterocarpa subsp. *asterocarpa*																							
Eremaea beaufortioides														+									
Eremaea brevifolia																							
Eremaea pauciflora																	+	+					
Eremaea pauciflora var. *pauciflora*																							
Eremaea sp.																							
Eremophila glabra	+	+						+	+	+	+	+	+										+
Eriochilus dilatatus									+														
**Erodium botrys*									+														
**Erodium cicutarium*																							
**Erodium moschatum*																							
Eryngium pinnatifidum subsp. *palustre* (ms)							+			+				+									
Eucalyptus decipiens																							
Eucalyptus decipiens subsp. *decipiens*																					+		
Eucalyptus foecunda																							
Eucalyptus gomphocephala				+				+															
Eucalyptus marginata		+											+										+
Eucalyptus petrensis																			+				
Eucalyptus rudis																							
Eucalyptus todtiana																							
Eucalytpus gomphocephala																							
Euchilopsis linearis																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Euchiton sphaericus											+										+		
**Euphorbia terracina*																							
Exocarpos sparteus																							
? *Gahnia* sp.																							
**Galium murale*																							
Geranium retrorsum																							
Geranium solanderi													+									+	
**Gladiolus caryophyllaceus*		+	+	+			+													+			
Gladiolus sp.																							
Glossostigma diandrum																							
Gnephosis tenuissima																							
Gompholobium capitatum																		+					
Gompholobium confertum																	+	+					
Gompholobium knightianum																							
Gompholobium scabrum																+							
Gompholobium shuttleworthii																							
Gompholobium sp.																							
Gompholobium tomentosum		+	+		+					+			+			+	+	+		+	+	+	+
Gonocarpus ?pithyoides																							
Gonocarpus cordiger																							
Gonocarpus pithyoides															+		+			+			
Gonocarpus sp.																							
Goodenia micrantha																							
Gratiola pubescens																							
Grevillea preissii	+									+	+	+	+								+	+	
Grevillea preissii subsp. *preissii*																							
Grevillea vestita																							
Grevillea vestita subsp. *vestita*																							
Haemodorum laxum																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Haemodorum paniculatum																							
Haemodorum simplex																							
Haemodorum sp.				+	+			+	+									+					+
Haemodorum spicatum																							
Hakea costata						+	+	+						+									
Hakea erinacea																							
Hakea lissocarpha	+		+	+	+					+		+		+							+	+	+
Hakea prostrata					+		+														+		
Hakea ruscifolia						+								+							+		
Hakea trifurcata	+	+				+						+		+								+	
Hakea varia																							
Hardenbergia comptoniana		+		+				+	+	+	+	+	+	+								+	
**Heliophila pusilla*	+			+		+		+	+	+		+	+	+								+	
Heliotropium curassavicum																							
Hemiandra pungens						+											+						
Hemigenia ? incana																							
Hensmania turbinata																							
Hibbertia aff. *pachyrrhiza*																							
Hibbertia aurea	+																						
Hibbertia crassifolia																							
Hibbertia aff. *helianthemoides*																							
Hibbertia huegelii																	+	+					+
Hibbertia hypericoides		+	+	+	+	+	+					+		+				+			+		+
Hibbertia pachyrrhiza																							
Hibbertia racemosa	+						+	+		+		+										+	
Hibbertia sp.																							
Hibbertia spicata																							
Hibbertia spicata subsp. *leptotheca*																							
Hibbertia stellaris																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Hibbertia subvaginata																	+	+					
**Holcus setiger*																							
Homalosciadium homalocarpum			+	+		+	+	+		+		+									+		+
Hovea pungens																							
Hovea trisperma		+				+											+	+					
Hyalosperma cotula										+			+										
Hybanthus calycinus	+											+		+									
Hydrocotyle alata																					+		
Hydrocotyle blepharocarpa																							
Hydrocotyle callicarpa										+	+		+								+	+	
Hydrocotyle hispidula	+																						
Hydrocotyle pilifera subsp. *glabrata*											+		+								+	+	
Hydrocotyle sp.	+										+		+								+	+	
Hydrocotyle tetragonocarpa																							
Hypocalymma angustifolium																							
Hypocalymma xanthopetalum																							
**Hypochaeris glabra*	+	+	+	+	+	+	+	+	+	+	+	+	+	+					+		+	+	+
Hypochaeris sp.																+							
Hypolaena exsulca																	+	+		+			
Hypolaena pubescens																							
Isolepis cernua																							
Isolepis producta																							
**Isolepis marginata*			+	+	+			+	+			+											
Isolepis nodosa																							
Isotoma hypocrateriformis																							
Isotropis cuneifolia		+																					+
Isotropis sp.																							
Jacksonia calcicola (ms)																							
Jacksonia fasciculata				+		+		+						+									

