

Focusing on the Landscape

Biodiversity in Australia's National Reserve System

Part B: Vascular Flora

A Report for Caring for Country

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Executive Summary

Australia has a diverse flora with a very high level of endemism. However, the fauna and flora of Australia is under threat from several areas and remains in need of protection. The Australian Government is building a National Reserve System (NRS) to protect its native flora and fauna. The 2006 Collaborative Australian Protected Areas Database (CAPAD) lists 8780 International Union for the Conservation of Nature (IUCN) criteria “reserves” that protect 768,826,956 hectares (11.6%) of mainland Australia (forming Australia’s NRS). A simple approach to assessing the potential effectiveness of reservations in protecting species is to determine the proportion of record sites for each species that falls within Protected Areas (PAs).

Locations of flora records (record sites) were compared with the Australia’s NRS, based on CAPAD, for the 50 most speciose families of vascular flora in Australia. Based on the number of record sites within protected areas (PAs), we assessed whether the available distribution of record sites matched that which could be expected by chance. For each species, we determined the total number of PAs it has been located in and how many of these were larger than 1000 ha. Larger PAs are thought to provide significantly better long-term protection to species. They represent larger areas of more diverse habitats that can support larger populations that are more likely to survive local catastrophic events and so survive in relative perpetuity. Species in smaller reserves will be present in smaller populations and so are considered more likely to suffer major decline due to individual “local” events that affect habitats (e.g., fire, disease) leaving them prone to extinction. They also are likely to have less genetic diversity and so have less long-term ability to adapt to changing conditions within their PA and region.

From the Australian Natural Heritage Assessment Tool (ANHAT) database, we obtained data for 13556 flora species, but 3329 of these species (24.6%) were represented by 30 or fewer records. The group of poorly recorded species were not included in any further detailed analysis as the data was considered insufficient to accurately assess their status or distributions. For nearly all of these species, their ranges and habitat requirements are essentially unknown and it is reasonable to state that we cannot conclude anything specific about their current conservation status, their habitat associations and their distributions. The proportion of species falling into this category varies between the families, but typically at least 25% of species in any given family would be represented by 30 records or fewer.

Details on the 10211 remaining plant species represented by a minimum of 31 record sites are presented in **Table 2**. These species have a mean 31% of record sites within PAs, significantly above the levels expected by random chance if compared to the 11.6% of land found in the NRS. A total of 2474 species have >45% of record sites in PAs and 1207 species <10% of record sites within PAs. However, this is very dependent on family and some families have very few species with relatively high levels of records present in PAs. Furthermore, approximately 33% of the species within each family were recorded to have less than 10% of their records within the NRS and the majority of families were recorded to have at least one species with no records currently known in a PA.

The assessed families of vascular plants tend to have few species and/or very low proportions of species that have been recorded in more than 100 PAs and, consequently, relatively few

species are found in more than 100 PAs more than 1000 ha in area. These large reserves are more likely to provide a secure future for a species as they are likely to contain larger areas of suitable habitat and larger populations of a given species. The lack of species in large numbers of PAs is, at least to some extent, a reflection of the relatively small distributional ranges of most plant species (relatively few have ranges greater than 50,000 km²). They do not occur across large enough areas to encompass more than 100 PAs and so cannot fall into this category. However, given the relatively high percentages of records occurring in PAs, populations appear to be well represented in the reserves that the species do encompass.

Families with fewer than 70 species with records in ANHAT were reported in the tables but were not assessed in any great depth in regards to patterns within their high or low reservation categories. There were often very few species in a category and data was usually not readily available on their ranges and vegetation associations.

Table 1. Summary of reservation status for vascular plant families in Australia. Well Reserved = Species > 45% records in PAs; Under Reserved = Species <10% records in PAs; Large PAs = PAs larger than 1000ha.

Family	No. species >30 records	Well Reserved (%)	Under Reserved (%)	No. Species > 100 PAs	No. Species > 100 large PAs	No. Species ≤ 5 PAs	No. of Species in ≤ 5 large PAs
Myrtaceae	1791	22.7	14.4	58 (3.2%)	22 (1.2%)	713 (39.8%)	762 (42.5%)
Fabaceae	1065	18.5	14.0	34 (3.2%)	15 (1.4%)	374 (35.1%)	421 (39.5%)
Proteaceae	971	30.58	6.5	11 (1.1%)	1 (0.1%)	368 (37.9%)	439 (45.2%)
Orchidaceae	732	23.6	4.4	37 (5.0%)	12 (1.6%)	143 (19.5%)	195 (26.6%)
Asteraceae	832	25.4	11.1	73 (8.8%)	32 (3.8%)	189 (22.7%)	203 (24.4%)
Mimosaceae	901	14.6	22.5	27 (3.0%)	13 (1.4%)	402 (44.6%)	411 (45.6%)
Rutaceae	402	41.8	6.5	5 (1.2%)	2 (0.5%)	143 (35.6%)	154 (38.3%)
Euphorbiaceae	346	26.9	9.2	10 (2.9%)	6 (1.7%)	108 (31.2%)	110 (31.8%)
Epacridaceae	350	53.1	2.6	20 (5.7%)	10 (2.9%)	94 (26.9%)	119 (34.0%)
Chenopodiaceae	318	5.7	23.0	22 (6.9%)	6 (1.9%)	85 (26.7%)	96 (30.2%)
Stylidiaceae	163	20.9	7.4	3 (1.8%)	1 (0.6%)	50 (30.7%)	65 (39.9%)
Sterculiaceae	161	16.1	13.0	2 (1.2%)	0 (0.0%)	71 (40.1%)	79 (49.1%)
Sapindaceae	205	28.8	10.2	10 (4.9%)	3 (1.5%)	52 (25.4%)	58 (28.3%)
Solanaceae	172	15.7	18.6	2 (1.2%)	0 (0.0%)	60 (34.9%)	52 (30.2%)
Dilleniaceae	135	34.8	7.4	8 (5.9%)	7 (5.2%)	36 (26.7%)	40 (29.6%)
Amaranthaceae	127	4.7	24.4	4 (3.1%)	1 (0.8%)	41 (32.3%)	42 (33.1%)
Scrophulariaceae	103	32.0	7.8	4 (3.9%)	2 (1.9%)	25 (24.3%)	29 (28.2%)
Lauraceae	130	55.4	2.3	6 (4.6%)	3 (2.3%)	37 (28.6%)	40 (30.8%)
Caesalpiniaceae	111	9.0	21.6	4 (3.6%)	2 (1.8%)	44 (39.6%)	43 (38.7%)
Tiliaceae	64	10.9	17.2	0 (0.0%)	0 (0.0%)	33 (51.6%)	33 (51.6%)
Convolvulaceae	91	3.3	16.5	3 (3.3%)	1 (1.1%)	25 (27.5%)	25 (27.5%)
Thymelaeaceae	97	21.6	11.3	7 (7.2%)	2 (2.1%)	28 (28.9%)	26 (26.8%)
Anthericaceae	79	15.2	1.3	10 (12.7%)	5 (6.3%)	10 (12.7%)	16 (20.2%)
Haemodoraceae	66	3.0	9.1	1 (1.5%)	0 (0.0%)	16 (24.2%)	18 (27.3%)
Casuarinaceae	71	29.6	5.6	5 (7.0%)	3 (4.2%)	22 (31.0%)	18 (25.3%)

Family	No. species >30 records	Well Reserved (%)	Under Reserved (%)	No. Species > 100 PAs	No. Species > 100 large PAs	No. Species ≤ 5 PAs	No. of Species in ≤ 5 large PAs
Phormiaceae	55	18.2	7.3	6 (10.9%)	5 (9.1%)	13 (23.6%)	17 (30.9%)
Lentibulariaceae	38	26.3	0.0	1 (2.6%)	1 (2.6%)	13 (34.2%)	13 (34.2%)
Portulacaceae	41	17.1	4.9	3 (7.3%)	2 (4.9%)	8 (19.5%)	7 (17.1%)
Zygophyllaceae	50	4.0	10.0	4 (8.0%)	1 (2.0%)	11 (22.0%)	12 (24.0%)
Arecaceae	43	53.4	2.3	0 (0.0%)	0 (0.0%)	15 (34.9%)	17 (39.5%)
Caryophyllaceae	40	30.0	12.5	2 (5.0%)	1 (2.5%)	12 (30.0%)	11 (27.5%)
Meliaceae	41	43.9	4.9	2 (4.9%)	1 (2.4%)	8 (19.5%)	7 (17.1%)
Aizoaceae	37	8.1	24.3	3 (8.1%)	1 (2.7%)	16 (43.2%)	18 (48.6%)
Araceae	25	36.0	8.0	1 (4.0%)	1 (4.0%)	8 (32.0%)	7 (28.0%)
Zamiaceae	38	31.6	10.5	0 (0.0%)	0 (0.0%)	24 (63.1%)	25 (65.8%)
Combretaceae	37	16.2	21.6	0 (0.0%)	0 (0.0%)	12 (32.4%)	12 (32.4%)
Monimiaceae	31	64.5	0.0	1 (3.2%)	0 (0.0%)	2 (6.4%)	3 (9.7%)
Colchicaceae	25	12.0	8.0	2 (8.0%)	2 (8.0%)	7 (28.0%)	8 (32.0%)
Centrolepidaceae	19	15.8	0.0	3 (15.8%)	2 (10.5%)	1 (5.3%)	2 (10.5%)
Cunoniaceae	27	66.7	0.0	1 (3.7%)	0 (0.0%)	9 (33.3%)	9 (33.3%)
Cycadaceae	20	5.0	45.0	0 (0.0%)	0 (0.0%)	15 (75.0%)	12 (60.0%)
Iridaceae	21	33.3	4.8	2 (9.5%)	0 (0.0%)	2 (9.5%)	3 (14.3%)
Menyanthaceae	25	20.0	4.0	0 (0.0%)	0 (0.0%)	5 (20.0%)	8 (32.0%)
Cupressaceae	24	37.5	4.1	2 (8.3%)	0 (0.0%)	4 (16.7%)	4 (16.7%)
Lythraceae	18	0.0	11.1	1 (5.6%)	0 (0.0%)	5 (27.8%)	5 (27.8%)
Onagraceae	16	37.5	0.0	3 (18.7%)	2 (12.5%)	1 (6.2%)	1 (6.2%)
Nyctaginaceae	16	12.5	12.5	0 (0.0%)	0 (0.0%)	2 (12.5%)	5 (31.2%)
Smilacaceae	13	53.8	0.0	4 (30.8%)	3 (23.1%)	1 (7.7%)	1 (7.7%)
Asteliaceae	15	66.7	0.0	0 (0.0%)	0 (0.0%)	4 (26.7%)	4 (26.7%)
Ericaceae	13	84.6	0.0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Introduction

Australia has a diverse flora with a very high level of endemism. However, the flora of Australia is under threat from several areas and remains in need of protection. Land clearance represents a very serious threat to the ongoing survival of most if not nearly all species. Since 1788, over 700,000 km² (about 20%) of woodland and forest have been cleared or thinned, primarily for crops and grazing. A further 130,000 km² (35%) of mallee have been cleared since 1788, along with 20,000 km² of heath (45%), over 60,000 km² (10%) of tussock grassland and smaller areas of other grasslands (National Land and Water Resources Audit 2001). Habitat loss continues with the 2001 annual rate of vegetation clearance being around 248,000 hectares (National Land and Water Resources Audit 2001). Hence habitat loss is a serious threat for species where the majority of habitat required by a species is already lost or under immediate threat.

The Australian Government is building a network of protected areas, called the National Reserve System (NRS), which aims to “contain samples of all ecosystems identified at an appropriate regional scale” (see <http://www.environment.gov.au/parks/nrs/science/scientific-framework.html>). More specifically, this is based on the widely used criteria of preserving a minimum of 10% of each biome (McNeely 1993; Archer and Orr 2008). Furthermore, the criteria based on the Regional Forest Agreements (RFAs) to protect the remaining forests in Australia is a target of 15% of pre-1750 (pre-European) vegetation types (Commonwealth of Australia 1996), although this has not been believed to have been achieved in many cases (e.g., Flint et al 2004). Whilst sound in principle, the actual success of these reserves in protecting populations of species remains unknown.

A simple approach to assessing the potential effectiveness of reservations in protecting species is to determine the proportion of record sites (from hereon simply records) for each species that falls within Protected Areas (PAs). If few records fall within PAs it suggests that a species may not be well protected. Conversely, if relatively large numbers of records fall within reserves, then a species may be moderately secure from the effects of habitat loss and degradation. Overall we could expect the percentages of records in reserves to be similar to the percentage of reserved lands available within Australia if records were being accrued by chance alone and species were randomly distributed across the differing land tenures.

Additional means of assessing the effectiveness of reserves in protecting flora relate to their size and the number of reserves that contain populations of a species. Island biogeography theory suggests that larger reserves are more valuable as conservation areas than small ones due to edge effects, area to perimeter ratios, greater ranges of habitats and larger areas having larger populations that are likely to be more robust (Lomolino, 1994). Greater conservation value is also likely where populations occur in multiple reserves rather than one single reserve as localized extinctions due to stochastic events are almost inevitable. Hence, a spread of populations across the landscape should lessen the likelihood of total extinction whilst increasing the opportunities for rescue events through recolonisation, providing that areas remain connected. Considering the number of larger reserves in which species are found and the number of reserves in total are two potentially useful measures of the potential for the NRS to protect a species.

In this study, we collate records for each species in a range of speciose groups and determine the number and proportions of records within listed NRS protected areas (PAs), including in how many different reserves species are found and how many of these reserves are 1000ha or

larger (following Rodrigues et al 2004). We are particularly interested in seeing if there are common biological or geographical characteristics for species that are either well or under “reserved”. This can provide indications of the level of protection likely to be afforded to species for which we have few site records. Species that are likely to be under represented in reserves can be considered for priority conservation action if land clearance and/or degradation is likely to be an immediate and severe threatening process.

Methods

The methods used in this paper are based on those used to undertake an analysis of the status of frogs in the PAs of Australian undertaken by Lemckert et al (2009). Please refer to this paper for further details.

The 2006 CAPAD database lists 8780 IUCN criteria PAs (see Figure 1) that protect 768,826,956 hectares (11.6%) of continental Australia, including Tasmania (see **Error! Reference source not found.2**). This level of reservation provided the baseline for comparisons of the expected reservation levels for each group.

Records for the 50 most speciose families of Australian vascular flora were supplied by the Australian Government Department of the Environment, Water, Heritage and the Arts through the Australian Natural Heritage Assessment Tool (ANHAT) database. This included data on species which have yet to be formally described. This database has been compiled from specimen and site records held in State, Territory and Commonwealth flora and fauna collections and wildlife atlases, and from the work of individual researchers. ANHAT is a custom-designed analysis tool built on Microsoft Access (Microsoft, 2003) and ArcGIS geographic information system (ESRI, 2005).

Records dated pre-1950 were excluded from the data sets, as earlier historical site records rarely have sufficient spatial accuracy for this type of analysis. Furthermore, site records with a spatial error range >20 km were excluded and duplicate records removed. Records within 500 m of each other were considered the same site and listed as a single spatial record.

Due to time limitations, review of taxonomic and nomenclatural changes of the species in ANHAT was not performed. Time limitations also meant that names of undescribed species were not able to be put into the correct taxonomic format, so that in many cases informal names may appear italicised and/or not indicative of taxonomic rank.

Within each of the 50 flora families, any species with 30 or fewer records was noted and removed from further consideration. Extinct species were listed where they occurred for each family, but were not considered further in the report. Species with 30 or fewer records may have been rarely recorded because they are truly rare, difficult to identify, occur in remote locations or are very cryptic (e.g., subterranean orchids). Many of these species probably have a combination of these factors acting to limit their records. We removed them because we believe it is difficult to assess their relative state of reservation with reasonable accuracy. For example, if a plant species has two site records and both fall in a reserve, it is not reasonable to assume that it is highly protected when most of its predicted range falls outside of reserves. We also removed species that are now considered extinct.

Figure 1 Location of protected areas within the Australian Protected Area Network (taken from <http://www.environment.gov.au/parks/nrs/science/locations.html>).

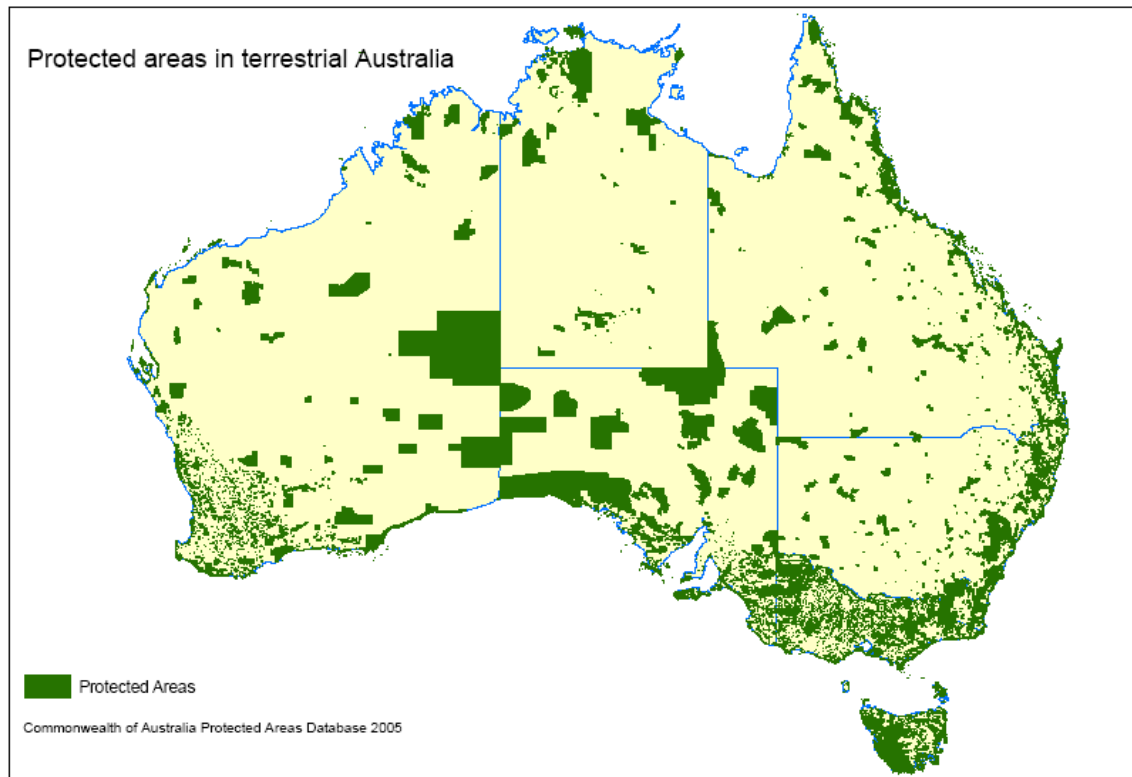


Table 2 Area of IUCN category reserved lands within each state of Australia (<http://www.environment.gov.au/parks/nrs/science/capad/2006/index.html>)

	Total Area (ha)	Reserve Area (ha)	Reserve Count	% Area
Australia	768,826,956	89,528,859	8,780	11.6
ACT	235,813	129,040	42	54.7
NSW	80,121,268	6,755,798	736	8.4
NT	134,778,762	7,889,765	95	5.9
QLD	172,973,671	9,608,482	854	5.6
SA	98,422,137	25,115,119	1,845	25.5
TAS	6,840,133	2,721,392	940	39.8
VIC	22,754,364	3,832,094	2,784	16.8
WA	252,700,808	33,477,165	1,484	13.2

The site records of the remaining species were compared to Australia’s NRS (based on the 2006 CAPAD database using the six IUCN recognized protected area categories to define reserves (http://www.iucn.org/about/union/commissions/wcpa/wcpa_overview/index.cfm).

We determined three categories of information for each species: 1) how many site records fell within reserves; 2) in how many different reserves each species was recorded; and 3) in how many reserves greater than 1000 ha each species was recorded. We also attempted to categorise their broad relative location within Australia and the types of habitats in which they occur, providing an opportunity to look for patterns amongst the better and less protected species. The break up of these categories is presented in **Tables 3, 4 and 5**. In many instances, some or all of this information was not found for a given species, at least in any simple form, and the categories could not be filled in. However, there was data available for many species and this came from a wide range of sources, which are fully listed in the reference section at the end of this document. However, the main sources of information for these 50 vascular plant families were:

PlantNET - The Plant Information Network System of Botanic Gardens Trust, Sydney:
plantnet.rbgsyd.nsw.gov.au

Australian Plant Name Index – APNI: www.cpbr.gov.au/apni/index.html

Flora of Australia Online: www.environment.gov.au/biodiversity/abrs/online-resources/flora/main/

NSW Herbarium Collection: accessed through GBIF data portal
<http://data.gbif.org/datasets/resource/47>

Australian Antarctic Division Herbarium: accessed through GBIF data portal,
<http://data.gbif.org/datasets/resource/76>

Australia's Virtual Herbarium Council of Heads of Australasian Herbaria

State Herbarium of South Australia: www.environment.sa.gov.au/science/state-herbarium/overview.html

Queensland Herbarium:
www.epa.qld.gov.au/nature_conservation/plants/queensland_herbarium/index.html

Australian National Herbarium, Canberra: www.cpbr.gov.au/cpbr/index.html

Tasmanian Herbarium: www.tmag.tas.gov.au/Herbarium/Herbarium2.htm

National Herbarium of Victoria: www.rbg.vic.gov.au/research_and_conservation/herbarium

National Herbarium of New South Wales: www.rbgsyd.nsw.gov.au/science/systematics_research

Northern Territory Herbarium: <http://www.nt.gov.au/nreta/wildlife/plants/index.html>

Western Australian Herbarium: <http://www.dec.wa.gov.au/science-and-research/wa-herbarium/index.html>

Limitations of the information provided in this report are outlined below:

There was no facility to extract information either by family or genera to species level where the data could then be matched in a database and exported to the relevant tables.

Geographical distribution and habitat requirements were, in most cases, done on a species-by-species basis. This meant searching the websites listed above was very time consuming and not a practical way to extract information for thousands of species. The use of the Global Biodiversity Information Facility (GBIF), where data can be extracted based on particular criteria, e.g. kingdom, Country, Region, latitude/longitude, was of great assistance in determining geographical distributions. However, it did not provide habitat information and the geographical distributions provided could have underestimated the distribution. In all cases where habitat information is listed in a table, the data was extracted from various web based sources. In the tables where only geographical distribution (no vegetation type) is provided, the information was sourced from GBIF and the location information for a species may be incomplete.

Families where information for both geographical distribution and vegetation type were available and assessed were: Myrtaceae (57% complete), Fabaceae, Proteaceae, Orchidaceae, Mimosaceae, Caesalpinaceae, Casuarinaceae, Aizoaceae and Asteliaceae. The remaining families used only the data available from GBIF and could be assessed if greater time were available for this task.

The “Area (km²)” column in the tables was calculated from the number of 10 km by 10 km grid cells in which a species occurs. The area may be disjunct or contiguous, and could understate or overstate the true area occupied by a species.

In some instances species with fewer than 30 records in the ANHAT database is an artefact of taxonomic and nomenclatural changes that have not been updated in ANHAT.

Information on distribution or vegetation type for some species with greater than 30 records was not available in the websites due to these changes. A taxonomic and nomenclatural review of the records held in ANHAT would remove some of these records from the report or could change the tables in which they are recorded.