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Jacksonia floribunda							+									+	+	+	+				
Jacksonia furcellata																							
Jacksonia hakeoides																							
Jacksonia sericea (P3)					+																		
Jacksonia sternbergiana																							
**Juncus capitatis*																							
Juncus sp.		+	+	+	+		+	+	+					+					+		+		+
Kennedia prostrata																+							
Kennedia sp.																+			+				
Kunzea ericifolia																							
Kunzea ericifolia subsp. *ericifolia*																							
Kunzea recurva		+	+	+	+				+			+		+					+		+	+	+
Lagenophora huegelii																							
Latrobea tenella var. *tenella*																							
Laxmannia ramosa																							
Laxmannia sessiliflora																							
Laxmannia sp.																							
Laxmannia squarrosa																							
Lechenaultia biloba																							
Lechenaultia expansa																		+					
Lechenaultia floribunda																							
Lechenaultia linarioides																							
Lemna disperma											+			+									
Lepidium rotundum																							
Lepidobolus chaetocephalus							+																
Lepidobolus preissianus					+																		
Lepidobolus preissianus subsp. *preissianus*																							
Lepidobolus sp.																							
Lepidosperma aff. *leptostachyum*																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Lepidosperma gladiatum																							
Lepidosperma longitudinale																							
Lepidosperma pubisquameum																							
Lepidosperma sp.			+														+						
Lepidosperma squamatum	+	+							+		+	+		+			+	+			+	+	
Lepidosperma tenue																							
Leporella fimbriata															+		+			+			+
Leptomeria cunninghamii																		+					
Leptomeria empetriformis																							
Leptomeria pauciflora																							
Leptorhynchos scaber																							
Leptospermum spinescens																	+	+					
Leucopogon ?sprengelioides																							
Leucopogon conostephioides																							
Leucopogon leptanthus																							
Leucopogon oxycedrus						+	+	+															
Leucopogon parviflorus	+							+		+	+	+		+							+	+	
Leucopogon polymorphus			+			+	+																+
Leucopogon propinquus		+			+			+															
Leucopogon racemulosus								+															
Leucopogon sp.																							
Leucopogon sp. (indeterminant) M137-1																							
Leucopogon sprengelioides																							
Leucopogon squarrosus																							
Levenhookia pusilla						+																	+
Levenhookia sp.																							
Levenhookia stipitata																							
Lobelia alata																							
Lobelia heterophylla																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Lobelia sp.													+										
Lobelia tenuior										+											+	+	
**Lolium multiflorum x perenne*																							
**Lolium rigidum*																							
Lomandra ?brittanii																							
Lomandra caespitosa	+											+		+			+				+		
Lomandra ?caespitosa																							
Lomandra hermaphrodita		+			+												+	+					+
Lomandra ?hermaphrodita																							
Lomandra maritima	+									+												+	
Lomandra micrantha																							
Lomandra nigricans																							
Lomandra preissii		+	+				+							+				+					
Lomandra sericea																	+						
Lomandra sonderi																							
Lomandra ?sonderi																							
Lomandra sp.								+										+				+	
Lomandra suaveolens		+															+						
**Lotus angustissimus*																							
**Lotus suaveolens*																							
Loxocarya cinerea																							
Lyginia barbata																		+		+			
Lyperanthus serratus																							
Lysinema ciliatum																							
Lysinema elegans																							
Macarthuria apetala																							
Macrozamia riedlei		+		+	+	+	+	+															+
Meeboldina cana																							
Melaleuca cardiophylla																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Melaleuca huegelii										+	+	+	+									+	
Melaleuca lateriflora																							
Melaleuca preissiana																+			+				
Melaleuca rhaphiophylla																							
Melaleuca scabra																							
Melaleuca seriata																							
Melaleuca sp.																							
Melaleuca systena	+					+			+	+	+	+	+	+							+	+	
Melaleuca ?systena																							
Melaleuca aff. *systena*																							
Melaleuca teretifolia																							
Melaleuca trichophylla																	+	+					
Melaleuca ?trichophylla																							
Melaleuca aff. *trichophylla*																							
Melaleuca viminea																							
**Melilotus indicus*																							
Mesomelaena graciliceps																							
Mesomelaena pseudostygia		+	+	+	+	+												+					
Mesomelaena stygia						+																	
Mesomelaena tetragona																							
Microlaena stipoides	+	+			+									+							+		
Microlaena stipoides var. *stipoides*																							
Microtis alba																							
Millotia tenuifolia var. *tenuifolia*	+			+		+		+	+	+		+	+	+							+	+	+
**Monopsis debilis*																							
Muehlenbeckia polybotrya																							
Myoporum insulare																							
Myriocephalus helichrysoides																							
Myrtaceae sp.																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Nemcia capitata															+		+			+			
Nemcia reticulata																		+					+
Notodanthonia sp.		+						+	+														
Nuytsia floribunda			+			+		+	+					+	+		+						
Olax benthamiana																							
Olearia axillaris																							
Olearia rudis																							
Oligochaetochilus vittata		+	+	+	+		+					+		+									+
Opercularia echinocephala																							
Opercularia sp.																							
Opercularia spermacocea																							
Opercularia vaginata	+	+								+	+											+	
**Orobanche minor*																							
Orchidaceae sp.															+			+					