Table 3 Vegetation type codes

Vegetation Type	Code
Alluvial Flats/Floodplain	AF
Alpine	Al
Arid	Ar
Boggy seeps	Bs
Casuarina thickets	Cas
Caves	Cave
Coastal Flats	CF
Cliffs	Cl
Clay soils/pan	Clay
Coastal	Co
Coastal Swamplands	CSw
Coastal Veg	CV
Dunes	D
Dune Fields	DF
Disturbed	Dis
Dry rainforest	DRF
Eucalypt	Euc
Farmland	FL
Forest	For
Floodplains	Fp
Gibber	gib
Gorges	Gor
Grassland	GrL
Heath	He
Hummock Grass	HG
High altitude	Hgh
Herb fields	Hrb
Coastal heath lands in SW Australia	Kwongan
Litter	Lit
Limestone	LS
Mallee	Mal
Mangroves	Man
Under Melaleuca	Mel
Montane	Mon
Montane woodland	MonW
Monsoon Forest	MsFor
Mulga	Mul
Open Country	Op
Plains	P
Paperbarks	Pap
Roadside	Rd
Rainforest	RF
Rocky Habitats	RH
Riverine	Riv
Saline depressions	Sa
Saline	Sa
Sub Alpine Herbfield	SAHrb
Salt Lake	SaL
Sandstone	Sand
Sandy Plains	SaP
Arid Semi	SAr
Salt Bush	SB

Scrub	Sc
Sedges	Sed
Shrublands	SL
Salt Marsh	SM
Spinifex	Sp
Sub Alpine	SuA
Thicket	Th
Urban	Urb
Vine forests	VFor
Waterways	wat
Wet areas (swamps, depressions, bogs, seepages, marshes)	Wet
Wet Forest	Wet For
Woodland	WL

Table 4 Codes for broad location distributions

Location	Description
ACT	Australian Capital Territory
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
SA	South Australia
TAS	Tasmania
WA	Western Australia

Table 5a *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) threatened status codes.

Code	Threatened status
CE	Critically endangered
EN	Endangered
VU	Vulnerable
CD	Conservation dependant
NL	not listed under the EPBC Act
EX	Extinct

Table 5 Codes for more detailed location distributions

Location Code	Location	Description
W	West	Bound by 120° E longitude in the east and 30° S latitude in the south and 20° S latitude in the north.
SW	South West	Bound by Northern Territory/Western Australian border (approx 129° E longitude) in the east and 30° latitude S in the north.
NW	North West	Bound by 20° S latitude in the south and Northern Territory/Western Australian border (approx 129° E longitude) in the east.
WI	West Inland	Bound by 20° S latitude in the north and by 120° E longitude in the west, 30° S latitude in the south and by Northern Territory/Western Australian border (approx 129° E longitude) in the east.
CN	Central North	Bound by Northern Territory/Western Australian border (approx 129° E longitude) in the west, 141° E longitude in the east (in line with NSW/South Australian border) in the east and 20° S latitude in the south.
CI	Central Inland	Bound by Northern Territory/Western Australian border (approx 129° E longitude) in the west, 141° E longitude in the east (NSW/South Australian border) in the east, approx 20° S latitude in the north and 30° S latitude in the south.
CS	Central South	Bound by Northern Territory/Western Australian border (approx 129° E longitude) in the west, 141° E longitude in the east (NSW/South Australian border) in the east and 30° S latitude in the south.
NE	North East	Bound by 141° E longitude in the west (in line with NSW/South Australian border) and 20° S latitude in the south.
E	East	Bound by 146° E longitude in the west and 20° S latitude in the north and 34° S latitude (approx Sydney) in the south.
EI	East Inland	Bound by 141° E longitude in the west (in line with NSW/South Australian border) and 146° E longitude in the east and by 20° S latitude in the north and 34° S latitude (approx Sydney) in the south.
SE	South-East	Bound by 141° E longitude in the west (Victorian/South Australian border) and 34° S latitude (approx Sydney) in the north.
TAS	Tas	Tasmania
TAS Is	TAS Is	Islands around Tasmania

Results and Discussion

The findings obtained for each of the 50 most speciose vascular plant families in Australia are presented separately.

Myrtaceae

The ANHAT database has 786448 records for 2253 species and subspecies of Myrtaceae. Due to time limitations, review of taxonomic and nomenclatural changes of the species in ANHAT was not performed.

One species of Myrtaceae is considered extinct and therefore excluded from analysis. This species is presented in **Table 6**.

Table 6. Myrtaceae species considered extinct

Species	Common name	No. of records
<i>Calothamnus accedens</i>		15

One hundred and forty-six species account for approximately 50% of the total species records in ANHAT. These species are each represented by more than 1000 records, and, in the case of the Messmate (*Eucalyptus obliqua*), over 13000 records.

Table 7 Myrtaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Eucalyptus camphora</i>	1137	0.1
<i>Eucalyptus racemosa</i>	1138	0.1
<i>Acmena smithii</i>	1157	0.1
<i>Eucalyptus stellulata</i>	1168	0.1
<i>Melaleuca linariifolia</i>	1168	0.1
<i>Calytrix brownii</i>	1174	0.1
<i>Corymbia grandifolia</i>	1175	0.1
<i>Syzygium suborbiculare</i>	1180	0.1
<i>Corymbia setosa</i>	1182	0.1
<i>Syncarpia glomulifera</i>	1183	0.1
<i>Eucalyptus eugenioides</i>	1198	0.1
<i>Corymbia aparrerinja</i>	1201	0.1
<i>Corymbia bella</i>	1212	0.1
<i>Eucalyptus globulus</i>	1213	0.1

<i>Eucalyptus aromaphloia</i>	1216	0.1
<i>Babingtonia behrii</i>	1232	0.1
<i>Melaleuca gibbosa</i>	1242	0.1
<i>Leptospermum trinervium</i>	1247	0.1
<i>Neofabricia myrtifolia</i>	1248	0.1
<i>Leptospermum scoparium</i>	1251	0.1
<i>Lophostemon lactifluus</i>	1277	0.1
<i>Eucalyptus transcontinentalis</i>	1279	0.1
<i>Eucalyptus elata</i>	1284	0.1
<i>Syzygium angophoroides</i>	1285	0.1
<i>Eucalyptus viridis</i>	1307	0.2
<i>Eucalyptus leucophloia</i>	1310	0.2
<i>Eucalyptus botryoides</i>	1315	0.2
<i>Eucalyptus brevifolia</i>	1316	0.2
<i>Corymbia foelscheana</i>	1319	0.2
<i>Gossia bidwillii</i>	1322	0.2
<i>Melaleuca stenostachya</i>	1335	0.2
<i>Leptospermum grandifolium</i>	1336	0.2
<i>Melaleuca brevifolia</i>	1339	0.2
<i>Asteromyrtus symphyocarpa</i>	1366	0.2
<i>Eucalyptus concinna</i>	1376	0.2
<i>Eucalyptus phenax</i>	1409	0.2
<i>Leptospermum polygalifolium</i>	1413	0.2
<i>Corymbia polysciada</i>	1420	0.2
<i>Melaleuca argentea</i>	1420	0.2
<i>Eucalyptus moluccana</i>	1423	0.2
<i>Angophora leiocarpa</i>	1424	0.2
<i>Eucalyptus propinqua</i>	1441	0.2
<i>Eucalyptus phoenicea</i>	1450	0.2
<i>Melaleuca glomerata</i>	1471	0.2
<i>Eucalyptus croajingolensis</i>	1511	0.2
<i>Eucalyptus croajingolensis</i>	1511	0.2
<i>Melaleuca bracteata</i>	1525	0.2
<i>Eucalyptus gamophylla</i>	1531	0.2
<i>Melaleuca decussata</i>	1531	0.2
<i>Eucalyptus microcorys</i>	1550	0.2
<i>Eucalyptus bicostata</i>	1567	0.2
<i>Eucalyptus brachycalyx</i>	1578	0.2
<i>Corymbia erythrophloia</i>	1607	0.2
<i>Eucalyptus cephalocarpa</i>	1612	0.2
<i>Lophostemon grandiflorus</i>	1613	0.2
<i>Eucalyptus albens</i>	1635	0.2
<i>Eucalyptus platyphylla</i>	1638	0.2
<i>Eucalyptus siderophloia</i>	1656	0.2
<i>Leptospermum laevigatum</i>	1679	0.2
<i>Corymbia ferruginea</i>	1686	0.2
<i>Eucalyptus blakelyi</i>	1692	0.2
<i>Eucalyptus loxophleba</i>	1712	0.2
<i>Eucalyptus bridgesiana</i>	1717	0.2
<i>Leptospermum coriaceum</i>	1799	0.2

<i>Melaleuca quinquenervia</i>	1807	0.2
<i>Eucalyptus dalrympleana</i>	1844	0.2
<i>Eucalyptus cullenii</i>	1856	0.2
<i>Corymbia latifolia</i>	1907	0.2
<i>Eucalyptus muelleriana</i>	1911	0.2
<i>Eucalyptus consideniana</i>	1923	0.2
<i>Corymbia dichromophloia</i>	1935	0.2
<i>Eucalyptus populnea</i>	1948	0.2
<i>Corymbia bleeseri</i>	1964	0.2
<i>Xanthostemon paradoxus</i>	1991	0.2
<i>Eucalyptus fastigata</i>	1996	0.2
<i>Eucalyptus pruinosa</i>	2000	0.2
<i>Eucalyptus mannifera</i>	2016	0.2
<i>Eucalyptus odorata</i>	2024	0.2
<i>Leptospermum lanigerum</i>	2039	0.2
<i>Eucalyptus tectifera</i>	2049	0.2
<i>Eucalyptus calycogona</i>	2052	0.2
<i>Eucalyptus fibrosa</i>	2060	0.2
<i>Eucalyptus microtheca</i>	2072	0.2
<i>Eucalyptus chlorophylla</i>	2078	0.2
<i>Corymbia hylandii</i>	2098	0.2
<i>Melaleuca ericifolia</i>	2120	0.2
<i>Eucalyptus leptophleba</i>	2189	0.3
<i>Corymbia citriodora</i>	2214	0.3
<i>Corymbia trachyphloia</i>	2222	0.3
<i>Eucalyptus melanophloia</i>	2264	0.3
<i>Eucalyptus fasciculosa</i>	2265	0.3
<i>Eucalyptus intertexta</i>	2265	0.3
<i>Eucalyptus diversifolia</i>	2328	0.3
<i>Corymbia tessellaris</i>	2439	0.3
<i>Eucalyptus coolabah</i>	2439	0.3
<i>Eucalyptus delegatensis</i>	2465	0.3
<i>Eucalyptus rubida</i>	2579	0.3
<i>Eucalyptus acmenoides</i>	2670	0.3
<i>Calytrix exstipulata</i>	2682	0.3
<i>Eucalyptus exserta</i>	2740	0.3
<i>Melaleuca squarrosa</i>	2746	0.3
<i>Eucalyptus porosa</i>	2830	0.3
<i>Melaleuca cajuputi</i>	2878	0.3
<i>Lophostemon confertus</i>	2988	0.4
<i>Eucalyptus regnans</i>	2991	0.4
<i>Corymbia polycarpa</i>	3039	0.4
<i>Corymbia confertiflora</i>	3097	0.4
<i>Eucalyptus largiflorens</i>	3133	0.4
<i>Eucalyptus leptophylla</i>	3254	0.4
<i>Eucalyptus incrassata</i>	3318	0.4
<i>Lophostemon suaveolens</i>	3343	0.4
<i>Melaleuca uncinata</i>	3380	0.4
<i>Melaleuca leucadendra</i>	3557	0.4
<i>Melaleuca nervosa</i>	3576	0.4

<i>Eucalyptus dumosa</i>	3692	0.4
<i>Corymbia nesophila</i>	3762	0.4
<i>Eucalyptus goniocalyx</i>	4047	0.5
<i>Corymbia intermedia</i>	4149	0.5
<i>Eucalyptus oleosa</i>	4253	0.5
<i>Eucalyptus dives</i>	4292	0.5
<i>Corymbia terminalis</i>	4436	0.5
<i>Eucalyptus microcarpa</i>	4503	0.5
<i>Melaleuca lanceolata</i>	4567	0.5
<i>Eucalyptus miniata</i>	4610	0.5
<i>Eucalyptus macrorhyncha</i>	4626	0.5
<i>Eucalyptus gracilis</i>	4740	0.6
<i>Eucalyptus baxteri</i>	4794	0.6
<i>Eucalyptus melliodora</i>	4866	0.6
<i>Eucalyptus pauciflora</i>	5277	0.6
<i>Eucalyptus tereticornis</i>	5350	0.6
<i>Eucalyptus globoidea</i>	5353	0.6
<i>Leptospermum myrsinoides</i>	5370	0.6
<i>Eucalyptus ovata</i>	5408	0.6
<i>Eucalyptus leucoxydon</i>	5484	0.7
<i>Eucalyptus sieberi</i>	5598	0.7
<i>Corymbia clarksoniana</i>	6137	0.7
<i>Calytrix tetragona</i>	6407	0.8
<i>Eucalyptus socialis</i>	6813	0.8
<i>Eucalyptus cypellocarpa</i>	7330	0.9
<i>Leptospermum continentale</i>	8647	1.0
<i>Eucalyptus crebra</i>	8698	1.0
<i>Eucalyptus radiata</i>	9130	1.1
<i>Melaleuca viridiflora</i>	9368	1.1
<i>Eucalyptus viminalis</i>	9687	1.2
<i>Eucalyptus tetradonta</i>	9703	1.2
<i>Eucalyptus camaldulensis</i>	11185	1.3
<i>Eucalyptus obliqua</i>	13389	1.6
Total	416161	48.58

Four hundred and sixty-one species had 30 or fewer individual site records in the ANHAT database (**Table 8**). Of those species, 45 are listed as threatened (including 25 species classified as endangered). These species have been excluded from analysis but are included here for reference. This paucity of records means that it is not possible to provide accurate broad locations for some of the species. The species with information available are spread across Australia, however, there is an indication that a species in this category is more likely to be found in Western Australia than other parts of Australia. In addition, and not surprisingly, these species tend to have only small recorded distributional areas, mostly less than 1000 km². Exclusion of these poorly recorded species eliminates 6068 records.

Table 8 Myrtaceae species with 30 or fewer individual site records in the ANHAT database.

<i>Species</i>	Number Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Baeckea</i> sp. east yuna	1	100			100	NL
<i>Baeckea</i> sp. Mingenew	1	100			100	NL
<i>Baeckea teretifolia</i>	1	0			100	NL
<i>Calothamnus graniticus leptophyllus</i>	1	0			100	NL
<i>Chamelaucium floriferum diffusum</i>	1	100			100	NL
<i>Chamelaucium juniperinum</i>	1	0	SW		100	NL
<i>Darwinia</i> mt ney (ma burgman & s mcnee 1274)	1	100			100	NL
<i>Melaleuca arenaria</i>	1	0			100	NL
<i>Micromyrtus racemosa north-central</i>	1	0			100	NL
<i>Thryptomene</i> sp. <i>lancelin</i>	1	100			200	NL
<i>Verticordia densiflora pedunculata</i>	1	0			100	EN
<i>Verticordia stelluligera</i>	1	0			100	NL
<i>Aphyosperma striata</i>	2	0	SW		100	NL
<i>Astartea</i> sp. <i>big bracteoles</i>	2	100			100	NL
<i>Astartea</i> sp. <i>jyndabinbin rocks</i>	2	100			200	NL
<i>Astartea</i> sp. <i>millbrook</i>	2	100			100	NL
<i>Astus duomilius</i>	2	0			100	NL
<i>Baeckea benthamii</i>	2	50	W		200	NL
<i>Baeckea crispiflora kulin</i>	2	100			100	NL
<i>Baeckea cryptonoma</i>	2	100	SW		200	NL
<i>Baeckea</i> sp. <i>baladjie</i>	2	0			100	NL
<i>Baeckea</i> sp. <i>bungalbin hill</i>	2	100			100	NL
<i>Baeckea</i> sp. <i>corackerup</i>	2	0			100	NL
<i>Baeckea</i> sp. <i>die hardy range</i>	2	0			100	NL
<i>Baeckea</i> sp. <i>elsewhere road</i>	2	100			100	NL
<i>Baeckea</i> sp. <i>esperance</i>	2	100			100	NL
<i>Baeckea</i> sp. <i>gibson</i>	2	100			100	NL
<i>Baeckea</i> sp. <i>mullewa-morawa</i>	2	0			100	NL
<i>Baeckea</i> sp. <i>murchison river</i>	2	100			100	NL
<i>Baeckea</i> sp. <i>perenjori</i>	2	100			200	NL
<i>Baeckea</i> sp. <i>perth region</i>	2	0			100	NL
<i>Baeckea</i> sp. <i>tammin</i>	2	0			100	NL
<i>Baeckea</i> sp. <i>ubini</i>	2	0			100	NL
<i>Baeckea</i> sp. <i>wubin</i>	2	100			100	NL
<i>Beaufortia heterophylla</i>	2	50			200	NL
<i>Beaufortia</i> sp. <i>column</i>	2	100			200	NL
<i>Calytrix breviseta breviseta</i>	2	0			200	EN
<i>Calytrix empetroides</i>	2	0			200	NL
<i>Calytrix jingaring</i> (obbens, davis & sage lws)	2	100			100	NL
<i>Calytrix simplex</i>	2	50			200	NL
<i>Corymbia dolichocarpa</i>	2	0			600	NL
<i>Darwinia repens</i>	2	0			300	NL

<i>Darwinia</i> sp. <i>chiddarcooping</i>	2	0			100	NL
<i>Darwinia</i> sp. <i>mt burdett</i>	2	100			100	NL
<i>Darwinia</i> sp. <i>watheroo</i>	2	0			100	NL
<i>Eucalyptus graniticola</i>	2	0			100	EN
<i>Eucalyptus</i> mt <i>bruce</i> (svl 3809)	2	50			200	NL
			W,CI,CS,			
<i>Eucalyptus trivalvis</i>	2	100	WI	Mal, SL	100	NL
<i>Eucalyptus umbellata</i>	2	100	E		100	NL
<i>Eugenia coolminiana</i>	2	0	E		100	NL
<i>Hypocalymma tetrapterum</i>	2	0	SW		1200	NL
<i>Hypocalymma tetrapterum</i>	2	0	SW		100	NL
<i>Kunzea ericifolia subulata</i>	2	50			200	NL
<i>Kunzea spicata</i>	2	100	SW		100	NL
<i>Lindsayomyrtus brachyandrus</i>	2	0			200	NL
<i>Malleostemon</i> sp. <i>adelong</i> (gj keighery 11825)	2	100			200	NL
<i>Malleostemon</i> sp. <i>officer basin</i> (pearson 350)	2	0			200	NL
<i>Metrosideros eucalyptoides</i>	2	0	CN		100	NL
<i>Micromyrtus racemosa north-west</i>	2	100			200	NL
<i>Rhodamnia</i> sp. <i>silver plains</i>	2	0			100	NL
<i>Scholtzia</i> sp. <i>eurardy</i>	2	0			200	NL
<i>Scholtzia</i> sp. <i>geraldton</i>	2	100			100	NL
<i>Scholtzia</i> sp. <i>kalbarri</i>	2	100			200	NL
<i>Scholtzia</i> sp. <i>red bluff</i>	2	0			300	NL
<i>Scholtzia</i> sp. <i>red bluff</i>	2	0			100	NL
<i>Thryptomene</i> sp. <i>geraldton</i>	2	0			100	NL
<i>Verticordia muellerana</i>	2	0	W		100	NL
<i>Verticordia staminosa</i>	2	0			100	NL
<i>Baeckea ambigua</i>	3	33	SW		200	NL
<i>Baeckea crispiflora mt lesueur</i>	3	100			200	NL
<i>Baeckea</i> sp. <i>darling range</i>	3	100			100	NL
<i>Baeckea thymoides</i>	3	33			200	NL
<i>Corymbia pedimontana</i>	3	0			300	NL
<i>Darwinia</i> sp. <i>bendering</i>	3	100			100	NL
<i>Enekbatus cryptandroides</i>	3	0	W		300	NL
<i>Enekbatus stowardii</i>	3	33	W		300	NL
<i>Hypocalymma strictum elongatum</i>	3	0			200	NL
<i>Hypocalymma sylvestris</i>	3	0	SW		100	NL
<i>Kunzea d</i>	3	66			2000	NL
<i>Kunzea micrantha hirtiflora</i>	3	0			200	NL
<i>Kunzea micrantha oligandra</i>	3	33			300	NL
<i>Melaleuca cuneata</i>	3	0	SW		200	NL
<i>Melaleuca linariifolia linariifolia</i>	3	33			300	NL
<i>Micromyrtus racemosa prochytes</i>	3	0			300	NL
<i>Rhodamnia</i> sp. <i>rocky creek</i>	3	0			300	NL
<i>Scholtzia</i> sp. <i>ajana</i>	3	33			200	NL
<i>Syzygium tetragonum</i>	3	0			100	NL
<i>Astartea arbuscula</i>	4	100			300	NL
<i>Astus wittweri</i>	4	75			200	NL
<i>Baeckea arbuscula</i>	4	75	SW		400	NL

<i>Baeckea crispiflora ongerup</i>	4	100		100	NL	
<i>Baeckea sp. boorabbin</i>	4	50		200	NL	
<i>Baeckea sp. moora</i>	4	100		400	NL	
<i>Beaufortia dampieri</i>	4	50		400	NL	
<i>Callistemon lanceolatus</i>	4	75	E	400	NL	
<i>Callistemon macrandrus</i>	4	100	E	100	NL	
<i>Calytrix microphylla</i>	4	0	CN	300	NL	
<i>Calytrix simplex simplex</i>	4	0		300	NL	
<i>Calytrix sullivanii</i>	4	75		400	NL	
<i>Chamelaucium halophilum</i>	4	0	SW,W	400	NL	
<i>Eucalyptus mt king(sv1 3605)</i>	4	50		400	NL	
<i>Eucalyptus saxicola</i>	4	75	E	200	NL	
<i>Hypocalymma cordifolium minus</i>	4	25		200	NL	
<i>Kunzea micrantha petiolata</i>	4	25		300	NL	
<i>Kunzea peduncularis</i>	4	25		200	NL	
<i>Leptospermum purpurescens</i>	4	0	NE	200	NL	
<i>Melaleuca stenostachya</i>						
<i>stenostachya</i>	4	0		200	NL	
<i>Micromyrtus helmsii</i>	4	0	WI	100	NL	
<i>Scholtzia sp. red bluff</i>	4	100		300	NL	
<i>Scholtzia sp. red bluff</i>	4	100		100	NL	
<i>Scholtzia sp. z-bend</i>	4	100		200	NL	
<i>Thryptomene salina</i>	4	100	SW	100	NL	
<i>Thryptomene sp. mingenew</i>	4	50		200	NL	
<i>Thryptomene sp. moresby range</i>	4	50		200	NL	
<i>Thryptomene sp. red bluff</i>	4	100		200	NL	
<i>Verticordia apecta</i>	4	100	SW	100	NL	
<i>Verticordia brevifolia stirlingensis</i>	4	50		300	NL	
<i>Verticordia fimbrilepis</i>	4	25		400	NL	
<i>Verticordia plumosa ananeotes</i>	4	0		400	EN	
<i>Astartea muricata</i>	5	0		400	NL	
<i>Astartea sp. red hill</i>	5	100		300	NL	
<i>Baeckea blackallii</i>	5	0	W	400	NL	
<i>Baeckea tetragona</i>	5	40		400	NL	
<i>Calytrix breviseta</i>	5	40	SW	400	NL	
<i>Chamelaucium sp. yalgoo</i>	5	0		400	NL	
<i>Enekbatus clavifolius</i>	5	0	SW	400	NL	
<i>Eucalyptus rubida canabolensis</i>	5	80		200	VU	
<i>Eucalyptus stjohnii</i>	5	20		200	NL	
<i>Hypocalymma linifolium</i>	5	0		400	NL	
<i>Kunzea clavata</i>	5	0	SW	300	NL	
<i>Micromyrtus racemosa mucronata</i>	5	80		200	NL	
<i>Pileanthus peduncularis pilifer</i>	5	0		500	NL	
<i>Rinzia longifolia</i>	5	20		400	NL	
<i>Tristania laurina</i>	5	0	E,SE	Rip WL, Sc, RF	500	NL
<i>Verticordia fimbrilepis australis</i>	5	60		400	VU	
<i>Verticordia mirabilis</i>	5	0	WI	200	NL	
<i>Actinodium calocephalum</i>	6	16	SW	600	NL	
<i>Aluta teres</i>	6	50	W	200	NL	
<i>Astartea sp. long stalks</i>	6	66		300	NL	

<i>Baeckea margarethae</i>	6	50	W	500	NL
<i>Baeckea platycephala</i>	6	0		600	NL
<i>Baeckea recurva</i>	6	33	SW,W	600	NL
<i>Baeckea</i> sp. <i>chittering</i>	6	100		200	NL
<i>Baeckea</i> sp. <i>whelarra</i>	6	83		500	NL
<i>Baeckea</i> sp. <i>yuna</i>	6	100		200	NL
<i>Callistemon nyallingensis</i>	6	0	SE	200	NL
<i>Chamelaucium griffinii</i>	6	33		100	VU
<i>Corymbia curtipes</i>	6	33	CN	300	NL
<i>Darwinia heterandra</i>	6	0		300	NL
<i>Darwinia</i> sp. <i>ravensthorpe</i>	6	66		300	NL
<i>Enekbatus sessilis</i>	6	83	W	300	NL
<i>Eucalyptus angularis</i>	6	50	SW	200	NL
<i>Eucalyptus epruinata</i>	6	0		500	NL
<i>Eucalyptus paralimnetica</i>	6	33		500	NL
<i>Eucalyptus walshii</i>	6	83	SE	200	NL
<i>Hypocalymma melaleuroides</i>	6	100	SW	200	NL
<i>Kunzea similis</i>	6	33	SW	200	NL
<i>Kunzea spathulata</i>	6	16	SW	400	NL
<i>Micromyrtus barbata</i>	6	0	WI	500	NL
<i>Rhodamnia</i> sp. <i>calliope</i>	6	100		100	NL
<i>Scholtzia</i> sp. <i>east yuna</i>	6	100		200	NL
<i>Scholtzia</i> sp. <i>eneabba</i>	6	0		300	NL
<i>Scholtzia</i> sp. <i>yerina springs</i>	6	16		300	NL
<i>Syzygium wilsonii epigaeum</i>	6	100		100	NL
<i>Thryptomene duplicata</i>	6	0	W	100	NL
<i>Verticordia insignis eomagis</i>	6	0		400	NL
<i>Verticordia staminosa staminosa</i>	6	50		300	EN
<i>Baeckea rosea</i>	7	42	SW	500	NL
<i>Callistemon genofluvialis</i>	7	57	SE	200	NL
<i>Darwinia halophila</i>	7	0	SW,W	700	NL
<i>Darwinia luehmannii</i>	7	0	SW	300	NL
<i>Eucalyptus kroombitensis</i>	7	28		200	NL
<i>Eucalyptus molyneuxii</i>	7	100	SE	300	NL
<i>Eucalyptus rhodantha petiolaris</i>	7	0		500	EN
<i>Eucalyptus spathulata salina</i>	7	28		500	NL
<i>Eucalyptus wollemiensis</i>	7	100	E	100	NL
<i>Kunzea keep river</i>	7	85		300	NL
<i>Pericalymma megaphyllum</i>	7	0	SW	200	NL
<i>Pileanthus aurantiacus</i>	7	28	W	100	NL
<i>Syzygium buettneranum</i>	7	42		400	NL
<i>Verticordia plumosa pleiobotrya</i>	7	0		100	EN
<i>Aluta aspera localis</i>	8	25		500	NL
<i>Astartea</i> sp. <i>bungalbin hill</i>	8	100		400	NL
<i>Calytrix simplex suboppositifolia</i>	8	12		600	NL
			NE,NW,C		
<i>Corymbia disjuncta</i>	8	0	N	500	NL
<i>Corymbia punkapitiensis</i>	8	100		100	NL
<i>Eucalyptus queenslandica</i>	8	0		800	NL
<i>Hypocalymma longifolium</i>	8	37		200	EN
<i>Kunzea ericalyx</i>	8	62		800	NL

<i>Kunzea leptospermoides</i>	8	12		500	NL
<i>Micromyrtus grandis</i>	8	100	E	300	EN
<i>Micromyrtus rogeri</i>	8	0	W	400	NL
<i>Syzygium operculatum</i>	8	0	CN	900	NL
<i>Thryptomene miqueliana</i>	8	25	CS	700	NL
<i>Thryptomene</i> sp. east yuna	8	100		400	NL
<i>Verticordia spicata squamosa</i>	8	0		500	EN
<i>Verticordia staminosa cylindracea</i>	8	0		500	EN
<i>Baeckea cryptandroides</i>	9	11	SW	800	NL
<i>Eucalyptus crucis praecipua</i>	9	66		300	EN
<i>Eucalyptus subcaerulea</i>	9	100		300	NL
<i>Homoranthus bornhardtiensis</i>	9	44	E	400	NL
<i>Kunzea cincinnata</i>	9	0	SW	600	NL
<i>Melaleuca venusta</i>	9	0	W	200	NL
<i>Rhodamnia hylandii</i>	9	0		500	NL
<i>Thryptomene nealensis</i>	9	33	WI	500	NL
<i>Verticordia citrella</i>	9	22	SW	400	NL
<i>Astartea</i> sp. jerdacuttup	10	100		300	NL
<i>Baeckea ochropetala</i>	10	50	SW	900	NL
<i>Calothamnus glaber</i>	10	40	W	900	NL
<i>Calothamnus graniticus</i>	10	40		600	NL
<i>Corymbia boliviana</i>	10	100		100	NL
<i>Eucalyptus biterranea</i>	10	40		500	NL
<i>Eucalyptus deglupta</i>	10	10		600	NL
<i>Eucalyptus dissita</i>	10	100		300	NL
<i>Eucalyptus scopulorum</i>	10	100	E	100	NL
<i>Homoranthus coracinus</i>	10	100		100	NL
<i>Leptospermum petersonii</i>					
<i>petersonii</i>	10	50		700	NL
<i>Rinzia morrisonii</i>	10	100		600	NL
<i>Thryptomene eremaea</i>	10	30	SW	700	NL
<i>Babingtonia tozerensis</i>	11	100		200	VU
<i>Chamelaucium gingin</i>(marchant)	11	9		300	VU
<i>Corymbia opacula</i>	11	9		500	NL
<i>Euryomyrtus inflata</i>	11	18	W	800	NL
<i>Leptospermum exsertum</i>	11	18		800	NL
<i>Melaleuca styphelioides</i>					
<i>styphelioides</i>	11	9		1200	NL
<i>Melaleuca tamarascina</i>	11	27		900	NL
<i>Thryptomene glaucosa</i>	11	9	SW	700	NL
<i>Verticordia dichroma</i>	11	54		800	NL
<i>Astartea</i> sp. esperance	12	25		700	NL
<i>Babingtonia crassa</i>	12	0		900	NL
<i>Baeckea megaflora</i>	12	50	W	900	NL
<i>Chamelaucium aorocladus</i>	12	58		500	NL
<i>Corymbia porphyritica</i>	12	0	NE	700	NL
<i>Darwinia</i> sp. morawa	12	100		600	NL
<i>Eucalyptus contracta</i>	12	66		500	NL
<i>Eucalyptus farinosa</i>	12	0	E	200	NL
<i>Hypocalymma uncinatum</i>	12	25	SW	600	NL
<i>Leptospermum petraeum</i>	12	100	E	200	NL

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<i>Melaleuca apostiba</i>	12	0	WI	500	NL
<i>Pileanthus rubronitidus</i>	12	17	W	700	NL
<i>Triplarina calophylla</i>	12	25		200	NL
<i>Verticordia aereiflora</i>	12	58		400	NL
<i>Verticordia serotina</i>	12	92	W	600	NL
<i>Babingtonia prominens</i>	13	8	E	300	NL
<i>Baeckea floribunda</i>	13	8	SW	1000	NL
<i>Calytrix verruculosa</i>	13	0	W	800	NL
<i>Eucalyptus bennettiae</i>	13	0	SW	200	EN
<i>Eucalyptus intrasilvatica</i>	13	0	SW	400	NL
<i>Kunzea opposita leichhardtii</i>	13	54		400	NL
<i>Rhodamnia</i> sp. upper massey creek	13	15		1000	NL
<i>Thryptomene johnsonii</i>	13	0	SW,W	800	NL
<i>Thryptomene naviculata</i>	13	0	WI	600	NL
<i>Verticordia cooloomia</i>	13	69	W	400	NL
<i>Verticordia hughanii</i>	13	15	SW	700	EN
<i>Verticordia insignis compta</i>	13	8		1300	NL
<i>Verticordia longistylis</i>	13	62	SW	200	NL
<i>Verticordia pityrhops</i>	13	100	SW	200	EN
<i>Agonis undulata</i>	14	93	SW	900	NL
<i>Baeckea astarteoides</i>	14	7		1100	NL
<i>Baeckea</i> sp. hyden	14	93		800	NL
<i>Calothamnus kalbarriensis</i>	14	50	W	1000	NL
<i>Darwinia apiculata</i>	14	21	SW	600	EN
<i>Darwinia helichrysoides</i>	14	64	SW	500	NL
<i>Homoranthus croftianus</i>	14	86	E	200	NL
<i>Hypocalymma tenuatum</i>	14	93	SW	200	NL
<i>Melaleuca lara</i>	14	79	W	600	NL
<i>Melaleuca uxorum</i>	14	0	NE	100	NL
<i>Rinzia rubra</i>	14	21	SW	1000	NL
<i>Syzygium fratris</i>	14	100	NE	100	NL
<i>Syzygium jambos</i>	14	14	CN	600	NL
<i>Thryptomene striata</i>	14	64	W	300	NL
<i>Agonis grandiflora</i>	15	0	SW	700	NL
<i>Babingtonia silvestris</i>	15	33	E	600	NL
<i>Backhousia enata</i>	15	87		200	NL
<i>Baeckea kandos</i>	15	80	E	400	EN
<i>Eucalyptus curta</i>	15	20	E	300	NL
<i>Eucalyptus triplex</i>	15	100		300	NL
<i>Lophostemon grandiflorus riparius</i>	15	20		1600	NL
<i>Melaleuca boeophylla</i>	15	0	W	400	NL
<i>Melaleuca eulobata</i>	15	33	W	700	NL
<i>Melaleuca grieviana</i>	15	0	SW	900	NL
<i>Pilidiostigma recurvum</i>	15	67	NE	800	NL
<i>Eucalyptus alligatrix miscella</i>	16	0		100	VU
<i>Eucalyptus permixta</i>	16	19		800	NL
<i>Melaleuca pentagona raggedensis</i>	16	100		500	NL
<i>Verticordia preissii</i>	16	12	SW,W	1100	NL
<i>Astus subroseus</i>	17	0	SW	1100	NL
<i>Calothamnus formosus</i>	17	59		1000	NL
<i>Calytrix merrelliana</i>	17	0	SW,EI	1100	NL

<i>Calytrix oncophylla</i>	17	47	SW		400	NL
<i>Calytrix warburtonensis</i>	17	18	WI		900	NL
<i>Eucalyptus hawkeri</i>	17	59	SE		300	NL
<i>Eucalyptus macta</i>	17	18			1000	NL
<i>Eucalyptus quinniorum</i>	17	6	E		800	NL
<i>Eucalyptus robertsonii hemisphaerica</i>	17	0			300	VU
<i>Kunzea calida</i>	17	0	E		300	NL
<i>Rhodamnia</i> sp. <i>cape york</i>	17	18			1600	NL
<i>Verticordia chrysostachys</i>	17	24	W		1400	NL
<i>Verticordia verticordina</i>	17	29	SW		1000	NL
<i>Verticordia wonganensis</i>	17	0	SW		900	NL
<i>Callistemon macropunctatus</i>	18	22	CS		1600	NL
<i>Conothamnus neglectus</i>	18	44	SW		1200	NL
<i>Eucalyptus costuligera</i>	18	0	NW		700	NL
<i>Eucalyptus macquoidii</i>	18	100	SW		300	NL
<i>Leptospermum confertum</i>	18	100	SW		400	NL
<i>Leptospermum spectabile</i>	18	83	E	Sc	600	NL
<i>Lysicarpus ternifolius</i>	18	6	E		1500	NL
<i>Micromyrtus patula</i>	18	6	E		500	NL
<i>Micromyrtus placoides</i>	18	0	W		700	NL
<i>Ochrosperma citriodorum</i>	18	50	E		2100	NL
<i>Verticordia albida</i>	18	0			700	EN
<i>Verticordia spicata</i>	18	28	W		1300	NL
<i>Agonis floribunda</i>	19	74	SW		800	NL
<i>Aluta aspera</i>	19	11			1800	NL
<i>Babingtonia brachypoda</i>	19	53			700	NL
<i>Callistemon kenmorrisonii</i>	19	0	SE		200	VU
<i>Eucalyptus helenae</i>	19	21	CI	WL	1000	NL
<i>Eucalyptus surgens</i>	19	100	SW		300	NL
<i>Homalocalyx staminosus</i>	19	5	W		1500	NL
<i>Leptospermum petersonii lanceolatum</i>	19	26			1100	NL
<i>Melaleuca similis</i>	19	0	SW		700	NL
<i>Syzygium glenum</i>	19	100	NE		100	NL
<i>Verticordia crebra</i>	19	95	SW		800	VU
<i>Xanthostemon verticillatus</i>	19	42	NE		300	NL
<i>Babingtonia granitica</i>	20	55	E		300	VU
<i>Baeckea uncinella</i>	20	30	SW		1200	NL
<i>Calothamnus borealis</i>	20	30	W		1200	NL
<i>Calytrix brachyphylla</i>	20	45			1300	NL
<i>Corymbia rubens</i>	20	0	NW		500	NL
<i>Darwinia carnea</i>	20	10			900	EN
<i>Eucalyptus desquamata</i>	20	35	CS		600	NL
<i>Eucalyptus rubriramula</i>	20	5			1800	NL
<i>Euryomyrtus patrickiae</i>	20	40	W		1100	NL
<i>Homoranthus binghiensis</i>	20	100	E		300	NL
<i>Leptospermum subtenue</i>	20	10	SW		1000	NL
<i>Melaleuca halophila</i>	20	20	SW		600	NL
<i>Melaleuca manglesii</i>	20	10	SW		1000	NL
<i>Melaleuca oldfieldii</i>	20	45	W		1200	NL

<i>Rhodamnia longisepala</i>	20	100	NE		200	NL
<i>Verticordia amphigia</i>	20	75	SW,W		400	NL
<i>Xanthostemon arenarius</i>	20	0			300	NL
<i>Babingtonia odontocalyx</i>	21	48	E		1100	NL
<i>Calothamnus robustus</i>	21	10			900	NL
<i>Darwinia oldfieldii</i>	21	71	W		1100	NL
<i>Darwinia polycephala</i>	21	10	SW		1300	NL
<i>Eucalyptus articulata</i>	21	0	SW,WI		400	VU
<i>Homoranthus cernuus</i>	21	52	E		1300	NL
<i>Leptospermum sejunctum</i>	21	48	E	For, Sc	600	NL
<i>Melaleuca macronychia</i>	21	19	SW		1200	NL
<i>Melaleuca penicula</i>	21	62	SW		700	NL
<i>Angophora paludosa</i>	22	27			2200	NL
<i>Beaufortia bicolor</i>	22	50	SW		1300	NL
<i>Callistemon forresterae</i>	22	59	SE		700	VU
<i>Eremaea dendroidea</i>	22	41	W		1700	NL
<i>Eucalyptus annuliformis</i>	22	0	SW		300	NL
<i>Homalocalyx grandiflorus</i>	22	45	SW,WI		600	NL
<i>Kunzea pauciflora</i>	22	0	SW		600	VU
<i>Leptospermum crassifolium</i>	22	100	E		400	NL
<i>Melaleuca pentagona latifolia</i>	22	68			1300	NL
<i>Melaleuca stramentosa</i>	22	23	SW		400	NL
<i>Micromyrtus serrulata</i>	22	5	SW		900	NL
<i>Rinzia oxycoccoides</i>	22	100			800	NL
<i>Verticordia galeata</i>	22	95	W		400	NL
<i>Aluta aspera hesperia</i>	23	4			1900	NL
<i>Astartea corniculata</i>	23	30			1400	NL
<i>Baeckea tuberculata</i>	23	17	CI		1000	NL
<i>Darwinia sp. stirling range</i>	23	100			1000	VU
<i>Eremaea hadra</i>	23	0	SW		1100	NL
<i>Eucalyptus dorsiventralis</i>	23	26	E		800	NL
<i>Homalocalyx inerrabundus</i>	23	43	W		700	NL
<i>Melaleuca wonganensis</i>	23	26	SW		300	NL
<i>Micromyrtus navicularis</i>	23	0			600	NL
<i>Astartea glomerulosa</i>	24	17	SW		1300	NL
<i>Baeckea grandibracteata</i>	24	12	SW		1400	NL
<i>Darwinia acerosa</i>	24	0	SW		1100	EN
<i>Darwinia briggsiae</i>	24	87	E,SE		900	NL
<i>Decaspermum struckoiligum</i>	24	12			200	EN
<i>Eremaea atala</i>	24	33	SW,W		1600	NL
<i>Eucalyptus missilis</i>	24	79			1200	NL
<i>Eucalyptus rugulata</i>	24	0	SW		400	NL
<i>Homoranthus floydii</i>	24	75	E		400	NL
<i>Hypocalymma myrtifolium</i>	24	96	SW		500	NL
<i>Melaleuca beardii</i>	24	12	SW,W		800	NL
<i>Melaleuca sciotostyla</i>	24	29	SW		500	EN
<i>Micromyrtus forsteri</i>	24	17	EI		400	NL
<i>Micromyrtus papillosa</i>	24	4	SW		500	NL
<i>Rhodamnia arenaria</i>	24	17			900	NL
<i>Rhodamnia sp. mcilwraith range</i>	24	37			1700	NL
<i>Triplarina nowraensis</i>	24	21	E	He	700	EN

<i>Verticordia aurea</i>	24	37	W		1000	NL
<i>Verticordia comosa</i>	24	0	W		900	NL
<i>Aluta quadrata</i>	25	0	W		600	NL
<i>Astartea clavifolia</i>	25	68	SW		1000	NL
<i>Baeckea pygmaea</i>	25	36	SW		1500	NL
<i>Baeckea trapeza</i>	25	92			300	NL
<i>Hypocalymma jessicae</i>	25	96	SW		700	NL
<i>Melaleuca caeca</i>	25	16	W		800	NL
<i>Melaleuca viminea appressa</i>	25	52			800	NL
<i>Verticordia muelleriana</i>	25	12	W		1800	NL
<i>Verticordia pulchella</i>	25	20	SW		1100	NL
<i>Angophora crassifolia</i>	26	23			1200	NL
<i>Corymbia sphaerica</i>	26	0	CI		1200	NL
<i>Eucalyptus arborella</i>	26	92	SW		900	NL
<i>Micromyrtus vernicosa</i>	26	73			100	NL
<i>Phymatocarpus interioris</i>	26	42	SW		1400	NL
<i>Regelia megacephala</i>	26	19	SW		700	NL
<i>Scholtzia sp. eradu</i>	26	35			2200	NL
<i>Scholtzia teretifolia</i>	26	4	SW		1300	NL
<i>Verticordia halophila</i>	26	8	SW,W		1500	NL
<i>Verticordia tumida</i>	26	23			1900	NL
<i>Chamelaucium roycei</i>	27	4	SW		700	VU
<i>Corymbia chlorolampra</i>	27	100	SW		200	NL
<i>Eucalyptus gregoriensis</i>	27	78	CN		1000	NL
<i>Eucalyptus virginea</i>	27	63	SW		300	NL
<i>Euryomyrtus recurva</i>	27	22	SW		1800	NL
<i>Melaleuca camptoclada</i>	27	4	SW		1000	NL
<i>Melaleuca huttensis</i>	27	0	W		700	NL
<i>Melaleuca keigheryi</i>	27	81	W		800	NL
<i>Melaleuca ordinifolia</i>	27	30	SW		1500	NL
<i>Melaleuca tortifolia</i>	27	85	E		300	NL
<i>Micromyrtus uniovula</i>	27	15	W		900	NL
<i>Syzygium arenitense</i>	27	48	CN		1000	NL
<i>Triplarina nitchaga</i>	27	78	NE		300	VU
<i>Verticordia helichrysantha</i>	27	15	SW		1000	VU
<i>Verticordia jamiesonii</i>	27	7	W		1900	NL
<i>Acmenosperma pringlei</i>	28	79	NE		500	NL
<i>Babingtonia cunninghamii</i>	28	50	E		4900	NL
<i>Babingtonia papillosa</i>	28	82	E		500	NL
<i>Baeckea ovalifolia</i>	28	93	SW		500	NL
<i>Calytrix similis</i>	28	14	SW		1700	NL
<i>Corymbia atrovirens</i>	28	18			900	NL
<i>Darwinia diminuta</i>	28	64	E	He	1400	NL
<i>Eremaea blackwelliana</i>	28	64	SW		1300	NL
<i>Eucalyptus gymnoteles</i>	28	25		WL	1600	NL
<i>Eucalyptus impensa</i>	28	46	SW,W		400	EN
<i>Homoranthus biflorus</i>	28	71	E		700	NL
<i>Leptospermum jingera</i>	28	100	SE		500	NL
<i>Melaleuca delta</i>	28	75	SW,W		600	NL
<i>Melaleuca glena</i>	28	50	SW		1000	NL
<i>Ochrosperma obovatum</i>	28	0			400	NL

<i>Pileanthus septentrionalis</i>	28	11	W		1800	NL
<i>Calytrix mimiana</i>	29	10	CN		500	NL
<i>Corymbia arafurica</i>	29	41	CN		2500	NL
<i>Darwinia homoranthoides</i>	29	17	CS		1100	NL
<i>Darwinia procera</i>	29	66	E	WL	1400	NL
<i>Darwinia squarrosa</i>	29	93	SW		600	VU
<i>Eucalyptus cinerea triplex</i>	29	86			300	NL
<i>Eucalyptus jimberlanica</i>	29	0	SW	WL	600	NL
<i>Eucalyptus rhodantha rhodantha</i>	29	0			600	VU
<i>Melaleuca incana tenella</i>	29	28			1500	NL
<i>Micromyrtus stenocalyx</i>	29	72	SW,WI		1400	NL
<i>Pileanthus bellus</i>	29	28	W		900	NL
<i>Verticordia harveyi</i>	29	34	SW		1700	EN
<i>Verticordia lepidophylla</i>	29	34	W		1400	NL
<i>Verticordia mitodes</i>	29	48	SW		1900	NL
<i>Verticordia pholidophylla</i>	29	62	W		1100	NL
<i>Angophora robur</i>	30	17	E		1900	VU
<i>Eucalyptus bensonii</i>	30	97	E		900	NL
<i>Eucalyptus educta</i>	30	0	W		300	NL
<i>Hypocalymma tetrapterum</i>	30	3	SW		1200	NL
<i>Hypocalymma tetrapterum</i>	30	3	SW		100	NL
<i>Melaleuca micromera</i>	30	33	SW		1600	NL
<i>Micromyrtus hymenonema</i>	30	63	SW		1400	NL
<i>Regelia cymbifolia</i>	30	3	SW		700	NL
<i>Scholtzia capitata</i>	30	20	SW,W		1400	NL

Removal of extinct and poorly recorded species leaves 780365 records in ANHAT for 1791 species (and subspecies). The mean number of records per species for species with greater than 30 records was 435.7, with a mean of 32.6 for the percent of records in PAs.

Four hundred and six species of Myrtaceae had 45% or greater of individual site records located within PAs and 15 had 100%. Of those 406 species, 23 species are classified as threatened, including eight species classified as endangered. These species are scattered widely by range across Australia and by the broad vegetation types with which they are associated. If anything, relatively few species on the list are located in inland Australia and, most notably, there no grassland species listed. However, there remain many species without broad habitat categorisations and this may not be the case when further information can be gained.

Table 9 Myrtaceae species with >45% of site records within PAs.