Orthrosanthus laxus																							
Oxalis perennans																							
? *Oxalis corniculata*																							
Ozothamnus cordatus																							
**Parentucellia latifolia*																							
Parietaria debilis										+			+										
Patersonia occidentalis																+	+	+			+		
Patersonia sp.							+																
**Pelargonium capitatum*			+					+				+		+									
Pelargonium littorale										+		+	+										
**Pentaschistis airoides*																							
Pericalymma ellipticum															+	+				+			
Pericalymma ellipticum var. *ellipticum*																							
Persoonia comata			+	+	+		+	+							+	+		+		+			
Petrophile brevifolia																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Petrophile drummondii																							
Petrophile linearis		+	+												+	+	+	+		+			+
Petrophile macrostachya			+		+	+		+										+					+
Petrophile seminuda																							
Petrophile serruriae	+					+		+	+					+					+				
Petrophile sp.														+									
**Petrorhagia dubia*			+	+				+	+			+											
**Phalaris minor*																							
Philotheca spicata																	+						+
Philydrella pygmaea																							
Phlebocarya ciliata															+					+			
Phyllangium paradoxum	+										+		+					+			+	+	
Phyllanthus calycinus	+											+											
Phylloglossum drummondii																							
Pimelea calcicola																							
Pimelea ferruginea																							
Pimelea floribunda																							
Pimelea rosea																							
Pimelea sp.																		+					+
Pimelea suaveolens																							
Pimelea sulphurea																	+	+					+
**Pinus radiata*																							+
Pithocarpa corymbulosa (P2)																		+					
Pithocarpa sp.																	+						
Platytheca galioides																							
**Poa annua*																							
Poa drummondiana	+						+			+		+		+								+	
Poa poiformis																							
**Poa pratensis*																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Poaceae sp.										+													
Podolepis gracilis								+															
Podolepis lessonii								+	+														
Podotheca ?chrysantha																							
Podotheca angustifolia																							+
Podotheca angustifolia/gnaphalioides?																							
Podotheca chrysantha										+													
Podotheca gnaphalioides			+			+	+		+														
Podotheca sp.																							
Pogonolepis stricta																							
**Polypogon monspeliensis*																							
Poranthera ericoides																							
Poranthera microphylla					+	+	+			+				+									
Prasophyllum drummondii																							
Prasophyllum sp.	+									+		+							+				
Pteridium esculentum																							
Pterostylis ?brevisepala (ms)																							
Pterostylis aff. *nana* SCP GJK/NG 1867cbs	+	+								+	+	+		+						+			
Pterostylis recurva	+	+			+																		
Pterostylis sanguinea																							
Pterostylis sp.					+	+	+			+	+								+				+
Pterostylis sp. short sepals (W. JacksonBJ 259) (PN)																							
Ptilotus drummondii																							
Ptilotus drummondii var. *drummondii*																							
Ptilotus humilis subsp. *humilis*																							
Ptilotus manglesii																							
Ptilotus polystachyus var. *polystachyus*																							
Ptilotus sp.																							
? Puccinellia sp.																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Pultenaea reticulata														+									
Pyrorchis nigricans		+	+			+										+	+	+					+
? Pyrorchis nigricans																							
Quinetia urvillei						+								+									+
Regelia ciliata																							
Regelia ?ciliata																							
Regelia inops																							
Restio sp.																							
Rhagodia baccata	+									+													
Rhagodia baccata subsp. *baccata*																							
Rhodanthe citrina				+									+										
Rhodanthe corymbosa																					+	+	
Rhodanthe sp.																							
**Romulea obscura*																							
Romulea rosea																							
**Rostraria cristata*																							
**Sagina apetala*				+				+															
Santalum acuminatum																							
Sarcozona bicarinata (P3)								+															
Scaevola canescens																							
Scaevola ?canescens																							
Scaevola crassifolia																							
Scaevola crassifolia/nitida																							
Scaevola nitida																		+					
Scaevola paludosa	+																+						
Scaevola repens																							
Scaevola repens var. *angustifolia*																							
Scaevola repens var. *repens*																							
Scaevola sp.																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Scaevola thesioides													+									+	
Schoenolaena juncea																							
Schoenus aff. *brevisetis*																							
Schoenus asperocarpus																							
Schoenus breviculmis																							
Schoenus brevisetis																	+						
Schoenus caespititius																	+						
Schoenus ?caespititius																							
Schoenus clandestinus				+		+	+		+														+
Schoenus curvifolius															+		+	+					
Schoenus efoliatus																							
Schoenus grandiflorus																							
Schoenus lanatus																							
Schoenus nanus				+		+																	
Schoenus natans (P4)																							
Schoenus odontocarpus																							
Schoenus rigens																							
Schoenus sp.									+									+					+
Schoenus ?subfascicularis																							
Scholtzia involucrata																		+					
Scholtzia sp.																	+						
Selaginella gracillima																							
Senecio lautus										+													
Senecio lautus subsp. *maritimus*																							
Senecio lautus subsp. *dissectifolius*																							
Senecio sp.																							
**Silene gallica*			+						+														
Siloxerus humifusus				+		+	+															+	
**Solanum americanum*																							