<i>Species</i>	No. Records in PAs	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Callistemon viridiflorus</i>	63	140	45	TAS		16700	NL
				SW,W,CI,S		11200	
<i>Eucalyptus leptophylla</i>	1465	3254	45	E,CS,WI		0	NL

<i>Archirhodomomyrtus beckleri</i>	318	705	45	NE,E		24400	NL
<i>Eucalyptus exilipes</i>	118	261	45	NE,E,EI		4200	NL
<i>Baeckea robusta</i>	19	42	45	W		1400	NL
<i>Melaleuca systena</i>	105	232	45	SW,W		9200	NL
<i>Calytrix achaeta</i>	382	843	45	NW,CN		27000	NL
<i>Eucalyptus camfieldii</i>	78	172	45	E		2900	VU
<i>Eucalyptus saligna</i>	502	1107	45	E	For	51700	NL
<i>Syzygium wilsonii</i>	49	108	45	NE,E		2700	NL
<i>Leptospermum morrisonii</i>	79	174	45	E,SE	WL, He	7200	NL
<i>Corymbia cliftoniana</i>	84	185	45	NW,CN		4700	NL
<i>Callistemon acuminatus</i>	15	33	45	E		2300	NL
<i>Eucalyptus andrewsii</i>	461	1013	46	E	For	38100	NL
<i>Eucalyptus rosacea</i>	27	59	46	SW,WI		2800	NL
<i>Kunzea parvifolia</i>	144	314	46	E,SE	For	17600	NL
<i>Kunzea pomifera</i>	302	656	46	SE,CS		33400	NL
<i>Corymbia bleeseri</i>	905	1964	46	NW,CN		44000	NL
<i>Lithomyrtus densifolia</i>	59	128	46	CN		2200	NL
<i>Agonis theaeformis</i>	83	180	46			7800	NL
<i>Leptospermum deaneii</i>	18	39		E	Sc, WL, For	600	VU
<i>Leptospermum sphaerocarpum</i>	42	91	46	E	For, He	4700	NL
<i>Darwinia micropetala</i>	175	379	46	SE,CS		13100	NL
<i>Leptospermum rotundifolium</i>	93	201	46	SW,E,SE	WL, For	5300	NL
<i>Corymbia chartacea</i>	56	121	46	CN		3500	NL
<i>Chamelaucium naviculum</i>	19	41	46	SW		2900	NL
<i>Darwinia leptantha</i>	45	97	46	E	He	3300	NL
<i>Babingtonia pluriflora</i>	129	278	46	E,SE		15100	NL
<i>Beaufortia decussata</i>	71	153	46	SW		5300	NL
<i>Gossia lucida</i>	40	86	46	NE		2100	NL
<i>Kunzea ericoides</i>	274	589	46	E,SE	For, He	26800	NL
<i>Gossia myrsinocarpa</i>	182	391	46	NE		8400	NL
<i>Leptospermum incanum</i>	41	88	46	SW		4300	NL
<i>Baeckea polystemonea</i>	77	165	46	CN,CI		3700	NL
<i>Eucalyptus preissiana</i>	113	242	46	SW		7100	NL
<i>Lithomyrtus dunlopia</i>	93	199	46	CN		3500	NL
<i>Eucalyptus stellulata</i>	547	1168	46	E,SE	WL	30700	NL
<i>Verticordia fragrans</i>	15	32	46	W		1100	NL
<i>Eucalyptus orbifolia</i>	151	322	46	SW,W,CI, WI	RH	7900	NL
<i>Eucalyptus stricta</i>	365	778	46	E,SE	He, SL	9800	NL

<i>Darwinia sanguinea</i>	39	83	46	SW,W		2200	NL
<i>Kunzea ambigua</i>	245	520	46	E,SE,TAS		28200	NL
<i>Kunzea capitata</i>	74	157	46	E	He	10700	NL
				SW,E,EL,SE		20930	
<i>Calytrix tetragona</i>	3020	6407	46	,CS,TAS,W		0	NL
				I			
<i>Eucalyptus nitens</i>	324	684	46	E,SE	For	11400	NL
<i>Verticordia integra</i>	28	59	46	SW		2600	NL
<i>Darwinia glaucophylla</i>	19	40	46	E	Sc	700	NL
<i>Micromyrtus littoralis</i>	71	149	48	E		2600	NL
<i>Melaleuca nesophila</i>	31	65	48	SW,SE		3400	NL
<i>Eucalyptus nitida</i>	389	815	48	SE,TAS	For	32200	NL
<i>Syzygium bungadinnia</i>	58	121	48	NE		2700	NL
<i>Eucalyptus rugosa</i>	537	1120	48	SW,SE,CS		31900	NL
<i>Calytrix gypsophila</i>	24	50	48	CI,CS,WI		2400	NL
<i>Verticordia brownii</i>	39	81	48	SW		4900	NL
<i>Leptospermum coriaceum</i>	867	1799	48	E,SE,CS		66500	NL
<i>Eucalyptus suffulgens</i>	270	560	48	E		9000	NL
<i>Eucalyptus williamsiana</i>	56	116	48	E		4500	NL
<i>Leptospermum myrsinoides</i>	2593	5370	48	E,SE,CS		80900	NL
<i>Eucalyptus smithii</i>	364	752	48	E,SE	For	17400	NL
<i>Eucalyptus oreades</i>	140	289	48	E	For, RH	6000	NL
<i>Eucalyptus blaxlandii</i>	113	233	48	E,SE	For	7300	NL
<i>Syzygium luehmannii</i>	162	334	48	NE,E		11500	NL
<i>Lamarchea hakeifolia</i>	21	43	49	W		2500	NL
<i>Babingtonia behrii</i>	602	1232	49	W,SE,CS		50200	NL
<i>Phymatocarpus porphyrocephalus</i>	45	92	49	W		3300	NL
<i>Darwinia virescens</i>	24	49	49	SW,W		2100	NL
<i>Eucalyptus baxteri</i>	2352	4794	49	SE,CS	For	53600	NL
<i>Xanthostemon paradoxus</i>	977	1991	49	NW,CN		53300	NL
<i>Eucalyptus montivaga</i>	85	173	49	E		3600	NL
<i>Baeckea imbricata</i>	63	128	49	E	He, Sc	7800	NL
<i>Ochrosperma adpressum</i>	33	67	49			1600	NL
<i>Calytrix asperula</i>	44	89	49	SW		4200	NL
<i>Eucalyptus yalatsensis</i>	459	925	50	SW,CS	SL	26400	NL
<i>Eucalyptus moorei</i>	159	320	50	E,SE	He	4300	NL
<i>Waterhousea unipunctata</i>	86	173	50	NE,E		2700	NL
<i>Leptospermum novae-angliae</i>	103	207	50	E		6700	NL
<i>Ochrosperma lineare</i>	141	283	50	E		9500	NL

<i>Melaleuca gibbosa</i>	619	1242	50	SE,CS,TAS		38100	NL
<i>Eucalyptus sessilis</i>	168	337	50	CI,WI	SL	8100	NL
<i>Darwinia peduncularis</i>	16	32	50	SW,E	For	1500	NL
<i>Syzygium crebrinerve</i>	56	112	50	E		6800	NL
<i>Eucalyptus herbertiana</i>	372	744	50	NW,CN,EI	WL	15500	NL
<i>Corymbia hendersonii</i>	159	315	50			6300	NL
<i>Melaleuca recurva</i>	52	103	50			2900	NL
<i>Eucalyptus sturgissiana</i>	90	178	51	E	Sand, RH	1300	NL
<i>Asteromyrtus arnhemica</i>	43	85	51	CN		2300	NL
<i>Scholtzia uberiflora</i>	42	83	51	W		1700	NL
<i>Eucalyptus ligustrina</i>	108	213	51	E	He	4200	NL
<i>Eucalyptus jacksonii</i>	34	67	51	SW	For	1300	NL
<i>Eucalyptus suberea</i>	67	132	51	SW,W		1400	VU
<i>Astartea laricifolia</i>	33	65	51	SW		4500	NL
<i>Melaleuca croxfordiae</i>	30	59	51	SW		2400	NL
<i>Eucalyptus megacarpa</i>	98	192	51	SW	For	6200	NL
<i>Callistemon pauciflorus</i>	46	90	51	CI		2900	NL
<i>Calothamnus blepharospermus</i>	41	80	51	W		4300	NL
<i>Eucalyptus lucens</i>	82	160	51	CI	SL	2600	NL
<i>Eucalyptus johnstonii</i>	102	199	51	TAS	For	6600	NL
<i>Syzygium sayeri</i>	91	177	51	NE		3900	NL
<i>Baeckea polyandra</i>	18	35	51	SW		2900	NL
<i>Callistemon linearifolius</i>	18	35	51	E	For	3600	NL
<i>Rhodomyrtus effusa</i>	53	103	51	NE		1300	NL
<i>Eucalyptus arenacea</i>	335	647	52	SE,CS		22500	NL
<i>Calytrix pulchella</i>	29	56	52	SW		2300	NL
<i>Rhodamnia glauca</i>	140	270	52			5800	NL
<i>Eucalyptus communalis</i>	37	71	52	SW		2100	NL
<i>Rhodomyrtus trineura</i>	158	303	52	NE		9400	NL
<i>Rhodamnia sessiliflora</i>	118	226	52	NE		5500	NL
<i>Eucalyptus luehmanniana</i>	124	237	52	E	Sand, Sc	2500	NL
<i>Melaleuca laetifica</i>	22	42	52	W		900	NL
<i>Eucalyptus burgessiana</i>	222	423	52	E	For	6000	NL
<i>Leptospermum grandifolium</i>	702	1336	53	E,SE,TAS	Sc, He	38400	NL
<i>Pericalymma crassipes</i>	30	57	53	SW		4100	NL
<i>Lithomyrtus grandifolia</i>	59	112	53	CN		2400	NL
<i>Eucalyptus yumbarrana</i>	168	318	53	CS	SL	15400	NL
<i>Melaleuca squamea</i>	487	919	53	E,SE,CS,T AS	Sedgelan d, He	43800	NL
<i>Eucalyptus</i>	177	333	53	SE	For	5800	NL

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<i>Leptospermum variabile</i>	130	244	53	E		5800	NL
<i>Eucalyptus robertsonii</i>	40	75	53			5300	NL
<i>Eucalyptus redunca</i>	86	161	53	SW	SL, WL	4200	NL
<i>Verticordia polytricha</i>	31	58	53	W		2400	NL
<i>Eucalyptus cooperiana</i>	131	245	53	SW	He	4500	NL
<i>Eucalyptus notabilis</i>	150	280	54	E	For	7400	NL
<i>Xanthostemon</i> <i>psidioides</i>	198	369	54	NW,CN		9600	NL
<i>Eucalyptus</i> <i>hypostomatica</i>	51	95	54	E	For	2200	NL
<i>Beaufortia anisandra</i>	71	132	54	SW		5300	NL
<i>Melaleuca</i> <i>pomphostoma</i>	21	39	54	SW,E		1600	NL
<i>Eucalyptus acies</i>	62	115	54	SW		1400	NL
<i>Baekkea crassifolia</i>	605	1116	54	SW,SE,CS		51400	NL
<i>Eucalyptus olida</i>	32	59	54	E		1000	NL
<i>Eucalyptus semiglobosa</i>	19	35	54			1700	NL
<i>Eucalyptus gillenii</i>	273	502	54	CI,WI	SL, WL	6500	NL
<i>Homoranthus decasetus</i>	49	90	54			1700	NL
<i>Eucalyptus flindersii</i>	251	459	55	CS	WL	5100	NL
<i>Melaleuca</i> <i>comboynensis</i>	81	148	55			4300	NL
<i>Thryptomene wittweri</i>	28	51	55	W,CI		900	VU
<i>Homoranthus thomasi</i>	100	182	55	E,EI		2900	NL
<i>Euryomyrtus</i> <i>ramosissima</i>	425	770	55	E		39900	NL
<i>Rhodamnia glabrescens</i>	58	105	55	E		1500	NL
<i>Eucalyptus discreta</i>	108	195	55	SW	SL	5100	NL
<i>Leptospermum</i> <i>sericatum</i>	80	144	56	EI		4000	NL
<i>Callistemon subulatus</i>	64	115	56	E,SE	Sc	5900	NL
<i>Rhodamnia costata</i>	59	106	56	NE,E		3200	NL
<i>Eucalyptus willisii</i>	627	1124	56	SE,TAS		17200	NL
<i>Micromyrtus ciliata</i>	449	804	56	E,SE,CS	He, WL	33800	NL
<i>Syzygium johnsonii</i>	264	471	56	NE,E		10100	NL
<i>Syzygium canicortex</i>	144	256	56	NE		3300	NL
<i>Verticordia oxylepis</i>	22	39	56	SW		1900	NL
<i>Xanthostemon</i> <i>eucalyptoides</i>	306	541	57	NW,CN		20200	NL
<i>Agonis marginata</i>	21	37	57	SW		1800	NL
<i>Melaleuca zonalis</i>	21	37	57	SW,W		600	NL
<i>Eucalyptus guilfoylei</i>	63	111	57	SW	For	1700	NL
<i>Eucalyptus roycei</i>	66	116	57	W	SL	2600	NL
<i>Melaleuca blaeriifolia</i>	57	100	57	SW		2500	NL

<i>Kunzea bracteolata</i>	61	107	57	E		3400	NL
<i>Eucalyptus cornuta</i>	190	333	57	SW,SE	For	10400	NL
<i>Agonis obtusissima</i>	28	49	57	SW		2100	NL
<i>Leptospermum polygalifolium montanum</i>	76	133	57			6900	NL
<i>Eucalyptus costata murrayana</i>	495	865	57			32700	NL
<i>Triplarina paludosa</i>	51	89	57	E		2300	NL
<i>Eucalyptus grisea</i>	47	82	57			1800	NL
<i>Backhousia bancroftii</i>	66	115	57	NE		2600	NL
<i>Verticordia minutiflora</i>	23	40	57	SW		2200	NL
<i>Syzygium trachyphloium</i>	141	245	58	NE		3900	NL
<i>Calothamnus pinifolius</i>	49	85	58	SW		2400	NL
<i>Leptospermum macrocarpum</i>	41	71	58	E	For	2400	NL
<i>Syzygium wesa</i>	178	308	58	NE,E		5400	NL
<i>Calytrix formosa</i>	44	76	58	W		2600	NL
<i>Eucalyptus remota</i>	137	236	58	CS	Mal, Sc	2900	NL
<i>Melaleuca campanae</i>	21	36	58	W		1400	NL
<i>Lenwebbia prominens</i>	66	113	58	E		2100	NL
<i>Chamelaucium conostigmum</i>	24	41	59	SW		2600	NL
<i>Calytrix megaphylla</i>	110	187	59	CN		4600	NL
<i>Syzygium cormiflorum</i>	290	493	59	NE		10900	NL
<i>Tristaniopsis collina</i>	139	236	59	E,SE		16000	NL
<i>Malleostemon pedunculatus</i>	19	32	59	SW,W		1500	NL
<i>Verticordia sieberi</i>	22	37	59			2800	NL
<i>Leptospermum glaucescens</i>	235	395	59	SE,TAS		27600	NL
<i>Eucalyptus extrica</i>	56	94	59	SW		3500	NL
<i>Eucalyptus beaniana</i>	49	82	60			1600	VU
<i>Leptospermum petersonii</i>	113	189	60	E		10300	NL
<i>Eucalyptus dendromorpha</i>	137	229	60	E	For	3100	NL
<i>Melaleuca capitata</i>	85	142	60	E	He, For	2700	NL
<i>Leptospermum scoparium</i>	749	1251	60	E,SE,TAS		71900	NL
<i>Callistemon pallidus</i>	351	586	60	E,SE,TAS	WL	34600	NL
<i>Baeckea omissa</i>	33	55	60	E		3000	NL
<i>Baeckea linifolia</i>	130	216	60	E,SE	He, Sc	9600	NL
<i>Eucalyptus tintinnans</i>	414	687	60	CN		14600	NL
<i>Corymbia ficifolia</i>	73	121	60	SW		2800	NL
<i>Leptospermum myrtifolium</i>	310	513	60	E,SE,TAS	WL, Sc	19100	NL

<i>Allosyncarpia ternata</i>	226	373	61	CN		9600	NL
<i>Melaleuca pityoides</i>	388	639	61			16700	NL
<i>Syzygium cryptophlebium</i>	48	79	61	NE,E		4700	NL
<i>Darwinia pimelioides</i>	39	64	61	SW		1600	NL
<i>Melaleuca cornucopiae</i>	105	172	61	CN		2800	NL
<i>Gossia dallachiana</i>	117	191	61	NE,E		3900	NL
<i>Eucalyptus litorea</i>	19	31	61	SW		900	NL
<i>Taxandria marginata</i>	46	75	61			3300	NL
<i>Lindsayomyrtus racemoides</i>	86	140	61	NE		1900	NL
<i>Eucalyptus canobolensis</i>	24	39	62	E		600	VU
<i>Lithomyrtus repens</i>	87	141	62	CN		4400	NL
<i>Eucalyptus cunninghamii</i>	110	178	62	E	For	1100	NL
<i>Eucalyptus lacrimans</i>	52	84	62	SE	WL	2200	NL
<i>Darwinia fascicularis oligantha</i>	31	50	62		He	1500	NL
<i>Eucalyptus medialis</i>	54	87	62	SW		1700	NL
<i>Eucalyptus denticulata</i>	398	641	62	SE		3100	NL
<i>Eucalyptus glomericassis</i>	74	119	62	CN		2900	NL
<i>Syzygium corynanthum</i>	84	135	62	NE,E		5900	NL
<i>Waterhousea hedraiohylla</i>	96	154	62	NE		2000	NL
<i>Eucalyptus approximans</i>	106	170	62	E		2800	NL
<i>Baeckea ericaea</i>	179	286	63	SE,CS		13800	NL
<i>Verticordia dasystylis</i>	27	43	63	SW		1500	NL
<i>Kunzea cambagei</i>	22	35	63	E	He	1000	VU
<i>Regelia punicea</i>	22	35	63	CN		1500	NL
<i>Petraeomyrtus punicea</i>	82	130	63	CN		3000	NL
<i>Eucalyptus volcanica</i>	26	41	63	E		1300	NL
<i>Syzygium kuranda</i>	165	260	63	NE,E		5700	NL
<i>Verticordia decussata</i>	117	184	64	CN		5100	NL
<i>Scholtzia spatulata</i>	28	44	64	W		1700	NL
<i>Baeckea utilis</i>	279	437	64	E,SE		14900	NL
<i>Eucalyptus badjensis</i>	77	120	64	E,SE	For	1400	NL
<i>Syzygium endophloium</i>	176	274	64	NE		5000	NL
<i>Syzygium gustavioides</i>	170	264	64	NE,E		4400	NL
<i>Corymbia porrecta</i>	559	866	65	CN		16800	NL
<i>Eucalyptus coccifera</i>	439	679	65	TAS	AI WL	15900	NL
<i>Babingtonia squarrulosa</i>	22	34	65	E		1000	NL
<i>Corymbia bunites</i>	166	256	65			3100	NL

<i>Eucalyptus doratoxylon</i>	151	232	65	SW		4900	NL
<i>Eucalyptus multicaulis</i>	145	222	65	E	Sand	5300	NL
<i>Corymbia arnhemensis</i>	378	578	65	CN		8700	NL
<i>Calytrix paucicostata</i>	23	35	66	W		1300	NL
<i>Uromyrtus tenella</i>	71	108	66	NE		2200	NL
<i>Xanthostemon xerophilus</i>	33	50	66	NE		1500	NL
<i>Rhodomyrtus pervagata</i>	220	332	66	NE		5000	NL
<i>Syzygium monospermum</i>	26	39	67	NE		800	NL
<i>Calothamnus microcarpus</i>	36	54	67			2600	NL
<i>Melaleuca montana</i>	46	69	67			2100	NL
<i>Syzygium apodophyllum</i>	150	225	67	NE		4100	NL
<i>Asteromyrtus magnifica</i>	147	220	67	CN		5200	NL
<i>Leptospermum grandiflorum</i>	118	176	67	E,SE,TAS		5400	NL
<i>Calytrix alpestris</i>	405	603	67	SE,CS		21500	NL
<i>Eucalyptus eudesmioides selachiana</i>	31	46	67			1800	NL
<i>Calytrix parvivallis</i>	29	43	67	SW		200	NL
<i>Eucalyptus erectifolia</i>	82	121	68	SW	SL	2000	NL
<i>Calothamnus villosus</i>	51	75	68	SW,W		3100	NL
<i>Chamelaucium marchantii</i>	30	44	68	W		1300	NL
<i>Eucalyptus imlayensis</i>	28	41	68	SE		500	EN
<i>Uromyrtus lamingtonensis</i>	24	35	69	E		200	NL
<i>Rhodamnia whiteana</i>	44	64	69	E		1800	NL
<i>Kunzea sulphurea</i>	55	80	69	SW		4100	NL
<i>Acmena divaricata</i>	136	197	69	NE		2500	NL
<i>Calytrix arborescens</i>	103	149	69	CN		5700	NL
<i>Eucalyptus codonocarpa</i>	118	170	69	E		2600	NL
<i>Lithomyrtus cordata</i>	183	261	70	CN		4600	NL
<i>Darwinia forrestii</i>	26	37	70			1000	NL
<i>Eucalyptus litoralis</i>	45	64	70	SE		400	NL
<i>Eucalyptus talyuberlup</i>	109	155	70	SW		2400	NL
<i>Eucalyptus archeri</i>	171	243	70	TAS	WL	4600	NL
<i>Eucalyptus triflora</i>	135	191	71	E,SE	He, For Mon,	1600	NL
<i>Eucalyptus perriniana</i>	320	452	71	E,SE,TAS	SuA, WL	7100	NL
<i>Melaleuca bisulcata</i>	27	38	71	W		1400	NL
<i>Leptospermum nitidum</i>	212	294	72	SE,TAS		19500	NL
<i>Calytrix creswellii</i>	26	36	72	SW,W		1400	NL
<i>Thryptomene longifolia</i>	26	36	72	CI		1700	NL

<i>Eucalyptus verrucata</i>	65	90	72	SE		1100	NL
<i>Triplarina volcanica borealis</i>	34	47	72			900	NL
<i>Uromyrtus australis</i>	50	69	72	E		1000	EN
<i>Eucalyptus subcrenulata</i>	200	276	72	TAS		8600	NL
<i>Calytrix harvestiana</i>	37	51	73	W		2100	NL
<i>Syzygium sharoniae</i>	45	62	73	NE		1000	NL
<i>Xanthostemon graniticus</i>	24	33	73	NE		600	NL
<i>Pilidiostigma sessile</i>	48	66	73	NE		1300	NL
<i>Eucalyptus glaucescens</i>	292	400	73	E,SE	WL, For Mon WL, SuA WL	5200	NL
<i>Eucalyptus urnigera</i>	153	209	73	TAS		4400	NL
<i>Baekkea brevifolia</i>	47	64	73	E	He	3900	NL
<i>Homoranthus papillatus</i>	45	61	74	E		200	NL
<i>Syzygium erythrocalyx</i>	51	69	74	NE		1700	NL
<i>Chamelaucium floriferum</i>	37	50	74	SW		900	NL
<i>Verticordia argentea</i>	80	108	74	W		4100	NL
<i>Leptospermum thompsonii</i>	43	58	74	E		700	VU
<i>Syncarpia hillii</i>	78	105	74			2900	NL
<i>Eucalyptus decolor</i>	90	121	74			2100	NL
<i>Eucalyptus aromaphloia sabulosa</i>	181	241	75			5000	NL
<i>Eucalyptus lansdowneana</i>	181	241	75	CS	SL	5100	NL
<i>Homalocalyx ericaeus</i>	265	351	75	CN		9200	NL
<i>Baekkea gunniana</i>	625	827	76	E,SE,TAS		20300	NL
<i>Eucalyptus nandewarica</i>	31	41	76	E		900	NL
<i>Melaleuca ringens</i>	31	41	76	SW		900	NL
<i>Eucalyptus calcicola</i>	84	111	76	SW	SL	1200	NL
<i>Gossia shepherdii</i>	112	148	76	NE,E		4000	NL
<i>Eucalyptus conferruminata</i>	66	87	76	SW		3100	NL
<i>Backhousia hughesii</i>	98	129	76	NE		2000	NL
<i>Calytrix rupestris</i>	35	46	76	CN		1000	NL
<i>Kunzea montana</i>	33	43	77	SW		1500	NL
<i>Eucalyptus fraxinoides</i>	262	340	77	E,SE	For	7000	NL
<i>Homoranthus darwinioides</i>	54	70	77	E		1900	VU
<i>Kunzea muelleri</i>	277	359	77	E,SE		4700	NL
<i>Eucalyptus acroleuca</i>	142	184	77	NE		3000	NL
<i>Darwinia meeboldii</i>	51	66	77	SW		1500	VU
<i>Calytrix smeatoniana</i>	58	75	77	CS		1800	NL
<i>Xanthostemon</i>	41	53	77	NE		600	EN

formosus

<i>Calytrix decussata</i>	120	155	77	CN		3900	NL
<i>Calytrix purpurea</i>	42	54	78	W		1800	NL
<i>Micromyrtus fimbrisepala</i>	46	59	78	CI,WI		2100	NL
<i>Sphaerantia discolor</i>	57	73	78	NE		900	NL
<i>Syzygium boonjee</i>	111	142	78	NE		1200	NL
<i>Lenwebbia lasioclada</i>	133	170	78	NE,E		3100	NL
<i>Syzygium papyraceum</i>	151	191	79	NE,E		3100	NL
<i>Pilidiostigma tetramerum</i>	206	260	79	NE		4800	NL
<i>Leptospermum barneyense</i>	27	34	79			500	NL
<i>Syzygium aqueum</i>	27	34	79	NE,CN		700	NL
<i>Beaufortia cyrtodonta</i>	78	98	80	SW,W		2800	NL
<i>Thryptomene calycina</i>	171	214	80	SE		3500	NL
<i>Syzygium puberulum</i>	88	110	80	NE		900	NL
<i>Melaleuca pearsonii</i>	41	51	80			1000	NL
<i>Rhodamnia blairiana</i>	220	272	81	NE		5100	NL
<i>Ochrosperma oligomerum</i>	43	53	81	E	He	1000	NL
<i>Melaleuca papillosa</i>	26	32	81	SW		1200	NL
<i>Leptospermum argenteum</i>	35	43	81	E		900	NL
<i>Eucalyptus kybeanensis</i>	320	392	82	SE	For	3800	NL
<i>Leptospermum turbيناتum</i>	184	225	82	SE		3100	NL
<i>Darwinia camptostylis</i>	59	72	82	E,SE	He	2400	NL
<i>Stockwellia quadrifida</i>	39	47	83	NE		500	NL
<i>Baeckea leptocaulis</i>	163	196	83	TAS		10800	NL
<i>Calytrix islensis</i>	31	37	84			400	NL
<i>Calytrix faucicola</i>	115	137	84	CN		2300	NL
<i>Leptospermum micromyrtus</i>	173	206	84	E,SE		3100	NL
<i>Babingtonia subcuneata</i>	27	32	84			1900	NL
<i>Eucalyptus serraensis</i>	92	109	84	SE		1400	NL
<i>Eucalyptus gigantangion</i>	76	90	84	CN		2400	NL
<i>Kunzea graniticola</i>	34	40	85	E		1300	NL
<i>Melaleuca diosmifolia</i>	248	290	86	SW,SE		16300	NL
<i>Babingtonia crenulata</i>	30	35	86	SE		600	VU
<i>Eucalyptus deuaensis</i>	37	43	86	E		400	NL
<i>Calothamnus validus</i>	50	58	86	SW		1700	NL
<i>Homoranthus zeteticorum</i>	38	44	86			700	NL
<i>Acmena hemilampra orophila</i>	129	149	87			1600	NL

<i>Eucalyptus mooreana</i>	71	82	87	NW	RH	1600	VU
<i>Eucalyptus sepulchralis</i>	71	82	87	SW		1600	NL
<i>Eucalyptus baeuerlenii</i>	162	187	87	E,SE	For	1700	NL
<i>Eucalyptus ligulata</i>	150	173	87	SW	SL, He	3100	NL
<i>Hypocalymma serrulatum</i>	111	128	87	SW		3000	NL
<i>Calothamnus affinis</i>	74	85	87	SW		2300	NL
<i>Eucalyptus vernicosa</i>	223	254	88	TAS	SL	8200	NL
<i>Calytrix verticillata</i>	240	271	89	CN		2700	NL
<i>Waterhousea mulgraveana</i>	152	171	89	NE		1100	NL
<i>Lithomyrtus kakaduensis</i>	89	100	89	CN		2800	NL
<i>Stenostegia congesta</i>	57	64	89	CN		800	NL
<i>Lithomyrtus linariifolia</i>	76	85	89	CN		1400	NL
<i>Eucalyptus elaeophloia</i>	34	38	89	SE		500	NL
<i>Eucalyptus stenostoma</i>	143	159	90	E,SE	For	2000	NL
<i>Syzygium alatoramulum</i>	109	121	90	NE		1200	NL
<i>Eucalyptus latiuscula</i>	55	61	90			1300	NL
<i>Calothamnus macrocarpus</i>	28	31	90	SW		200	NL
<i>Melaleuca globifera</i>	66	73	90	SW		1900	NL
<i>Eucalyptus olsenii</i>	98	108	91	E,SE	RH	1300	NL
<i>Eucalyptus sphaerocarpa</i>	207	228	91		For	1400	NL
<i>Corymbia oocarpa</i>	368	404	91	CN		5300	NL
<i>Melaleuca basiccephala</i>	229	251	91	SW		12800	NL
<i>Syzygium erythrodoxum</i>	158	172	92	NE		2000	NL
<i>Leptospermum wooroonoran</i>	105	114	92	NE		1100	NL
<i>Rhodomyrtus sericea</i>	164	178	92	NE		3300	NL
<i>Euryomyrtus denticulata</i>	37	40	92	SE		900	NL
<i>Gossia lewisensis</i>	79	85	93	NE		1100	NL
<i>Eucalyptus burdettiana</i>	132	142	93	SW	SL	3100	EN
<i>Leptospermum rupestre</i>	174	187	93	TAS		7100	NL
<i>Eucalyptus insularis</i>	71	76	93	SW	Mal	700	EN
<i>Uromyrtus metrosideros</i>	171	183	93	NE		2800	NL
<i>Darwinia collina</i>	72	77	94	SW		1200	EN
<i>Calytrix surdiviperana</i>	66	70	94	CN		800	NL
<i>Darwinia macrostegia</i>	71	75	95	SW		1400	VU
<i>Regelia velutina</i>	59	62	95	SW		1000	NL
<i>Calothamnus crassus</i>	42	44	95	SW		1500	NL
<i>Eucalyptus mensalis</i>	85	89	96			900	NL
<i>Barongia lophandra</i>	86	90	96	NE		500	NL

<i>Darwinia leiostyla</i>	67	70	96	SW		1100	NL
<i>Syzygium xerampelinum</i>	117	121	97	NE		1100	NL
<i>Eucalyptus wilcoxii</i>	33	34	97	E,SE		900	NL
<i>Hypocalymma</i> sp. <i>scott river</i>	35	36	97			600	NL
<i>Eucalyptus koolpinensis</i>	72	74	97	CN		500	NL
<i>Hypocalymma phillipsii</i>	37	38	97	SW		600	NL
<i>Eucalyptus mitchelliana</i>	123	126	98	SE	For	600	NL
<i>Ristantia gouldii</i>	83	85	98	NE		600	VU
<i>Darwinia hypericifolia</i>	45	46	98	SW		1200	NL
<i>Melaleuca triumphalis</i>	58	59	98	CN		500	NL
<i>Eucalyptus paliformis</i>	124	126	98	SE		600	NL
<i>Eucalyptus aquilina</i>	384	390	98	SW		17800	NL
<i>Darwinia oxylepis</i>	68	69	99	SW		1500	EN
<i>Eucalyptus brevistylis</i>	141	143	99	SW	For	1700	NL
<i>Eucalyptus saxatilis</i>	144	146	99	SE	Mal	800	NL
<i>Leptospermum namadgiensis</i>	73	74	99	E		600	NL
<i>Astartea</i> sp. <i>scott river</i>	243	245	99			4500	NL
<i>Darwinia wittwerorum</i>	31	31	100	SW		600	EN
<i>Leptospermum deuense</i>	31	31	100	E,SE		700	NL
<i>Melaleuca stipitata</i>	31	31	100	CN		200	NL
<i>Syzygium monimioides</i>	33	33	100	NE		500	NL
<i>Syzygium maraca</i>	34	34	100	NE		500	NL
<i>Leptospermum sericeum</i>	42	42	100	SW		1100	NL
<i>Sphaerantia chartacea</i>	42	42	100	NE		200	NL
<i>Leptospermum subglabratum</i>	43	43	100	E		1000	NL
<i>Hypocalymma speciosum</i>	44	44	100	SW		900	NL
<i>Rhodamnia angustifolia</i>	45	45	100			100	NL
<i>Darwinia</i> sp. <i>thumb peak</i>	66	66	100			2600	NL
<i>Syzygium dansiei</i>	67	67	100	NE		400	NL
<i>Astartea</i> sp. <i>fitzgerald</i>	68	68	100			2600	NL
<i>Eucalyptus coronata</i>	92	92	100	SW	SL	700	VU
<i>Calytrix inopinata</i>	163	163	100	CN		200	NL

Two hundred and fifty-eight species had less than 10% of ANHAT records located within PAs and 45 have no records within PAs. Forty-three of the 258 species are classified as threatened, including seven endangered species. This list is dominated by species from south-west Western Australia and eastern Australia and contains very few species from northern Australia. The species with habitat information are mostly forest or woodland species.

Table 10 Myrtaceae species with <10% of ANHAT records located within PAs.

<i>Species</i>	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Eucalyptus conjuncta</i>	0	32	0.0			800	NL
<i>Eucalyptus oresbia</i>	0	32	0.0	E		300	NL
<i>Eremaea brevifolia</i>	0	33	0.0	W		2000	NL
<i>Melaleuca sylvana</i>	0	33	0.0	NE		300	NL
<i>Micromyrtus delicata</i>	0	33	0.0	NE		100	NL
<i>Micromyrtus rotundifolia</i>	0	33	0.0	EI		700	NL
<i>Melaleuca kunzeoides</i>	0	34	0.0	EI		600	VU
<i>Leptospermum blakelyi</i>	0	35	0.0	E	He	600	NL
<i>Eucalyptus wyolensis</i>	0	38	0.0	CI		1100	NL
<i>Eucalyptus broviniensis</i>	0	41	0.0			200	NL
<i>Eucalyptus fracta</i>	0	41	0.0	E		300	NL
<i>Eucalyptus nigrifunda</i>	0	41	0.0	WI		1100	NL
<i>Eucalyptus dolorosa</i>	0	43	0.0	SW		400	EN
<i>Syzygium rubrimolle</i>	0	43	0.0	NE		700	NL
<i>Eucalyptus ceracea</i>	0	44	0.0	NW	Sand	700	VU
<i>Eucalyptus ordiana</i>	0	44	0.0	NW		800	NL
<i>Eucalyptus recurva</i>	0	44	0.0	E		600	EN
<i>Leptospermum venustum</i>	0	46	0.0			700	NL
<i>Darwinia pinifolia</i>	0	47	0.0	SW		2300	NL
<i>Syzygium velae</i>	0	50	0.0	NE		300	NL
<i>Eucalyptus nudicaulis</i>	0	54	0.0	EI		800	NL
<i>Darwinia brevifolia</i>	0	58	0.0			3000	NL
<i>Eucalyptus pruiniramis</i>	0	63	0.0	SW,W		1200	EN
<i>Eucalyptus cerasiformis</i>	0	65	0.0	SW	For	1400	VU
<i>Syzygium branderhorstii</i>	0	67	0.0	NE		1500	NL
<i>Eucalyptus wubinensis</i>	0	68	0.0	SW		4800	NL
<i>Homalocalyx coarctatus</i>	0	68	0.0	SW,W		3600	NL
<i>Ochrosperma sulcatum</i>	0	73	0.0	CN		100	NL
<i>Corymbia aureola</i>	0	76	0.0			900	NL
<i>Micromyrtus albicans</i>	0	77	0.0	E		1100	NL
<i>Corymbia dimorpha</i>	0	92	0.0			2900	NL

<i>Eucalyptus platydisca</i>	0	94	0.0	SW		900	VU
<i>Micromyrtus carinata</i>	0	97	0.0	E		1000	NL
<i>Calytrix gurulumundensis</i>	0	101	0.0	E		1200	VU
<i>Micromyrtus gracilis</i>	0	111	0.0	E, EI		2500	NL
<i>Corymbia pachycarpa</i>	0	112	0.0	NW		4700	NL
<i>Eucalyptus infera</i>	0	112	0.0	E		1300	VU
<i>Eucalyptus glaucina</i>	0	132	0.0	E	For	6200	VU
<i>Homalocalyx polyandrus</i>	0	136	0.0	E, EI		3100	NL
<i>Melaleuca squamophloia</i>	0	138	0.0	E		3600	NL
<i>Eucalyptus malacoxylon</i>	0	141	0.0	E	WL	3100	NL
<i>Eucalyptus argophloia</i>	0	173	0.0	E	WL, For	2300	VU
<i>Eucalyptus alligatrix limaensis</i>	0	186	0.0		WL, For	700	VU
<i>Eucalyptus brockwayi</i>	0	196	0.0	SW, WI		1800	NL
<i>Corymbia bloxsomei</i>	0	246	0.0	E		5500	NL
<i>Corymbia peltata</i>	1	296	0.3	E		9000	NL
<i>Eucalyptus mackintii</i>	1	137	0.7	SE		2700	NL
<i>Corymbia ligans</i>	1	108	0.9	E, EI		2700	NL
<i>Gossia gonoclada</i>	1	108	0.9	E		900	EN
<i>Homoranthus tropicus</i>	1	95	1.0	NE		1500	NL
<i>Corymbia scabrida</i>	1	101	1.0			1300	NL
<i>Homoranthus melanostictus</i>	2	194	1.0	E		4600	NL
<i>Eucalyptus mckieana</i>	1	91	1.1	E	For	3200	VU
<i>Eucalyptus desmondensis</i>	2	161	1.2	SW, W	SL	1000	NL
<i>Eucalyptus stricklandii</i>	2	170	1.2	SW	WL	4700	NL
<i>Eucalyptus rameliana</i>	1	75	1.3	W		1900	NL
<i>Eucalyptus nicholii</i>	2	159	1.3	E	WL	8500	VU
<i>Eucalyptus terrica</i>	3	194	1.5	E		4000	NL
<i>Neofabricia sericisepala</i>	4	258	1.5	NE		7300	NL
<i>Eucalyptus pterocarpa</i>	1	63	1.6	SW	For	1300	NL
<i>Eucalyptus paedoglauca</i>	1	64	1.6	E		1300	VU
<i>Eucalyptus cuprea</i>	2	102	1.7	W		2300	EN
<i>Eucalyptus strzeleckii</i>	3	152	1.7	SE		4000	VU
<i>Micromyrtus hexamera</i>	3	152	1.7			5500	NL

<i>Eucalyptus foliosa</i>	1	56	1.8	SW		1200	NL
<i>Eucalyptus dolichorhyncha</i>	2	110	1.8	SW		2000	NL
<i>Eucalyptus fitzgeraldii</i>	1	52	1.9	NW	Sand	1700	NL
<i>Eucalyptus parramattensis decadens</i>	1	52	1.9			2000	VU
<i>Corymbia clandestina</i>	1	53	1.9			1300	VU
<i>Eucalyptus newbeyi</i>	1	53	1.9	SW	SL	900	NL
<i>Eucalyptus lesouefii</i>	8	414	1.9	SW,W,WI	WL	9400	NL
<i>Eucalyptus creta</i>	1	49	2.0	SW		1300	NL
<i>Eucalyptus cyanoclada</i>	2	94	2.1	CN,CS	WL	3800	NL
<i>Eucalyptus pachycalyx</i>	7	336	2.1	E	For	3700	NL
<i>Eucalyptus pumila</i>	1	46	2.2	E	RH	600	VU
<i>Melaleuca clavifolia</i>	1	46	2.2	SW		1800	NL
<i>Eucalyptus balladoniensis</i>	2	89	2.2		SL	2700	NL
<i>Eucalyptus steedmanii</i>	2	89	2.2	SW	WL	1200	VU
<i>Eucalyptus whitei</i>	12	548	2.2	E,EI	For	20900	NL
<i>Eucalyptus leprophloia</i>	1	44	2.3	SW		1300	EN
<i>Leptospermum pallidum</i>	1	44	2.3	E		700	NL
<i>Melaleuca tamariscina irbyana</i>	4	171	2.3			4400	NL
<i>Eucalyptus recta</i>	1	41	2.4	SW		600	NL
<i>Thryptomene stenophylla</i>	1	41	2.4			1100	NL
<i>Eucalyptus rubida barbigerorum</i>	1	40	2.5			1400	VU
<i>Eucalyptus blaxellii</i>	4	161	2.5	W		1700	VU
<i>Eucalyptus balanites</i>	1	38	2.6	SW		500	EN
<i>Melaleuca depressa</i>	2	74	2.7	W		2600	NL
<i>Eucalyptus indurata</i>	6	215	2.8	SW		5300	NL
<i>Eucalyptus leucophylla</i>	7	253	2.8	EI		6100	NL
<i>Eucalyptus ophitica</i>	1	35	2.9	E		400	NL
<i>Melaleuca bromelioides</i>	2	70	2.9	SW		3400	NL
<i>Eucalyptus effusa</i>	4	140	2.9	SW,W,WI	SL	3000	NL
<i>Eucalyptus laevis</i>	3	101	3.0	SW		3400	NL
<i>Rinzia sessilis</i>	1	32	3.1	SW		1800	NL
<i>Eucalyptus dundasii</i>	7	223	3.1	SW,W	For, WL	4700	NL

<i>Melaleuca decora</i>	9	289	3.1	E	For, WL	17400	NL
<i>Homalocalyx echinulatus</i>	1	31	3.2	W,WI		1700	NL
<i>Eucalyptus microneura</i>	12	362	3.3	NE,E,EI	For, WL	8600	NL
<i>Calytrix amethystina</i>	2	59	3.4	SW,W,WI		2700	NL
<i>Eucalyptus livida</i>	5	148	3.4	SW		4400	NL
<i>Eucalyptus chartaboma</i>	6	172	3.5	NE,E,EI		4500	NL
<i>Calothamnus aridus</i>	2	56	3.6	SW,W		3400	NL
<i>Calothamnus longissimus</i>	3	82	3.7	SW,W		3200	NL
<i>Eucalyptus misella</i>	2	53	3.8	SW		1400	NL
<i>Eucalyptus pilligaensis</i>	16	426	3.8	E		23000	NL
<i>Melaleuca cliffortioides</i>	3	76	3.9	SW		2600	NL
<i>Eucalyptus rhombica</i>	5	129	3.9	E		1500	NL
<i>Beaufortia macrostemon</i>	2	49	4.1	SW		3100	NL
<i>Babingtonia jucunda</i>	6	145	4.1	E		4800	NL
<i>Eucalyptus brownii</i>	26	633	4.1	NE,E,EI	WL	23700	NL
<i>Eucalyptus cannonii</i>	4	95	4.2			3700	VU
<i>Melaleuca lateralis</i>	3	69	4.3	SW		3200	NL
<i>Eucalyptus polita</i>	6	138	4.3	SW		5500	NL
<i>Eucalyptus tetrapleura</i>	6	140	4.3	E	For	2700	VU
<i>Melaleuca xerophila</i>	10	231	4.3	W,CI,CS, WI		11500	NL
<i>Eucalyptus raveretiana</i>	16	369	4.3	E	WL	9300	VU
<i>Eucalyptus odontocarpa</i>	32	739	4.3	NW,EI,W ,CI,WI		23200	NL
<i>Melaleuca plumea</i>	4	91	4.4	SW		3000	NL
<i>Babingtonia similis</i>	2	44	4.5	E		2500	NL
<i>Homoranthus prolixus</i>	3	66	4.5	E		1600	VU
<i>Corymbia rhodops</i>	7	156	4.5	NE		1500	VU
<i>Eucalyptus brachyphylla</i>	2	43	4.6	SW		400	NL
<i>Melaleuca coccinea</i>	2	43	4.6	SW		2100	NL
<i>Eremaea fimbriata</i>	4	85	4.7	SW		3200	NL
<i>Corymbia dampieri</i>	19	407	4.7	NW		10000	NL
<i>Eucalyptus pachyphylla</i>	38	793	4.8	NW,CN,E I,W,CI,W I	SL	26300	NL
<i>Melaleuca podiocarpa</i>	3	61	4.9	SW		3200	NL

<i>Eucalyptus varia</i>	6	123	4.9			3200	NL
<i>Homoranthus porteri</i>	7	143	4.9	NE		1800	VU
<i>Corymbia pocillum</i>	16	328	4.9	NE,EI		8100	NL
<i>Eucalyptus sargentii</i>	14	278	5.0	SW		7800	NL
<i>Eucalyptus argillacea</i>	16	318	5.0	NW,CN, WI	WL	18500	NL
<i>Melaleuca clarksonii</i>	5	94	5.3	NE		2700	NL
<i>Corymbia xanthope</i>	10	181	5.5			2400	VU
<i>Darwinia purpurea</i>	7	125	5.6	SW,W		5100	NL
<i>Corymbia ellipsoidea</i>	11	197	5.6	NE,E NW,CN,		4400	NL
<i>Corymbia flavescens</i>	22	393	5.6	W,CI		19500	NL
<i>Beaufortia orbifolia</i>	7	122	5.7	SW		4000	NL
<i>Eucalyptus tephrodes</i>	7	123	5.7	NW,W		4700	NL
<i>Melaleuca monantha</i>	10	174	5.7	NE		4200	NL
<i>Eucalyptus abdita</i>	3	52	5.8	SW,W		900	NL
<i>Eucalyptus protensa</i>	6	104	5.8	SW		3000	NL
<i>Eucalyptus cernua</i>	9	155	5.8	SW		3300	NL
<i>Eucalyptus populnea</i>	114	1948	5.8	E,EI		139900	NL
<i>Calytrix divergens</i>	2	34	5.9	W		2100	NL
<i>Calytrix erosipetala</i>	3	51	5.9	SW,W,WI		2300	NL
<i>Eucalyptus conveniens</i>	3	51	5.9	SW,W		2300	NL
<i>Eucalyptus forrestiana</i>	11	185	5.9	SW NW,CN,C		4600	NL
<i>Eucalyptus cupularis</i>	12	203	5.9	I	WL	4500	NL
<i>Eucalyptus ochrophloia</i>	22	371	5.9	E,EI NW,SW, CN,EI,W, CI,WI	WL, For	10000	NL
<i>Melaleuca lasiandra</i>	38	647	5.9			23100	NL
<i>Eucalyptus placita</i>	4	67	6.0	E		3100	NL
<i>Syzygium macilwraithianum</i>	4	67	6.0	NE		800	NL
<i>Eucalyptus rhomboidea</i>	2	33	6.1	SW		600	NL
<i>Eucalyptus thamnoides megista</i>	2	33	6.1			2200	NL
<i>Eucalyptus vesiculosa</i>	2	33	6.1	SW		600	NL
<i>Verticordia attenuata</i>	2	33	6.1	SW NW,CN,		800	NL
<i>Melaleuca alsophila</i>	13	212	6.1	W		8600	NL
<i>Eucalyptus magnificata</i>	3	48	6.2	E		2000	NL

<i>Eucalyptus argutifolia</i>	5	81	6.2	SW		1500	VU
<i>Eucalyptus kruseana</i>	5	81	6.2	SW	RH	1600	NL
<i>Eucalyptus erythronema</i>	28	453	6.2	SW	SL, WL	12000	NL
<i>Eucalyptus aggregata</i>	28	454	6.2	E,SE	WL	8100	NL
<i>Eucalyptus xanthoclada</i>	20	317	6.3			10600	NL
<i>Darwinia masonii</i>	2	31	6.4	W		500	VU
<i>Melaleuca agathosmoides</i>	2	31	6.4	SW		400	NL
<i>Eucalyptus subtilis</i>	5	78	6.4	SW		1300	NL
<i>Eucalyptus dichromophloia</i>	11	173	6.4	NW,CN,E I,CI	WL For,	9800	NL
<i>Eucalyptus torquata</i>	16	248	6.4	SW,CS	WL	5300	NL
<i>Malleostemon minilyaensis</i>	3	46	6.5	W		2900	NL
<i>Eucalyptus thozetiana</i>	58	859	6.7	E,EI,CI	WL, For	25500	NL
<i>Angophora inopina</i>	4	59	6.8	E		2000	VU
<i>Eucalyptus georgei</i>	7	103	6.8	SW,CS	For	2400	NL
<i>Eucalyptus shirleyi</i>	39	570	6.8	NE,E,EI	WL, For	16300	NL
<i>Calytrix desolata</i>	8	116	6.9	W		7000	NL
<i>Eucalyptus dielsii</i>	10	144	6.9	SW	SL	3000	NL
<i>Eucalyptus megasepala</i>	4	57	7.0			2600	NL
<i>Eucalyptus barklyensis</i>	5	71	7.0	CI		3300	NL
<i>Calytrix praecipua</i>	3	42	7.1	W,WI		2000	NL
<i>Xanthostemon youngii</i>	6	85	7.1	NE		1000	VU
<i>Eucalyptus campaspe</i>	15	209	7.2	SW	WL	3500	NL
<i>Eucalyptus melanoxydon</i>	27	369	7.3	SW	For	11500	NL
<i>Eucalyptus provecta</i>	8	108	7.4	NE,EI		2100	NL
<i>Verticordia etheliana</i>	3	40	7.5			2200	NL
<i>Syzygium moorei</i>	7	93	7.5	E		2800	VU
<i>Eucalyptus petiolaris</i>	18	241	7.5	CS		5000	NL
<i>Melaleuca fabri</i>	5	66	7.6	SW,W		2200	NL
<i>Eucalyptus kessellii</i>	25	328	7.6	SW	Mal	8700	NL
<i>Corymbia zygophylla</i>	31	407	7.6	NW,WI		15200	NL
<i>Eucalyptus conica</i>	55	724	7.6	E	WL	27100	NL
<i>Eucalyptus pruinosa</i>	155	2000	7.7	NW,CN,E I,CI	WL	72700	NL
<i>Corymbia stockeri</i>	34	433	7.8	NE		10300	NL