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
**Solanum nigrum*																							
**Sonchus oleraceus*	+			+	+	+		+	+	+	+	+	+									+	
Sowerbaea laxiflora			+	+	+		+	+	+					+									
Sphaerolobium sp.																							
Sphaerolobium vimineum																							
Spyridium globulosum	+									+	+	+	+									+	
Stachystemon axillaris (P4)																							
Stackhousia monogyna			+																				
Stackhousia sp.																							
**Stellaria media*										+		+				+							
Stenopetalum gracile																							
Stirlingia latifolia		+	+												+		+	+		+			+
Stylidium adpressum																	+						
Stylidium amoenum																							
Stylidium brunonianum subsp. *brunonianum*		+	+		+	+	+		+							+	+	+		+	+		+
Stylidium bulbiferum	+																						
Stylidium calcaratum			+		+		+		+						+			+			+		+
Stylidium crossocephalum																		+					
Stylidium diuroides subsp. *diuroides*															+								
Stylidium inundatum																							
Stylidium junceum						+															+	+	
Stylidium lateriticola																							
Stylidium longitubum (P3)																							
Stylidium macrocarpum						+																	
Stylidium maritimum	+									+	+	+	+									+	
Stylidium miniatum																							
Stylidium petiolare																							
Stylidium piliferum subsp. *piliferum*															+	+	+	+		+			+
Stylidium repens			+												+	+	+	+					

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Stylidium schoenoides		+																+					
Stylidium sp.																							
Synaphea petiolaris																							
Synaphea sp.																		+					
Synaphea spinulosa							+										+	+			+		+
Synaphea spinulosa subsp. *spinulosa*																							
Templetonia retusa	+										+											+	
Tersonia cyathiflora																							
**Tetragonia decumbens*																							
Tetraria capillaris																							
Tetraria octandra					+			+	+														
Thelymitra antennifera																							
Thelymitra campanulata																							
Thelymitra crinita																			+				
Thelymitra flexuosa																							
Thelymitra sp.														+		+			+				
Thomasia triphylla										+	+												
Threlkedia diffusa																							
Thysanotus arenarius										+			+									+	
Thysanotus dichotomus																							
Thysanotus manglesianus										+			+										
Thysanotus manglesianus/patersonii	+							+			+	+	+	+									
Thysanotus patersonii		+	+		+																		
Thysanotus patersonii/manglesianus																							
Thysanotus sp.																							
Thysanotus sparteus					+																		
Thysanotus thyrsoideus																							
Thysanotus ?thyrsoideus																							
Thysanotus triandrus																	+						

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species	Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Trachymene coerulea																								
Trachymene pilosa		+	+		+		+	+	+	+	+	+	+	+	+			+	+			+	+	+
Tribonanthes australis																								
Tribonanthes longipetala																								
Tricoryne elatior		+				+							+		+			+				+	+	
Tricoryne tenella															+									
**Trifolium arvense*																								
**Trifolium campestre* var. *campestre*		+																						
**Trifolium cernuum*																								
**Trifolium dubium*																								
**Trifolium* sp.									+	+				+										
Triglochin centrocarpa								+																
Triglochin huegelii/linearis																								
Triglochin linearis																								
Triglochin muelleri																								
Triglochin sp.																								
Triglochin trichophora				+	+																			
Tripterococcus brunonis																					+			
Trithuria bibracteata																								
Trymalium floribundum																								
**Typha orientalis*																								
**Ursinia anthemoides*				+	+			+	+	+														+
Utricularia multifida																								
Utricularia violacea																								
Velleia trinervis																								
**Vellereophyton dealbatum*																								
Verreauxia reinwardtii																								
Verticordia densiflora																								
Verticordia densiflora var. *densiflora*																								