<i>Eucalyptus melanophloia</i>	176	2264	7.8	NE,E,EI	WL	111100	NL
<i>Eucalyptus tenuipes</i>	46	584	7.9	E	For	12900	NL
<i>Eucalyptus terebra</i>	11	137	8.0	SW		3500	NL
<i>Rinzia fumana</i>	6	74	8.1	SW		4800	NL
<i>Eucalyptus obconica</i>	13	161	8.1	NW		5400	NL
<i>Eucalyptus pulverulenta</i>	19	235	8.1	E,SE		3500	VU
<i>Calytrix leptophylla</i>	20	248	8.1	NE,E,EI		5900	NL
<i>Eucalyptus coolabah</i>	197	2439	8.1	NW,CN,E ,EI,CI,CS		119700	NL
<i>Eucalyptus thamnoides</i>	5	61	8.2	SW		3300	NL
<i>Micromyrtus capricornia</i>	8	98	8.2			3100	NL
<i>Homalocalyx chapmanii</i>	4	48	8.3	W		1000	NL
<i>Eucalyptus vegrandis</i>	17	204	8.3	SW		10500	NL
<i>Eucalyptus stowardii</i>	19	229	8.3	SW,W	SL	5400	NL
<i>Eucalyptus cambageana</i>	54	643	8.4	E,EI	RH	22400	NL
<i>Eucalyptus rhodantha</i>	4	47	8.5	SW,W		900	NL
<i>Scholtzia parviflora</i>	7	82	8.5	SW,W		5100	NL
<i>Eucalyptus annulata</i>	22	258	8.5	SW		8000	NL
<i>Eucalyptus bakeri</i>	42	495	8.5	E,EI	SL	9700	NL
<i>Melaleuca fluviatilis</i>	53	621	8.5	NE,E,EI		21600	NL
<i>Melaleuca dempta</i>	3	35	8.6	SW		1000	NL
<i>Chamelaucium micranthum</i>	6	70	8.6	SW,W		4400	NL
<i>Melaleuca teretifolia</i>	10	116	8.6	SW		4900	NL
<i>Melaleuca orbicularis</i>	12	139	8.6	SW,W		4500	NL
<i>Corymbia plena</i>	28	321	8.7	E,EI		12800	NL
<i>Eucalyptus valens</i>	10	113	8.8	SW		4300	NL
<i>Eucalyptus quadrans</i>	19	213	8.9	SW,CS		6900	NL
<i>Eucalyptus similis</i>	41	458	8.9	NE,E,EI	WL	14000	NL
<i>Eucalyptus cullenii</i>	165	1856	8.9	NE,E,EI	WL	34700	NL
<i>Eucalyptus megacornuta</i>	9	100	9.0	SW	RH, WL	1300	NL
<i>Eucalyptus synandra</i>	10	111	9.0	SW,W	SL WL, SL	2600	VU
<i>Eucalyptus kochii</i>	61	674	9.0	SW,W	SL	20600	NL
<i>Calothamnus pachystachyus</i>	3	33	9.1	SW		1500	NL
<i>Baeckea grandis</i>	5	55	9.1	W		3200	NL

<i>Melaleuca biconvexa</i>	7	77	9.1	E	For, Sc	4400	VU
<i>Melaleuca exuvia</i>	7	77	9.1	SW		2400	NL
<i>Melaleuca sparsiflora</i>	9	99	9.1	SW		3200	NL
<i>Eucalyptus jutsonii</i>	12	132	9.1	SW,W,WI	SL	2200	NL
<i>Eucalyptus pantoleuca</i>	13	143	9.1	NW		4900	NL
<i>Melaleuca nervosa</i> <i>crosslandiana</i>	19	208	9.1			16200	NL
<i>Thryptomene</i> <i>mucronulata</i>	10	109	9.2	SW,W		5900	NL
<i>Eucalyptus arachnaea</i>	37	404	9.2	SW,W		11400	NL
<i>Eucalyptus irritans</i>	4	43	9.3			3100	NL
<i>Beaufortia eriocephala</i>	3	32	9.4	SW		2200	NL
<i>Darwinia grandiflora</i>	5	53	9.4	E	For, WL	1600	NL
<i>Eucalyptus howittiana</i>	19	203	9.4	E	For	4300	NL
<i>Corymbia dallachiana</i>	90	954	9.4	NE,E,EI		38700	NL
<i>Verticordia rennieana</i>	6	63	9.5	SW,W		3800	NL
<i>Eucalyptus</i> <i>apothalassica</i>	28	294	9.5	E		8900	NL
<i>Eucalyptus</i> <i>cylindriflora</i>	30	315	9.5	SW		8800	NL
<i>Eucalyptus persistens</i>	82	863	9.5	E,EI	He	25000	NL
<i>Eucalyptus dealbata</i>	83	876	9.5	E	WL	51000	NL
<i>Calytrix uncinata</i>	5	52	9.6	W,WI		2800	NL
<i>Melaleuca citrolens</i>	69	719	9.6	NE,CN,E, EI		23800	NL
<i>Eucalyptus prolixa</i>	12	124	9.7	SW		5400	NL
<i>Eucalyptus</i> <i>kartzoffiana</i>	15	154	9.7	E	For	1200	VU
<i>Eucalyptus extensa</i>	17	175	9.7	SW		6700	NL
<i>Eucalyptus</i> <i>chloroclada</i>	104	1063	9.8	E,EI	WL	45100	NL
<i>Thryptomene</i> <i>racemulosa</i>	14	141	9.9	SW,W		8200	NL
<i>Eucalyptus spreata</i>	16	161	9.9	SW		5200	NL
<i>Eucalyptus myriadena</i>	41	413	9.9	SW,W	Sandy soils	11500	NL
<i>Eucalyptus griffithsii</i>	43	432	9.9	SW,W	RH	10000	NL
<i>Eucalyptus limitaris</i>	11	110	10.0	NW,CN		5400	NL
<i>Eucalyptus virens</i>	14	140	10.0	E	For	1800	VU
<i>Eucalyptus leptopoda</i>	51	511	10.0	W		21500	NL
<i>Corymbia</i> <i>erythrophloia</i>	160	1607	10.0	NE,E,EI		55900	NL

A total of 58 Myrtaceae species had records in more than 100 separate PAs. Most species in this list had over a thousand records, with an average of 3909 records per species. No species were listed as threatened.

Table 11 Myrtaceae species recorded at more than 100 reserves.

Species	No. Records	No. Reserves	No. reserves >1000ha	EPBC status
<i>Syzygium australe</i>	920	100	76	NL
<i>Eucalyptus cypellocarpa</i>	7330	103	67	NL
<i>Leptospermum trinervium</i>	1247	105	73	NL
<i>Melaleuca basiccephala</i>	251	108	27	NL
<i>Eucalyptus siderophloia</i>	1656	108	77	NL
<i>Eucalyptus calycogona</i>	2052	109	52	NL
<i>Eucalyptus phenax</i>	1409	111	59	NL
<i>Eucalyptus pauciflora</i>	5277	111	79	NL
<i>Melaleuca gibbosa</i>	1242	112	62	NL
<i>Eucalyptus foecunda</i>	901	113	58	NL
<i>Melaleuca ericifolia</i>	2120	114	67	NL
<i>Melaleuca viridiflora</i>	9368	115	97	NL
<i>Corymbia tessellaris</i>	2439	116	76	NL
<i>Gossia bidwillii</i>	1322	117	86	NL
<i>Melaleuca acuminata</i>				
<i>acuminata</i>	936	119	72	NL
<i>Leptospermum polygalifolium</i>	1413	119	91	NL
<i>Eucalyptus largiflorens</i>	3133	120	38	NL
<i>Syncarpia glomulifera</i>	1183	121	93	NL
<i>Baeckea crassifolia</i>	1116	124	67	NL
<i>Eucalyptus fasciculosa</i>	2265	126	27	NL
<i>Eucalyptus porosa</i>	2830	129	59	NL
<i>Eucalyptus microcorys</i>	1550	132	92	NL
<i>Acmena smithii</i>	1157	134	103	NL
<i>Melaleuca squarrosa</i>	2746	140	80	NL
<i>Leptospermum coriaceum</i>	1799	142	73	NL
<i>Lophostemon suaveolens</i>	3343	143	85	NL
<i>Babingtonia behrii</i>	1232	145	59	NL
<i>Eucalyptus dives</i>	4292	145	77	NL
<i>Eucalyptus diversifolia</i>	2328	147	77	NL
<i>Eucalyptus acmenoides</i>	2670	155	114	NL
<i>Eucalyptus aquilina</i>	390	158	39	NL
<i>Eucalyptus goniocalyx</i>	4047	169	79	NL
<i>Eucalyptus macrorhyncha</i>	4626	173	77	NL
<i>Eucalyptus leptophylla</i>	3254	174	99	NL
<i>Eucalyptus baxteri</i>	4794	178	65	NL
<i>Eucalyptus microcarpa</i>	4503	184	64	NL
<i>Leptospermum lanigerum</i>	2039	189	115	NL
<i>Eucalyptus crebra</i>	8698	204	157	NL
<i>Lophostemon confertus</i>	2988	206	142	NL

<i>Eucalyptus ovata</i>	5408	210	106	NL
<i>Corymbia intermedia</i>	4149	217	136	NL
<i>Eucalyptus gracilis</i>	4740	217	117	NL
<i>Eucalyptus incrassata</i>	3318	221	122	NL
<i>Eucalyptus dumosa</i>	3692	221	103	NL
<i>Eucalyptus radiata</i>	9130	224	113	NL
<i>Eucalyptus melliadora</i>	4866	236	125	NL
<i>Eucalyptus tereticornis</i>	5350	240	162	NL
<i>Eucalyptus socialis</i>	6813	249	137	NL
<i>Eucalyptus oleosa</i>	4253	258	146	NL
<i>Eucalyptus leucoxylon</i>	5484	275	84	NL
<i>Melaleuca uncinata</i>	3380	290	159	NL
<i>Leptospermum myrsinoides</i>	5370	292	88	NL
<i>Eucalyptus obliqua</i>	13389	324	141	NL
<i>Leptospermum continentale</i>	8647	329	140	NL
<i>Eucalyptus viminalis</i>	9687	337	163	NL
<i>Eucalyptus camaldulensis</i>	11185	341	166	NL
<i>Melaleuca lanceolata</i>	4567	350	194	NL
<i>Calytrix tetragona</i>	6407	456	245	NL

A total of 713 species had records in five or fewer PAs, which is slightly over 42% of the species with more than 20 record sites. Ninety-five species are threatened, including 25 species classified as endangered. The majority of species in this list had fewer than 100 individual record sites, and no species had more than 800 record sites.

Table 12 Myrtaceae species recorded from five or fewer PAs.

Species	No. Records	No. reserves	EPBC status
<i>Eucalyptus conjuncta</i>	32	0	NL
<i>Eucalyptus oresbia</i>	32	0	NL
<i>Melaleuca sylvana</i>	33	0	NL
<i>Micromyrtus delicate</i>	33	0	NL
<i>Micromyrtus rotundifolia</i>	33	0	NL
<i>Eremaea brevifolia</i>	33	0	NL
<i>Melaleuca kunzeoides</i>	34	0	VU
<i>Leptospermum blakelyi</i>	35	0	NL
<i>Eucalyptus wyolensis</i>	38	0	NL
<i>Eucalyptus fracta</i>	41	0	NL
<i>Eucalyptus broviniensis</i>	41	0	NL
<i>Eucalyptus nigrifunda</i>	41	0	NL
<i>Eucalyptus dolorosa</i>	43	0	EN
<i>Syzygium rubrimolle</i>	43	0	NL
<i>Eucalyptus recurva</i>	44	0	EN
<i>Eucalyptus ordiana</i>	44	0	NL
<i>Eucalyptus ceracea</i>	44	0	VU
<i>Leptospermum venustum</i>	46	0	NL

<i>Darwinia pinifolia</i>	47	0	NL
<i>Syzygium velae</i>	50	0	NL
<i>Eucalyptus nudicaulis</i>	54	0	NL
<i>Darwinia brevifolia</i>	58	0	NL
<i>Eucalyptus pruiniramis</i>	63	0	EN
<i>Eucalyptus cerasiformis</i>	65	0	VU
<i>Syzygium branderhorstii</i>	67	0	NL
<i>Homalocalyx coarctatus</i>	68	0	NL
<i>Eucalyptus wubinensis</i>	68	0	NL
<i>Ochrosperma sulcatum</i>	73	0	NL
<i>Corymbia aureola</i>	76	0	NL
<i>Micromyrtus albicans</i>	77	0	NL
<i>Corymbia dimorpha</i>	92	0	NL
<i>Eucalyptus platydisca</i>	94	0	VU
<i>Micromyrtus carinata</i>	97	0	NL
<i>Calytrix gurulumundensis</i>	101	0	VU
<i>Micromyrtus gracilis</i>	111	0	NL
<i>Corymbia pachycarpa</i>	112	0	NL
<i>Eucalyptus infera</i>	112	0	VU
<i>Eucalyptus glaucina</i>	132	0	VU
<i>Homalocalyx polyandrous</i>	136	0	NL
<i>Melaleuca squamophloia</i>	138	0	NL
<i>Eucalyptus malacoxylon</i>	141	0	NL
<i>Eucalyptus argophloia</i>	173	0	VU
<i>Eucalyptus alligatrix</i>			
<i>limaensis</i>	186	0	VU
<i>Eucalyptus brockwayi</i>	196	0	NL
<i>Corymbia bloxsomei</i>	246	0	NL
<i>Homalocalyx echinulatus</i>	31	1	NL
<i>Calothamnus macrocarpus</i>	31	1	NL
<i>Eucalyptus caleyi ovoidenii</i>	31	1	VU
<i>Leptospermum deuense</i>	31	1	NL
<i>Darwinia masonii</i>	31	1	VU
<i>Melaleuca agathosmoides</i>	31	1	NL
<i>Melaleuca papillose</i>	32	1	NL
<i>Malleostemon pedunculatus</i>	32	1	NL
<i>Rinzia sessilis</i>	32	1	NL
<i>Syzygium monimiodes</i>	33	1	NL
<i>Eucalyptus vesiculosa</i>	33	1	NL
<i>Syzygium maraca</i>	34	1	NL
<i>Eucalyptus semota</i>	34	1	NL
<i>Babingtonia squarrulosa</i>	34	1	NL
<i>Babingtonia crenulata</i>	35	1	VU
<i>Melaleuca dempta</i>	35	1	NL
<i>Eucalyptus ophitica</i>	35	1	NL
<i>Regelia punicea</i>	35	1	NL
<i>Eucalyptus phylacis</i>	36	1	EN
<i>Eucalyptus praetermissa</i>	36	1	NL
<i>Homoranthus montanus</i>	36	1	VU
<i>Homoranthus decumbens</i>	37	1	VU

<i>Hypocalymma phillipsii</i>	38	1	NL
<i>Eucalyptus balanites</i>	38	1	EN
<i>Eucalyptus ancophila</i>	39	1	NL
<i>Eucalyptus canobolensis</i>	39	1	VU
<i>Verticordia oxylepis</i>	39	1	NL
<i>Melaleuca idana</i>	39	1	NL
<i>Ristantia waterhousei</i>	40	1	NL
<i>Eucalyptus rubida</i>			
<i>barbigerorum</i>	40	1	VU
<i>Thryptomene stenophylla</i>	41	1	NL
<i>Eucalyptus recta</i>	41	1	NL
<i>Melaleuca laetifica</i>	42	1	NL
<i>Baeckea robusta</i>	42	1	NL
<i>Eucalyptus luculenta</i>	42	1	NL
<i>Sphaerantia chartacea</i>	42	1	NL
<i>Eucalyptus deuaensis</i>	43	1	NL
<i>Eucalyptus brachyphylla</i>	43	1	NL
<i>Kunzea montana</i>	43	1	NL
<i>Leptospermum pallidum</i>	44	1	NL
<i>Eucalyptus leprophloia</i>	44	1	EN
<i>Chamelaucium marchantii</i>	44	1	NL
<i>Hypocalymma speciosum</i>	44	1	NL
<i>Homoranthus zeteticorum</i>	44	1	NL
<i>Eucalyptus carnabyi</i>	45	1	NL
<i>Rhodamnia angustifolia</i>	45	1	NL
<i>Eucalyptus corticosa</i>	46	1	NL
<i>Melaleuca clavifolia</i>	46	1	NL
<i>Calytrix rupestris</i>	46	1	NL
<i>Eucalyptus pumila</i>	46	1	VU
<i>Darwinia hypericifolia</i>	46	1	NL
<i>Stockwellia quadrifida</i>	47	1	NL
<i>Verticordia fastigiata</i>	47	1	NL
<i>Eucalyptus rhodantha</i>	47	1	NL
<i>Eucalyptus sicilifolia</i>	47	1	NL
<i>Eucalyptus creta</i>	49	1	NL
<i>Eucalyptus parramattensis</i>			
<i>decadens</i>	52	1	VU
<i>Eucalyptus abdita</i>	52	1	NL
<i>Eucalyptus fitzgeraldii</i>	52	1	NL
<i>Corymbia clandestine</i>	53	1	VU
<i>Eucalyptus newbeyi</i>	53	1	NL
<i>Calytrix micrairoides</i>	54	1	NL
<i>Eucalyptus kabiana</i>	55	1	VU
<i>Eucalyptus ultima</i>	56	1	NL
<i>Eucalyptus foliosa</i>	56	1	NL
<i>Verticordia polytricha</i>	58	1	NL
<i>Eucalyptus luteola</i>	58	1	NL
<i>Melaleuca triumphalis</i>	59	1	NL
<i>Homoranthus papillatus</i>	61	1	NL
<i>Corymbia torta</i>	62	1	NL

<i>Regelia velutina</i>	62	1	NL
<i>Mitrantia bilocularis</i>	63	1	NL
<i>Eucalyptus pterocarpa</i>	63	1	NL
<i>Stenostegia congesta</i>	64	1	NL
<i>Eucalyptus paedoglauca</i>	64	1	VU
<i>Darwinia</i> sp. <i>thumb peak</i>	66	1	NL
<i>Darwinia meeboldii</i>	66	1	VU
<i>Syzygium macilwraithianum</i>	67	1	NL
<i>Astartea</i> sp. <i>Fitzgerald</i>	68	1	NL
<i>Darwinia leiostyla</i>	70	1	NL
<i>Eucalyptus absita</i>	71	1	EN
<i>Eucalyptus communalis</i>	71	1	NL
<i>Melaleuca depressa</i>	74	1	NL
<i>Eucalyptus koolpinensis</i>	74	1	NL
<i>Eucalyptus vokesensis</i>	74	1	NL
<i>Eucalyptus rameliana</i>	75	1	NL
<i>Darwinia collina</i>	77	1	EN
<i>Eucalyptus subtilise</i>	78	1	NL
<i>Lithomyrtus hypoleuca</i>	80	1	NL
<i>Eucalyptus kruseana</i>	81	1	NL
<i>Scholtzia uberiflora</i>	83	1	NL
<i>Eucalyptus lacrimans</i>	84	1	NL
<i>Lithomyrtus linariifolia</i>	85	1	NL
<i>Xanthostemon youngie</i>	85	1	VU
<i>Eucalyptus pachycalyx</i> <i>waajensis</i>	87	1	NL
<i>Eucalyptus steedmanii</i>	89	1	VU
<i>Eucalyptus balladoniensis</i>	89	1	NL
<i>Barongia lophandra</i>	90	1	NL
<i>Eucalyptus gigantangion</i>	90	1	NL
<i>Eucalyptus mckieana</i>	91	1	VU
<i>Eucalyptus coronata</i>	92	1	VU
<i>Eucalyptus histophylla</i>	93	1	NL
<i>Eucalyptus cyanoclada</i>	94	1	NL
<i>Homoranthus tropicus</i>	95	1	NL
<i>Eucalyptus megacornuta</i>	100	1	NL
<i>Corymbia scabrada</i>	101	1	NL
<i>Eucalyptus laevis</i>	101	1	NL
<i>Eucalyptus pilbarensis</i>	105	1	NL
<i>Corymbia ligans</i>	108	1	NL
<i>Eucalyptus provecta</i>	108	1	NL
<i>Gossia gonoclada</i>	108	1	EN
<i>Corymbia petalophylla</i>	108	1	NL
<i>Eucalyptus glomericassis</i>	119	1	NL
<i>Eucalyptus cyclostoma</i>	121	1	NL
<i>Eucalyptus mitchelliana</i>	126	1	NL
<i>Lithomyrtus densifolia</i>	128	1	NL
<i>Eucalyptus rhombica</i>	129	1	NL
<i>Petraeomyrtus punicea</i>	130	1	NL
<i>Eucalyptus mackintii</i>	137	1	NL

<i>Eucalyptus tetrapleura</i>	140	1	VU
<i>Eucalyptus effuse</i>	140	1	NL
<i>Syzygium boonjee</i>	142	1	NL
<i>Eucalyptus burdettiana</i>	142	1	EN
<i>Micromyrtus hexamera</i>	152	1	NL
<i>Eucalyptus talyuberlup</i>	155	1	NL
<i>Corymbia rhodops</i>	156	1	VU
<i>Eucalyptus desmondensis</i>	161	1	NL
<i>Calytrix inopinata</i>	163	1	NL
<i>Eucalyptus stricklandii</i>	170	1	NL
<i>Melaleuca cornucopiae</i>	172	1	NL
<i>Eucalyptus terrica</i>	194	1	NL
<i>Homoranthus melanostictus</i>	194	1	NL
<i>Eucalyptus dundasii</i>	223	1	NL
<i>Eucalyptus sphaerocarpa</i>	228	1	NL
<i>Lithomyrtus cordata</i>	261	1	NL
<i>Calytrix verticillata</i>	271	1	NL
<i>Corymbia peltata</i>	296	1	NL
<i>Eucalyptus litorea</i>	31	2	NL
<i>Darwinia wittwerorum</i>	31	2	EN
<i>Melaleuca stipitata</i>	31	2	NL
<i>Xanthostemon graniticus</i>	33	2	NL
<i>Eucalyptus thamnoides</i>			
<i>megista</i>	33	2	NL
<i>Calothamnus pachystachyus</i>	33	2	NL
<i>Eucalyptus rhomboidea</i>	33	2	NL
<i>Verticordia attenuate</i>	33	2	NL
<i>Syzygium aqueum</i>	34	2	NL
<i>Pileanthus limacis</i>	34	2	NL
<i>Leptospermum barneyense</i>	34	2	NL
<i>Calytrix divergens</i>	34	2	NL
<i>Uromyrtus lamingtonensis</i>	35	2	NL
<i>Thryptomene longifolia</i>	36	2	NL
<i>Melaleuca campanae</i>	36	2	NL
<i>Hypocalymma</i> sp. <i>scott river</i>	36	2	NL
<i>Backhousia oligantha</i>	36	2	NL
<i>Micromyrtus minutiflora</i>	37	2	VU
<i>Melaleuca zonalis</i>	37	2	NL
<i>Melaleuca bisulcata</i>	38	2	NL
<i>Eucalyptus elaeophloia</i>	38	2	NL
<i>Leptospermum rupicola</i>	39	2	NL
<i>Melaleuca pomphostoma</i>	39	2	NL
<i>Verticordia stenopetala</i>	39	2	NL
<i>Kunzea graniticola</i>	40	2	NL
<i>Verticordia etheliana</i>	40	2	NL
<i>Eucalyptus imlayensis</i>	41	2	EN
<i>Eucalyptus volcanica</i>	41	2	NL
<i>Verticordia vicinella</i>	41	2	NL
<i>Eucalyptus nandewarica</i>	41	2	NL
<i>Calytrix praecipua</i>	42	2	NL