APPENDIX D: SPECIES DISTRIBUTION IN QUADRATS FOR THE MAPPING OF GNANGARA MOUND STAGE 1

Species / Quadrats	YAN2	YAN3	YAN4	YAN5	YAN6	YAN8	YAN9	YAN10	YAN11	YAN12	YAN13	YAN14	YAN15	YAN16	YAN17	YAN18	YAN19	YAN20	YAN21	YAN22	YAN23	YAN24	YAN25
Verticordia nitens															+	+				+			
Verticordia ovalifolia																							
Verticordia plumosa																							
Villarsia capitata																							
**Vulpia bromoides*																							
**Vulpia myuros*	+		+	+			+	+	+	+	+	+	+	+							+	+	+
**Vulpia* sp.		+				+																	
**Wahlenbergia capensis*																							+
Wahlenbergia preissii				+	+		+	+	+					+			+				+		+
Waitzia sp.			+																				
Waitzia suaveolens var. *suaveolens*			+	+	+	+																	+
Westringia dampieri																							
Wurmbea dioica											+												
Wurmbea monantha										+			+										
Wurmbea pygmaea																							
Wurmbea sp.																						+	
Xanthorrhoea gracilis																							
Xanthorrhoea preissii	+	+	+	+	+	+	+	+	+					+		+	+	+			+		+
Xanthosia ciliata																							
Xanthosia huegelii																	+	+			+	+	+
**Zantedeschia aethiopica*																							

APPENDIX E: RARE AND PRIORITY VASCULAR PLANT SPECIES POTENTIALLY OCCURRING IN THE WIDER GNANGARA MOUND AREA, 2002

CC - State Conservation Code
EPBC - Federal Conservation Code

Family	Species	SCC	EPBC
CYPERACEAE	*Cyathochaeta teretifolia*	P3	
	Eleocharis keigheryi	R	V
	Schoenus griffinianus	P2	
ANTHERICACEAE	*Chamaescilla gibsonii*	P3	
HAEMODORACEAE	*Conostylis bracteata*	P3	
	Conostylis pauciflora subsp. euryrhipis	P3	
	Conostylis pauciflora subsp. pauciflora	P4	
ORCHIDACEAE	*Caladenia huegelii*	R	E
	Caladenia speciosa	P4	
	Cyanicula ixioides subsp. *ixioides* ms	P4	
PROTEACEAE	*Adenanthos cygnorum* subsp. *chamaephyton*	P3	
	Grevillea curviloba subsp. *curviloba*	R	E
	Grevillea curviloba subsp. *incurva*	R	E
	Grevillea evanescens	P1	V
	Grevillea thelemanniana	P4	
BRASSICACEAE	*Lepidium pseudotasmanicum*	P4	
DROSERACEAE	*Drosera occidentalis* subsp. *occidentalis*	P4	
MIMOSACEAE	*Acacia anomala*	R	V
	Acacia benthamii	P2	
PAPILIONACEAE	*Dillwynia dillwynioides*	P3	
	Isotropis cuneifolia subsp. *glabra*	P2	
	Jacksonia sericea	P3	
POLYGALACEAE	*Comesperma acerosum*	P3	
EUPHORBIACEAE	*Stachystemon axillaris*	P4	
RHAMNACEAE	*Stenanthemum sublineare*	P2	
STERCULIACEAE	*Guichenotia tuberculata*	P3	
	Lasiopetalum lineare	P3	
	Lasiopetalum membranaceum	P3	
	Thomasia triloba	P3	

APPENDIX E: RARE AND PRIORITY VASCULAR PLANT SPECIES POTENTIALLY OCCURRING IN THE WIDER GNANGARA MOUND AREA, 2002

CC - State Conservation Code
EPBC - Federal Conservation Code

Family	Species	SCC	EPBC
DILLENIACEAE	*Hibbertia spicata* subsp. *leptotheca*	P3	
MYRTACEAE	*Calytrix sylvana*	P4	
	Chamelaucium sp. Gingin (N.Marchant s.n. 4/11/88)	R	E
	Darwinia sp. Muchea (B.J.Keighery 2458)	R	
	Eucalyptus argutifolia	R	V
	Verticordia lindleyi subsp. *lindleyi*	P4	
	Verticordia serrata var. *linearis*	P3	
HALORAGACEAE	*Haloragis aculeolata*	P2	
	Haloragis tenuifolia	P3	
	Myriophyllum echinatum	P3	
APIACEAE	*Platysace ramosissima*	P3	
EPACRIDACEAE	*Conostephium minus*	P4	
LAMIACEAE	*Pityrodia axillaris*	P1	
GOODENIACEAE	*Scaevola paludosa*	P2	
STYLIDIACEAE	*Stylidium longitubum*	P3	