<i>Calytrix ecalycata</i>	42	2	NL
<i>Melaleuca coccinea</i>	43	2	NL
<i>Calytrix parvivalis</i>	43	2	NL
<i>Melaleuca hnatiukii</i>	43	2	NL
<i>Verticordia plumosa</i>			
<i>vassensis</i>	43	2	EN
<i>Calothamnus crassus</i>	44	2	NL
<i>Verticordia centipede</i>	44	2	NL
<i>Babingtonia similis</i>	44	2	NL
<i>Scholtzia spatulata</i>	44	2	NL
<i>Melaleuca barlowii</i>	46	2	NL
<i>Austromyrtus glabra</i>	47	2	NL
<i>Corymbia chillagoensis</i>	47	2	NL
<i>Triplarina volcanica borealis</i>	47	2	NL
<i>Eucalyptus magnificata</i>	48	2	NL
<i>Melaleuca calothamnoides</i>	48	2	NL
<i>Beaufortia macrostemon</i>	49	2	NL
<i>Darwinia virescens</i>	49	2	NL
<i>Gossia macilwraithensis</i>	50	2	NL
<i>Xanthostemon xerophilus</i>	50	2	NL
<i>Melaleuca pearsonii</i>	51	2	NL
<i>Gossia bamagensis</i>	51	2	NL
<i>Calytrix uncinata</i>	52	2	NL
<i>Corymbia leptoloma</i>	53	2	VU
<i>Eucalyptus praecox</i>	53	2	NL
<i>Ochrosperma oligomerum</i>	53	2	NL
<i>Eucalyptus misella</i>	53	2	NL
<i>Calytrix purpurea</i>	54	2	NL
<i>Calothamnus microcarpus</i>	54	2	NL
<i>Melaleuca tinkeri</i>	56	2	NL
<i>Leptospermum oreophilum</i>	56	2	NL
<i>Calothamnus aridus</i>	56	2	NL
<i>Eucalyptus megasepala</i>	57	2	NL
<i>Angophora inopina</i>	59	2	VU
<i>Micromyrtus fimbrisepala</i>	59	2	NL
<i>Calytrix amethystine</i>	59	2	NL
<i>Eucalyptus rosacea</i>	59	2	NL
<i>Eucalyptus thamnoides</i>	61	2	NL
<i>Melaleuca podiocarpa</i>	61	2	NL
<i>Eucalyptus flavida</i>	61	2	NL
<i>Verticordia oculata</i>	64	2	NL
<i>Homalocalyx aurea</i>	65	2	NL
<i>Eucalyptus delicate</i>	66	2	NL
<i>Homoranthus prolixus</i>	66	2	VU
<i>Ochrosperma adpressum</i>	67	2	NL
<i>Darwinia oxylepis</i>	69	2	EN
<i>Calytrix surdiviperana</i>	70	2	NL
<i>Chamelaucium micranthum</i>	70	2	NL
<i>Melaleuca bromelioides</i>	70	2	NL
<i>Eucalyptus tortilis</i>	75	2	NL

<i>Darwinia macrostegia</i>	75	2	VU
<i>Eucalyptus insularis</i>	76	2	EN
<i>Eucalyptus repullulans</i>	77	2	NL
<i>Melaleuca exuvia</i>	77	2	NL
<i>Eucalyptus melanophitra</i>	81	2	NL
<i>Syzygium buettnerianum</i>	81	2	NL
<i>Eucalyptus mooreana</i>	82	2	VU
<i>Eucalyptus sepulcralis</i>	82	2	NL
<i>Eucalyptus grisea</i>	82	2	NL
<i>Eucalyptus optima</i>	83	2	NL
<i>Acmena mackinnoniana</i>	83	2	NL
<i>Calothamnus pinifolius</i>	85	2	NL
<i>Calothamnus affinis</i>	85	2	NL
<i>Eucalyptus largeana</i>	85	2	NL
<i>Astartea aspera</i>	86	2	NL
<i>Eucalyptus medialis</i>	87	2	NL
<i>Melaleuca fulgens corrugata</i>	88	2	NL
<i>Eucalyptus mensalis</i>	89	2	NL
<i>Syzygium argyropedicum</i>	93	2	NL
<i>Eucalyptus cannonii</i>	95	2	VU
<i>Micromyrtus Capricornia</i>	98	2	NL
<i>Lithomyrtus kakaduensis</i>	100	2	NL
<i>Eucalyptus cuprea</i>	102	2	EN
<i>Eucalyptus protensa</i>	104	2	NL
<i>Leptospermum luehmannii</i>	104	2	NL
<i>Corymbia arenaria</i>	108	2	NL
<i>Syzygium puberulum</i>	110	2	NL
<i>Eucalyptus dolichorhyncha</i>	110	2	NL
<i>Eucalyptus calcicola</i>	111	2	NL
<i>Lithomyrtus grandifolia</i>	112	2	NL
<i>Eucalyptus lateritica</i>	120	2	VU
<i>Corymbia chartacea</i>	121	2	NL
<i>Eucalyptus erectifolia</i>	121	2	NL
<i>Eucalyptus varia</i>	123	2	NL
<i>Eucalyptus canescens</i>	136	2	NL
<i>Calytrix faucicola</i>	137	2	NL
<i>Eucalyptus polita</i>	138	2	NL
<i>Lithomyrtus repens</i>	141	2	NL
<i>Balaustion microphyllum</i>	142	2	NL
<i>Homoranthus porteri</i>	143	2	VU
<i>Babingtonia jucunda</i>	145	2	NL
<i>Eucalyptus corynodes</i>	153	2	NL
<i>Calytrix decussate</i>	155	2	NL
<i>Eucalyptus cernua</i>	155	2	NL
<i>Leptospermum purpurascens</i>	157	2	NL
<i>Eucalyptus nicholii</i>	159	2	VU
<i>Eucalyptus blaxellii</i>	161	2	VU
<i>Eucalyptus obconica</i>	161	2	NL
<i>Eucalyptus spreata</i>	161	2	NL
<i>Syzygium pseudofastigiatum</i>	163	2	NL

<i>Eucalyptus chartaboma</i>	172	2	NL
<i>Eucalyptus sturgissiana</i>	178	2	NL
<i>Eucalyptus cunninghamii</i>	178	2	NL
<i>Eucalyptus acroleuca</i>	184	2	NL
<i>Verticordia decussate</i>	184	2	NL
<i>Calytrix megaphylla</i>	187	2	NL
<i>Eucalyptus triflora</i>	191	2	NL
<i>Eucalyptus confluens</i>	200	2	NL
<i>Eucalyptus howittiana</i>	203	2	NL
<i>Eucalyptus cupularis</i>	203	2	NL
<i>Eucalyptus lirata</i>	203	2	NL
<i>Eucalyptus quadricostata</i>	210	2	NL
<i>Eucalyptus leucophylla</i>	253	2	NL
<i>Corymbia bunites</i>	256	2	NL
<i>Corymbia pocillum</i>	328	2	NL
<i>Eucalyptus ochrophloia</i>	371	2	NL
<i>Allosyncarpia ternate</i>	373	2	NL
<i>Corymbia oocarpa</i>	404	2	NL
<i>Eucalyptus lesouefii</i>	414	2	NL
<i>Eucalyptus flindersii</i>	459	2	NL
<i>Triplarina imbricate</i>	31	3	EN
<i>Melaleuca eximia</i>	31	3	NL
<i>Eucalyptus pleurocorys</i>	32	3	NL
<i>Beaufortia eriocephala</i>	32	3	NL
<i>Verticordia fragrans</i>	32	3	NL
<i>Micromyrtus clavata</i>	33	3	NL
<i>Micromyrtus monotaxis</i>	33	3	NL
<i>Melaleuca linguiformis</i>	33	3	NL
<i>Eucalyptus sublucida</i>	33	3	NL
<i>Kunzea praestans</i>	34	3	NL
<i>Baeckea intratropica</i>	34	3	NL
<i>Baeckea corymbulosa</i>	35	3	NL
<i>Kunzea cambagei</i>	35	3	VU
<i>Calytrix islensis</i>	37	3	NL
<i>Calothamnus gibbosus</i>	37	3	NL
<i>Baeckea crassifolia icosandra</i>	38	3	NL
<i>Verticordia rutilastra</i>	40	3	NL
<i>Euryomyrtus denticulate</i>	40	3	NL
<i>Darwinia glaucophylla</i>	40	3	NL
<i>Melaleuca ringens</i>	41	3	NL
<i>Leptospermum sericeum</i>	42	3	NL
<i>Kunzea rupestris</i>	42	3	VU
<i>Leptospermum subglabratum</i>	43	3	NL
<i>Rhodomyrtus trineura</i>			
<i>capensis</i>	43	3	NL
<i>Lamarchea hakeifolia</i>	43	3	NL
<i>Leptospermum argenteum</i>	43	3	NL
<i>Callistemon shiressii</i>	44	3	NL
<i>Eucalyptus rudderi</i>	44	3	NL
<i>Verticordia coronata</i>	44	3	NL

<i>Gossia retusa</i>	44	3	NL
<i>Rinzia affinis</i>	45	3	NL
<i>Eucalyptus balanopelex</i>	46	3	NL
<i>Eucalyptus eudesmioides</i> <i>selachiana</i>	46	3	NL
<i>Malleostemon minilyaensis</i>	46	3	NL
<i>Homalocalyx chapmanii</i>	48	3	NL
<i>Hypocalymma asperum</i>	49	3	NL
<i>Darwinia fascicularis</i> <i>oligantha</i>	50	3	NL
<i>Rhodamnia sharpeana</i>	50	3	NL
<i>Calytrix erosipetala</i>	51	3	NL
<i>Eucalyptus conveniens</i>	51	3	NL
<i>Thryptomene wittveri</i>	51	3	VU
<i>Eucalyptus erythrandra</i>	53	3	NL
<i>Xanthostemon formosus</i>	53	3	EN
<i>Eucalyptus woodwardii</i>	53	3	NL
<i>Leptospermum maxwellii</i>	54	3	NL
<i>Baeckea grandis</i>	55	3	NL
<i>Eremaea purpurea</i>	56	3	NL
<i>Calothamnus validus</i>	58	3	NL
<i>Leptospermum thompsonii</i>	58	3	VU
<i>Eucalyptus crucis crucis</i>	59	3	VU
<i>Eremaea acutifolia</i>	60	3	NL
<i>Melaleuca ctenoides</i>	64	3	NL
<i>Eucalyptus baudiniana</i>	64	3	NL
<i>Melaleuca fabri</i>	66	3	NL
<i>Eucalyptus microschemata</i>	67	3	NL
<i>Calytrix oldfieldii</i>	68	3	NL
<i>Melaleuca lateralis</i>	69	3	NL
<i>Leptospermum macrocarpum</i>	71	3	NL
<i>Eucalyptus barklyensis</i>	71	3	NL
<i>Melaleuca borealis</i>	72	3	NL
<i>Malleostemon hursthousei</i>	73	3	NL
<i>Melaleuca cliffortioides</i>	76	3	NL
<i>Eucalyptus imitans</i>	76	3	NL
<i>Triplarina volcanica</i>	79	3	NL
<i>Eucalyptus argutifolia</i>	81	3	VU
<i>Calothamnus longissimus</i>	82	3	NL
<i>Eucalyptus beaniana</i>	82	3	VU
<i>Melaleuca nanophylla</i>	82	3	NL
<i>Eremaea fimbriata</i>	85	3	NL
<i>Ristantia gouldii</i>	85	3	VU
<i>Melaleuca longistaminea</i>	87	3	NL
<i>Lamarchea sulcata</i>	90	3	NL
<i>Homoranthus decasetus</i>	90	3	NL
<i>Melaleuca plumea</i>	91	3	NL
<i>Phymatocarpus</i> <i>porphyrocephalus</i>	92	3	NL
<i>Eucalyptus kumarlensis</i>	93	3	NL

<i>Melaleuca clarksonii</i>	94	3	NL
<i>Eucalyptus extrica</i>	94	3	NL
<i>Eucalyptus scoparia</i>	95	3	VU
<i>Beaufortia cyrtodonta</i>	98	3	NL
<i>Eucalyptus rupestris</i>	99	3	NL
<i>Gossia sankowskiorum</i>	100	3	NL
<i>Baeckea pentagonantha</i>	103	3	NL
<i>Eucalyptus georgei</i>	103	3	NL
<i>Rhodomyrtus effuse</i>	103	3	NL
<i>Syncarpia hillii</i>	105	3	NL
<i>Malleostemon peltiger</i>	107	3	NL
<i>Corymbia serendipita</i>	107	3	NL
<i>Eucalyptus olsenii</i>	108	3	NL
<i>Eucalyptus limitaris</i>	110	3	NL
<i>Eucalyptus synandra</i>	111	3	VU
<i>Gossia fragrantissima</i>	114	3	EN
<i>Eucalyptus roycei</i>	116	3	NL
<i>Eucalyptus beardiana</i>	117	3	EN
<i>Eucalyptus badjensis</i>	120	3	NL
<i>Eucalyptus benthamii</i>	120	3	VU
<i>Eucalyptus tephrodes</i>	123	3	NL
<i>Darwinia purpurea</i>	125	3	NL
<i>Eucalyptus aequioperta</i>	125	3	NL
<i>Eucalyptus paliformis</i>	126	3	NL
<i>Eucalyptus merrickiae</i>	134	3	VU
<i>Eucalyptus staigeriana</i>	134	3	NL
<i>Eucalyptus fraseri</i>	135	3	NL
<i>Eucalyptus terebra</i>	137	3	NL
<i>Eucalyptus virens</i>	140	3	VU
<i>Melaleuca capitata</i>	142	3	NL
<i>Eucalyptus pantoleuca</i>	143	3	NL
<i>Eucalyptus dielsii</i>	144	3	NL
<i>Xanthostemon oppositifolius</i>	146	3	VU
<i>Eucalyptus livida</i>	148	3	NL
<i>Eucalyptus stoatei</i>	149	3	NL
<i>Eucalyptus strzeleckii</i>	152	3	VU
<i>Eucalyptus kartzoffiana</i>	154	3	VU
<i>Eucalyptus stenostoma</i>	159	3	NL
<i>Eucalyptus ammophila</i>	160	3	NL
<i>Eucalyptus lucens</i>	160	3	NL
<i>Eucalyptus johnsoniana</i>	161	3	VU
<i>Melaleuca tamariscina</i>			
<i>irbyana</i>	171	3	NL
<i>Eucalyptus dichromophloia</i>	173	3	NL
<i>Melaleuca monantha</i>	174	3	NL
<i>Corymbia xanthope</i>	181	3	VU
<i>Homoranthus thomasii</i>	182	3	NL
<i>Corymbia gilbertensis</i>	194	3	NL
<i>Eucalyptus morrisii</i>	198	3	NL
<i>Lithomyrtus dunlopii</i>	199	3	NL

<i>Melaleuca sericea</i>	199	3	NL
<i>Eucalyptus campaspe</i>	209	3	NL
<i>Eucalyptus indurata</i>	215	3	NL
<i>Asteromyrtus magnifica</i>	220	3	NL
<i>Eucalyptus dawsonii</i>	224	3	NL
<i>Calytrix microcoma</i>	229	3	NL
<i>Eucalyptus stowardii</i>	229	3	NL
<i>Eucalyptus pulverulenta</i>	235	3	VU
<i>Eucalyptus tholiformis</i>	239	3	NL
<i>Eucalyptus hallii</i>	244	3	VU
<i>Eucalyptus sparsa</i>	256	3	NL
<i>Neofabricia sericisepala</i>	258	3	NL
<i>Eucalyptus cadens</i>	260	3	VU
<i>Eucalyptus exilipes</i>	261	3	NL
<i>Eucalyptus distans</i>	304	3	NL
<i>Corymbia papillosa</i>	310	3	NL
<i>Eucalyptus pachycalyx</i>	336	3	NL
<i>Eucalyptus umbrawarrensis</i>	349	3	NL
<i>Eucalyptus microneura</i>	362	3	NL
<i>Corymbia zygophylla</i>	407	3	NL
<i>Corymbia arnhemensis</i>	578	3	NL
<i>Chamelaucium virgatum</i>	31	4	NL
<i>Verticordia paludosa</i>	31	4	NL
<i>Melaleuca macronychia</i>			
<i>macronychia</i>	31	4	NL
<i>Calytrix platycheiridia</i>	31	4	NL
<i>Verticordia brevifolia</i>	32	4	NL
<i>Calothamnus huegelii</i>	33	4	NL
<i>Sinoga lysicephala</i>	34	4	NL
<i>Eucalyptus wilcoxii</i>	34	4	NL
<i>Rinzia dimorphandra</i>	34	4	NL
<i>Calytrix paucicostata</i>	35	4	NL
<i>Baeckea latens</i>	36	4	NL
<i>Homalocalyx pulcherrimus</i>	37	4	NL
<i>Baeckea pachyphylla</i>	37	4	NL
<i>Darwinia forrestii</i>	37	4	NL
<i>Verticordia auriculata</i>	38	4	NL
<i>Syzygium monospermum</i>	39	4	NL
<i>Leptospermum deanei</i>	39	4	VU
<i>Verticordia blepharophylla</i>	39	4	NL
<i>Homoranthus lunatus</i>	39	4	VU
<i>Baeckea leptantha</i>	40	4	NL
<i>Melaleuca lateriflora</i>			
<i>acutifolia</i>	42	4	NL
<i>Melaleuca araucarioides</i>	42	4	NL
<i>Verticordia fimbrilepis</i>			
<i>fimbrilepis</i>	43	4	EN
<i>Eucalyptus irritans</i>	43	4	NL
<i>Verticordia gracilis</i>	44	4	NL
<i>Calytrix birdii</i>	44	4	NL

<i>Scholtzia oligandra</i>	45	4	NL
<i>Kunzea affinis</i>	46	4	NL
<i>Beaufortia sprengelioides</i>	48	4	NL
<i>Eucalyptus crispata</i>	48	4	VU
<i>Agonis obtusissima</i>	49	4	NL
<i>Eucalyptus singularis</i>	49	4	NL
<i>Calytrix gypsophila</i>	50	4	NL
<i>Darwinia axillaris</i>	52	4	NL
<i>Baeckea tenuiramea</i>	52	4	NL
<i>Darwinia grandiflora</i>	53	4	NL
<i>Thryptomene biseriata</i>	54	4	NL
<i>Eucalyptus plenissima</i>	56	4	NL
<i>Triplarina bancroftii</i>	57	4	NL
<i>Calytrix truncatifolia</i>	57	4	NL
<i>Melaleuca concinna</i>	60	4	NL
<i>Darwinia taxifolia</i>	61	4	NL
<i>Thryptomene strongylophylla</i>	61	4	NL
<i>Syzygium sharoniae</i>	62	4	NL
<i>Scholtzia drummondii</i>	63	4	NL
<i>Melaleuca hollidayi</i>	64	4	NL
<i>Eucalyptus litoralis</i>	64	4	NL
<i>Eucalyptus incerata</i>	65	4	NL
<i>Eucalyptus psammitica</i>	66	4	NL
<i>Syzygium dansiei</i>	67	4	NL
<i>Eucalyptus placita</i>	67	4	NL
<i>Calytrix duplistipulata</i>	68	4	NL
<i>Eucalyptus ornata</i>	69	4	NL
<i>Uromyrtus australis</i>	69	4	EN
<i>Eucalyptus mimica</i>	69	4	NL
<i>Eucalyptus paludicola</i>	70	4	EN
<i>Melaleuca globifera</i>	73	4	NL
<i>Eucalyptus petrensis</i>	73	4	NL
<i>Leptospermum namadgiensis</i>	74	4	NL
<i>Rinzia fumana</i>	74	4	NL
<i>Melaleuca polycephala</i>	75	4	NL
<i>Eucalyptus percostata</i>	77	4	NL
<i>Eucalyptus morrisbyi</i>	79	4	EN
<i>Verticordia mitchelliana</i>	80	4	NL
<i>Eucalyptus rigens</i>	83	4	NL
<i>Darwinia sanguinea</i>	83	4	NL
<i>Eucalyptus hypolaena</i>	84	4	NL
<i>Asteromyrtus arnhemica</i>	85	4	NL
<i>Eucalyptus verrucata</i>	90	4	NL
<i>Callistemon pauciflorus</i>	90	4	NL
<i>Melaleuca thapsina</i>	94	4	NL
<i>Calothamnus chrysantherus</i>	95	4	NL
<i>Eucalyptus obesa</i>	96	4	NL
<i>Darwinia pauciflora</i>	98	4	NL
<i>Melaleuca blaerifolia</i>	100	4	NL
<i>Pilidiostigma papuanum</i>	100	4	NL

<i>Eucalyptus rummeryi</i>	100	4	NL
<i>Eucalyptus taurina</i>	101	4	NL
<i>Eucalyptus tenuis</i>	106	4	NL
<i>Eucalyptus serraensis</i>	109	4	NL
<i>Eremaea ebracteata</i>	110	4	NL
<i>Eucalyptus valens</i>	113	4	NL
<i>Leptospermum wooroonooran</i>	114	4	NL
<i>Syzygium xerampelinum</i>	121	4	NL
<i>Syzygium bungadinnia</i>	121	4	NL
<i>Melaleuca fulgens steedmanii</i>	122	4	NL
<i>Beaufortia orbifolia</i>	122	4	NL
<i>Callistemon brachyandrus</i>	124	4	NL
<i>Eucalyptus clivicola</i>	126	4	NL
<i>Syzygium malaccense</i>	128	4	NL
<i>Eucalyptus jutsonii</i>	132	4	NL
<i>Eucalyptus suberea</i>	132	4	VU
<i>Melaleuca chisholmii</i>	133	4	NL
<i>Eucalyptus formanii</i>	135	4	NL
<i>Melaleuca orbicularis</i>	139	4	NL
<i>Melaleuca psammophila</i>	139	4	NL
<i>Eucalyptus saxatilis</i>	146	4	NL
<i>Micromyrtus littoralis</i>	149	4	NL
<i>Eucalyptus redunca</i>	161	4	NL
<i>Baeckea polystemonea</i>	165	4	NL
<i>Angophora melanoxylon</i>	167	4	NL
<i>Melaleuca megacephala</i>	169	4	NL
<i>Eucalyptus rubiginosa</i>	175	4	NL
<i>Eucalyptus ovularis</i>	180	4	NL
<i>Eucalyptus forrestiana</i>	185	4	NL
<i>Eucalyptus gregsoniana</i>	186	4	NL
<i>Eucalyptus elliptica</i>	188	4	NL
<i>Corymbia cadophora</i>	193	4	NL
<i>Eucalyptus discreta</i>	195	4	NL
<i>Corymbia collina</i>	205	4	NL
<i>Corymbia abbreviata</i>	205	4	NL
<i>Eucalyptus macarthurii</i>	208	4	NL
<i>Melaleuca alsophila</i>	212	4	NL
<i>Melaleuca xerophila</i>	231	4	NL
<i>Eucalyptus cooperiana</i>	245	4	NL
<i>Eucalyptus torquata</i>	248	4	NL
<i>Eucalyptus jucunda</i>	276	4	NL
<i>Corymbia umbonata</i>	322	4	NL
<i>Lithomyrtus microphylla</i>	345	4	NL
<i>Eucalyptus raveretiana</i>	369	4	VU
<i>Corymbia jacobsiana</i>	383	4	NL
<i>Corymbia dampieri</i>	407	4	NL
<i>Eucalyptus similis</i>	458	4	NL
<i>Baeckea tenuifolia</i>	31	5	NL
<i>Astartea astarteoides</i>	34	5	NL
<i>Hypocalymma puniceum</i>	35	5	NL

<i>Baeckea polyandra</i>	35	5	NL
<i>Calytrix cresswellii</i>	36	5	NL
<i>Verticordia sieberi</i>	37	5	NL
<i>Micromyrtus blakelyi</i>	38	5	VU
<i>Callistemon pinifolius</i>	39	5	NL
<i>Verticordia patens</i>	39	5	NL
<i>Verticordia minutiflora</i>	40	5	NL
<i>Calytrix habrantha</i>	41	5	NL
<i>Chamelaucium conostigmum</i>	41	5	NL
<i>Calothamnus pallidifolius</i>	42	5	NL
<i>Pileanthus vernicosus</i>	43	5	NL
<i>Melaleuca condylosa</i>	43	5	NL
<i>Melaleuca sculponeata</i>	43	5	NL
<i>Verticordia lehmannii</i>	45	5	NL
<i>Calothamnus schaueri</i>	46	5	NL
<i>Melaleuca procera</i>	47	5	NL
<i>Beaufortia purpurea</i>	49	5	NL
<i>Astartea affinis</i>	50	5	NL
<i>Eucalyptus brevipes</i>	50	5	EN
<i>Melaleuca eurystoma</i>	50	5	NL
<i>Baeckea blackettii</i>	50	5	NL
<i>Melaleuca adenostyla</i>	52	5	NL
<i>Leptospermum anfractum</i>	53	5	NL
<i>Calothamnus tuberosus</i>	55	5	NL
<i>Rinzia carnosa</i>	56	5	NL
<i>Calytrix chrysantha</i>	56	5	NL
<i>Melaleuca amydra</i>	57	5	NL
<i>Eremaea ectadioclada</i>	58	5	NL
<i>Darwinia biflora</i>	59	5	VU
<i>Eucalyptus olida</i>	59	5	NL
<i>Calothamnus hirsutus</i>	59	5	NL
<i>Melaleuca dichroma</i>	60	5	NL
<i>Syzygium anisatum</i>	60	5	NL
<i>Eucalyptus latiuscula</i>	61	5	NL
<i>Verticordia rennieana</i>	63	5	NL
<i>Kunzea jucunda</i>	64	5	NL
<i>Calothamnus oldfieldii</i>	66	5	NL
<i>Melaleuca leiopyxis</i>	66	5	NL
<i>Eucalyptus fergusonii</i>	66	5	NL
<i>Angophora euryphylla</i>	66	5	NL
<i>Pilidiostigma sessile</i>	66	5	NL
<i>Melaleuca subalaris</i>	66	5	NL
<i>Leptospermum epacridoideum</i>	67	5	NL
<i>Verticordia laciniata</i>	67	5	NL
<i>Eucalyptus jacksonii</i>	67	5	NL
<i>Micromyrtus sulphurea</i>	68	5	NL
<i>Eucalyptus exigua</i>	70	5	NL
<i>Homoranthus darwinioides</i>	70	5	VU
<i>Melaleuca phoidophylla</i>	71	5	NL
<i>Sphaerantia discolor</i>	73	5	NL

<i>Melaleuca acuminata websteri</i>	74	5	NL
<i>Verticordia subulata</i>	79	5	NL
<i>Micromyrtus imbricata</i>	81	5	NL
<i>Scholtzia parviflora</i>	82	5	NL
<i>Verticordia interioris</i>	84	5	NL
<i>Darwinia capitellata</i>	85	5	NL
<i>Thryptomene urceolaris</i>	87	5	NL
<i>Triplarina paludosa</i>	89	5	NL
<i>Calothamnus rupestris</i>	90	5	NL
<i>Syzygium moorei</i>	93	5	VU
<i>Melaleuca linophylla</i>	94	5	NL
<i>Gossia pubiflora</i>	96	5	NL
<i>Melaleuca ciliosa</i>	97	5	NL
<i>Eucalyptus helidonica</i>	97	5	NL
<i>Melaleuca sparsiflora</i>	99	5	NL
<i>Eucalyptus tephroclada</i>	102	5	NL
<i>Syzygium alliligneum</i>	103	5	NL
<i>Baeckea corynophylla</i>	107	5	NL
<i>Melaleuca formosa</i>	111	5	NL
<i>Backhousia bancroftii</i>	115	5	NL
<i>Eucalyptus acies</i>	115	5	NL
<i>Calytrix desolata</i>	116	5	NL
<i>Melaleuca torquata</i>	124	5	NL
<i>Eucalyptus prolixa</i>	124	5	NL
<i>Eucalyptus halophila</i>	133	5	NL
<i>Corymbia haematoxylon</i>	140	5	NL
<i>Leptospermum divaricatum</i>	148	5	NL
<i>Calytrix arborescens</i>	149	5	NL
<i>Eucalyptus captiosa</i>	152	5	NL
<i>Eucalyptus alligatrix</i>	153	5	NL
<i>Thryptomene hexandra</i>	155	5	NL
<i>Eucalyptus xanthonema</i>	157	5	NL
<i>Eucalyptus websteriana</i>	160	5	NL
<i>Waterhousea mulgraveana</i>	171	5	NL
<i>Eucalyptus corrugata</i>	172	5	NL
<i>Corymbia cliftoniana</i>	185	5	NL
<i>Asteromyrtus angustifolia</i>	186	5	NL
<i>Melaleuca pallescens</i>	195	5	NL
<i>Corymbia ellipsoidea</i>	197	5	NL
<i>Eucalyptus buprestium</i>	198	5	NL
<i>Eucalyptus carnei</i>	202	5	NL
<i>Eucalyptus aspersa</i>	202	5	NL
<i>Neofabricia mjoebergii</i>	219	5	NL
<i>Eucalyptus tardecidens</i>	224	5	NL
<i>Melaleuca densispicata</i>	235	5	NL
<i>Eucalyptus pachyloma</i>	236	5	NL
<i>Eucalyptus parramattensis</i>	236	5	NL
<i>Eucalyptus pimpiniana</i>	237	5	NL
<i>Eucalyptus parvula</i>	238	5	VU
<i>Eucalyptus petiolaris</i>	241	5	NL

<i>Gossia floribunda</i>	250	5	NL
<i>Eucalyptus atrata</i>	276	5	NL
<i>Syzygium armstrongii</i>	302	5	NL
<i>Eucalyptus xanthoclada</i>	317	5	NL
<i>Homalocalyx ericaeus</i>	351	5	NL
<i>Eucalyptus melanoleuca</i>	371	5	NL
<i>Eucalyptus gillii</i>	540	5	NL
<i>Corymbia kombolgiensis</i>	708	5	NL
<i>Eucalyptus odontocarpa</i>	739	5	NL

Seven hundred and sixty-two species of Myrtaceae had records in five or fewer PAs greater than 1000 ha, including 83 species listed as threatened, with 21 classified as endangered.

Table 13 Myrtaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. Reserves >1000ha	EPBC status
<i>Melaleuca hnatiukii</i>	43	1	NL
<i>Eucalyptus gigantangion</i>	90	1	NL
<i>Melaleuca papillosa</i>	32	1	NL
<i>Eucalyptus glomericaassis</i>	119	1	NL
<i>Eucalyptus hebetifolia</i>	90	1	NL
<i>Eucalyptus histophylla</i>	93	1	NL
<i>Eucalyptus imlayensis</i>	41	1	EN
<i>Melaleuca longistaminea</i>	87	1	NL
<i>Eucalyptus koolpinensis</i>	74	1	NL
<i>Eucalyptus lacrimans</i>	84	1	NL
<i>Eucalyptus laevis</i>	101	1	NL
<i>Rhodamnia angustifolia</i>	45	1	NL
<i>Melaleuca idana</i>	39	1	NL
<i>Eucalyptus effusa</i>	140	1	NL
<i>Eucalyptus luculenta</i>	42	1	NL
<i>Eucalyptus luteola</i>	58	1	NL
<i>Eucalyptus mackintii</i>	137	1	NL
<i>Melaleuca depressa</i>	74	1	NL
<i>Eucalyptus mckieana</i>	91	1	VU
<i>Melaleuca dempta</i>	35	1	NL
<i>Melaleuca cornucopiae</i>	172	1	NL
<i>Eucalyptus megacornuta</i>	100	1	NL
<i>Melaleuca clavifolia</i>	46	1	NL
<i>Eucalyptus mitchelliana</i>	126	1	NL
<i>Eucalyptus newbeyi</i>	53	1	NL
<i>Melaleuca laetifica</i>	42	1	NL
<i>Micromyrtus capricornia</i>	98	1	NL
<i>Regelia velutina</i>	62	1	NL
<i>Regelia punicea</i>	35	1	NL

<i>Eucalyptus caleyi</i>			
<i>ovendenii</i>	31	1	VU
<i>Pileanthus limacis</i>	34	1	NL
<i>Petraeomyrtus punicea</i>	130	1	NL
<i>Eucalyptus canobolensis</i>	39	1	VU
<i>Mitranthia bilocularis</i>	63	1	NL
<i>Eucalyptus communalis</i>	71	1	NL
<i>Micromyrtus minutiflora</i>	37	1	VU
<i>Eucalyptus coronata</i>	92	1	VU
<i>Eucalyptus corticosa</i>	46	1	NL
<i>Eucalyptus foliosa</i>	56	1	NL
<i>Eucalyptus creta</i>	49	1	NL
<i>Eucalyptus fitzgeraldii</i>	52	1	NL
<i>Eucalyptus cuprea</i>	102	1	EN
<i>Melaleuca triumphalis</i>	59	1	NL
<i>Eucalyptus cyanoclada</i>	94	1	NL
<i>Melaleuca tinkeri</i>	56	1	NL
<i>Eucalyptus cyclostoma</i>	121	1	NL
<i>Eucalyptus deuaensis</i>	43	1	NL
<i>Gossia macilwraithensis</i>	50	1	NL
<i>Eucalyptus dielsii</i>	144	1	NL
<i>Eucalyptus</i>			
<i>dolichorhyncha</i>	110	1	NL
<i>Eucalyptus dundasii</i>	223	1	NL
<i>Melaleuca bisulcata</i>	38	1	NL
<i>Micromyrtus hexamera</i>	152	1	NL
<i>Homoranthus tropicus</i>	95	1	NL
<i>Eucalyptus nicholii</i>	159	1	VU
<i>Eucalyptus steedmanii</i>	89	1	VU
<i>Kunzea montana</i>	43	1	NL
<i>Eucalyptus stricklandii</i>	170	1	NL
<i>Eucalyptus subtilis</i>	78	1	NL
<i>Eucalyptus talyuberlup</i>	155	1	NL
<i>Eucalyptus terrica</i>	194	1	NL
<i>Eucalyptus tetrapleura</i>	140	1	VU
<i>Hypocalymma speciosum</i>	44	1	NL
<i>Eucalyptus thamnoides</i>	61	1	NL
<i>Eucalyptus thamnoides</i>			
<i>megista</i>	33	1	NL
<i>Eucalyptus sicilifolia</i>	47	1	NL
<i>Homoranthus zeteticorum</i>	44	1	NL
<i>Eucalyptus semota</i>	34	1	NL
<i>Eucalyptus ultima</i>	56	1	NL
<i>Eucalyptus varia</i>	123	1	NL
<i>Homoranthus papillatus</i>	61	1	NL
<i>Homoranthus montanus</i>	36	1	VU
<i>Homoranthus</i>			
<i>melanostictus</i>	194	1	NL
<i>Eucalyptus vesiculosa</i>	33	1	NL
<i>Homoranthus decumbens</i>	37	1	VU

<i>Eucalyptus vokesensis</i>	74	1	NL
<i>Gossia fragrantissima</i>	114	1	EN
<i>Homalocalyx echinulatus</i>	31	1	NL
<i>Homalocalyx chapmanii</i>	48	1	NL
<i>Hypocalymma phillipsii</i>	38	1	NL
<i>Lithomyrtus densifolia</i>	128	1	NL
<i>Eucalyptus desmondensis</i>	161	1	NL
<i>Melaleuca barlowii</i>	46	1	NL
<i>Eucalyptus pachycalyx waajensis</i>	87	1	NL
<i>Eucalyptus paedoglauca</i>	64	1	VU
<i>Eucalyptus parramattensis decadens</i>	52	1	VU
<i>Eucalyptus petiolaris</i>	241	1	NL
<i>Eucalyptus phylacis</i>	36	1	EN
<i>Malleostemon pedunculatus</i>	32	1	NL
<i>Eucalyptus pilbarensis</i>	105	1	NL
<i>Lithomyrtus linariifolia</i>	85	1	NL
<i>Xanthostemon youngii</i>	85	1	VU
<i>Eucalyptus sphaerocarpa</i>	228	1	NL
<i>Eucalyptus praetermissa</i>	36	1	NL
<i>Eucalyptus ophitica</i>	35	1	NL
<i>Lithomyrtus cordata</i>	261	1	NL
<i>Eucalyptus provecta</i>	108	1	NL
<i>Eucalyptus pterocarpa</i>	63	1	NL
<i>Eucalyptus pumila</i>	46	1	VU
<i>Eucalyptus rameliana</i>	75	1	NL
<i>Eucalyptus recta</i>	41	1	NL
<i>Leptospermum pallidum</i>	44	1	NL
<i>Eucalyptus rhombica</i>	129	1	NL
<i>Leptospermum luehmannii</i>	104	1	NL
<i>Leptospermum deuense</i>	31	1	NL
<i>Eucalyptus rubida barbigerorum</i>	40	1	VU
<i>Lithomyrtus hypoleuca</i>	80	1	NL
<i>Barongia lophandra</i>	90	1	NL
<i>Syzygium macilwraithianum</i>	67	1	NL
<i>Corymbia petalophylla</i>	108	1	NL
<i>Beaufortia macrostemon</i>	49	1	NL
<i>Corymbia rhodops</i>	156	1	VU
<i>Calytrix micrairoides</i>	54	1	NL
<i>Corymbia scabrída</i>	101	1	NL
<i>Darwinia masonii</i>	31	1	VU
<i>Syzygium boonjee</i>	142	1	NL
<i>Syzygium monimioides</i>	33	1	NL
<i>Balaustion microphyllum</i>	142	1	NL
<i>Baeckea tenuiramea</i>	52	1	NL
<i>Darwinia collina</i>	77	1	EN

<i>Baeckea robusta</i>	42	1	NL
<i>Verticordia oxylepis</i>	39	1	NL
<i>Darwinia hypericifolia</i>	46	1	NL
<i>Darwinia leiostyla</i>	70	1	NL
<i>Chamelaucium marchantii</i>	44	1	NL
<i>Verticordia centipeda</i>	44	1	NL
<i>Calytrix praecipua</i>	42	1	NL
<i>Calytrix purpurea</i>	54	1	NL
<i>Thryptomene stenophylla</i>	41	1	NL
<i>Calytrix inopinata</i>	163	1	NL
<i>Calytrix rupestris</i>	46	1	NL
<i>Calytrix verticillata</i>	271	1	NL
<i>Verticordia attenuata</i>	33	1	NL
<i>Corymbia peltata</i>	296	1	NL
<i>Calothamnus</i>			
<i>pachystachyus</i>	33	1	NL
<i>Syzygium maraca</i>	34	1	NL
<i>Verticordia coronata</i>	44	1	NL
<i>Corymbia clandestina</i>	53	1	VU
<i>Calothamnus</i>			
<i>macrocarpus</i>	31	1	NL
<i>Verticordia fastigiata</i>	47	1	NL
<i>Verticordia fimbrilepis</i>			
<i>fimbrilepis</i>	43	1	EN
<i>Corymbia ligans</i>	108	1	NL
<i>Corymbia torta</i>	62	1	NL
<i>Eucalyptus burdettiana</i>	142	1	EN
<i>Verticordia stenopetala</i>	39	1	NL
<i>Astartea sp. fitzgerald</i>	68	1	NL
<i>Babingtonia crenulata</i>	35	1	VU
<i>Eucalyptus ancophila</i>	39	1	NL
<i>Darwinia meeboldii</i>	66	1	VU
<i>Rinzia sessilis</i>	32	1	NL
<i>Babingtonia squarrulosa</i>	34	1	NL
<i>Eucalyptus absita</i>	71	1	EN
<i>Ristantia waterhousei</i>	40	1	NL
<i>Eucalyptus balanites</i>	38	1	EN
<i>Austromyrtus glabra</i>	47	1	NL
<i>Eucalyptus abdita</i>	52	1	NL
<i>Babingtonia similis</i>	44	1	NL
<i>Verticordia rutilastra</i>	40	1	NL
<i>Darwinia sp. thumb peak</i>	66	1	NL
<i>Eucalyptus balladoniensis</i>	89	1	NL
<i>Stockwellia quadrifida</i>	47	1	NL
<i>Baeckea grandis</i>	55	1	NL
<i>Stenostegia congesta</i>	64	1	NL
<i>Eucalyptus benthamii</i>	120	1	VU
<i>Sphaerantia chartacea</i>	42	1	NL
<i>Verticordia plumosa</i>			
<i>vassensis</i>	43	1	EN

<i>Verticordia polytricha</i>	58	1	NL
<i>Scholtzia uberiflora</i>	83	1	NL
<i>Angophora inopina</i>	59	1	VU
<i>Eucalyptus paludicola</i>	70	2	EN
<i>Allosyncarpia ternata</i>	373	2	NL
<i>Calytrix habrantha</i>	41	2	NL
<i>Calothamnus microcarpus</i>	54	2	NL
<i>Eucalyptus volcanica</i>	41	2	NL
<i>Calothamnus pinifolius</i>	85	2	NL
<i>Eucalyptus protensa</i>	104	2	NL
<i>Calytrix amethystina</i>	59	2	NL
<i>Gossia bamagensis</i>	51	2	NL
<i>Calytrix decussata</i>	155	2	NL
<i>Calytrix megaphylla</i>	187	2	NL
<i>Eucalyptus plenissima</i>	56	2	NL
<i>Calytrix ecalycata</i>	42	2	NL
<i>Astartea aspera</i>	86	2	NL
<i>Calytrix divergens</i>	34	2	NL
<i>Eucalyptus polita</i>	138	2	NL
<i>Acmena mackinnoniana</i>	83	2	NL
<i>Calytrix faucicola</i>	137	2	NL
<i>Eucalyptus scoparia</i>	95	2	VU
<i>Baeckea pentagonantha</i>	103	2	NL
<i>Baeckea crassifolia</i>			
<i>icosandra</i>	38	2	NL
<i>Baeckea tenuifolia</i>	31	2	NL
<i>Eucalyptus sturgissiana</i>	178	2	NL
<i>Eucalyptus stoatei</i>	149	2	NL
<i>Eucalyptus spreata</i>	161	2	NL
<i>Eucalyptus tortilis</i>	75	2	NL
<i>Baeckea corymbulosa</i>	35	2	NL
<i>Eucalyptus triflora</i>	191	2	NL
<i>Backhousia oligantha</i>	36	2	NL
<i>Eucalyptus rhomboidea</i>	33	2	NL
<i>Beaufortia orbifolia</i>	122	2	NL
<i>Eucalyptus virens</i>	140	2	VU
<i>Calothamnus affinis</i>	85	2	NL
<i>Calothamnus aridus</i>	56	2	NL
<i>Eucalyptus rosacea</i>	59	2	NL
<i>Eucalyptus risdonii</i>	114	2	NL
<i>Calothamnus crassus</i>	44	2	NL
<i>Beaufortia eriocephala</i>	32	2	NL
<i>Eucalyptus repullulans</i>	77	2	NL
<i>Babingtonia jucunda</i>	145	2	NL
<i>Eucalyptus redunca</i>	161	2	NL
<i>Calothamnus longissimus</i>	82	2	NL
<i>Eucalyptus quadricostata</i>	210	2	NL
<i>Eucalyptus sepulcralis</i>	82	2	NL
<i>Eucalyptus erythronema</i>	453	2	NL
<i>Eucalyptus cupularis</i>	203	2	NL

<i>Darwinia purpurea</i>	125	2	NL
<i>Darwinia oxylepis</i>	69	2	EN
<i>Eucalyptus praecox</i>	53	2	NL
<i>Darwinia macrostegia</i>	75	2	VU
<i>Eucalyptus elaeophloia</i>	38	2	NL
<i>Eucalyptus melanophitra</i>	81	2	NL
<i>Eucalyptus erythrandra</i>	53	2	NL
<i>Eucalyptus crispata</i>	48	2	VU
<i>Eucalyptus flavida</i>	61	2	NL
<i>Eucalyptus flindersii</i>	459	2	NL
<i>Corymbia xanthope</i>	181	2	VU
<i>Eucalyptus forrestiana</i>	185	2	NL
<i>Eucalyptus georgei</i>	103	2	NL
<i>Eucalyptus grisea</i>	82	2	NL
<i>Eucalyptus erectifolia</i>	121	2	NL
<i>Eucalyptus cernua</i>	155	2	NL
<i>Eucalyptus cadens</i>	260	2	VU
<i>Eucalyptus balanopelex</i>	46	2	NL
<i>Eucalyptus calcicola</i>	111	2	NL
<i>Eucalyptus campaspe</i>	209	2	NL
<i>Eucalyptus canescens</i>	136	2	NL
<i>Eucalyptus ammophila</i>	160	2	NL
<i>Eucalyptus cunninghamii</i>	178	2	NL
<i>Eucalyptus aequioperta</i>	125	2	NL
<i>Eucalyptus crucis crucis</i>	59	2	VU
<i>Eucalyptus chartaboma</i>	172	2	NL
<i>Eucalyptus acroleuca</i>	184	2	NL
<i>Eucalyptus confluens</i>	200	2	NL
<i>Darwinia wittwerorum</i>	31	2	EN
<i>Eucalyptus corynodes</i>	153	2	NL
<i>Darwinia virescens</i>	49	2	NL
<i>Eucalyptus indurata</i>	215	2	NL
<i>Eucalyptus cannonii</i>	95	2	VU
<i>Calytrix uncinata</i>	52	2	NL
<i>Corymbia pocillum</i>	328	2	NL
<i>Corymbia arenaria</i>	108	2	NL
<i>Eucalyptus medialis</i>	87	2	NL
<i>Chamelaucium micranthum</i>	70	2	NL
<i>Eucalyptus megasepala</i>	57	2	NL
<i>Eucalyptus delicata</i>	66	2	NL
<i>Corymbia chartacea</i>	121	2	NL
<i>Eucalyptus misella</i>	53	2	NL
<i>Eucalyptus magnificata</i>	48	2	NL
<i>Eucalyptus mooreana</i>	82	2	VU
<i>Eucalyptus nandewarica</i>	41	2	NL
<i>Calytrix surdiviperana</i>	70	2	NL
<i>Eucalyptus obconica</i>	161	2	NL
<i>Eucalyptus ochrophloia</i>	371	2	NL
<i>Eucalyptus olsanii</i>	108	2	NL

<i>Eucalyptus optima</i>	83	2	NL
<i>Eucalyptus mensalis</i>	89	2	NL
<i>Corymbia leptoloma</i>	53	2	VU
<i>Calytrix oldfieldii</i>	68	2	NL
<i>Eucalyptus insularis</i>	76	2	EN
<i>Eucalyptus johnsoniana</i>	161	2	VU
<i>Eucalyptus kartzoffiana</i>	154	2	VU
<i>Corymbia oocarpa</i>	404	2	NL
<i>Eucalyptus largeana</i>	85	2	NL
<i>Corymbia bunites</i>	256	2	NL
<i>Eucalyptus lesouefii</i>	414	2	NL
<i>Eucalyptus howittiana</i>	203	2	NL
<i>Eucalyptus leucophylla</i>	253	2	NL
<i>Eucalyptus lirata</i>	203	2	NL
<i>Eucalyptus litoralis</i>	64	2	NL
<i>Eucalyptus litorea</i>	31	2	NL
<i>Eucalyptus livida</i>	148	2	NL
<i>Corymbia haematoxylon</i>	140	2	NL
<i>Corymbia chillagoensis</i>	47	2	NL
<i>Eucalyptus lateritica</i>	120	2	VU
<i>Scholtzia spatulata</i>	44	2	NL
<i>Ochrosperma adpressum</i>	67	2	NL
<i>Melaleuca acuminata</i>			
<i>websteri</i>	74	2	NL
<i>Ochrosperma oligomerum</i>	53	2	NL
<i>Lithomyrtus repens</i>	141	2	NL
<i>Lithomyrtus kakaduensis</i>	100	2	NL
<i>Lithomyrtus grandifolia</i>	112	2	NL
<i>Rinzia fumana</i>	74	2	NL
<i>Leptospermum sericeum</i>	42	2	NL
<i>Ristantia gouldii</i>	85	2	VU
<i>Kunzea graniticola</i>	40	2	NL
<i>Leptospermum</i>			
<i>purpurascens</i>	157	2	NL
<i>Melaleuca zonalis</i>	37	2	NL
<i>Syncarpia hillii</i>	105	2	NL
<i>Syzygium aqueum</i>	34	2	NL
<i>Syzygium argyropedicum</i>	93	2	NL
<i>Leptospermum barneyense</i>	34	2	NL
<i>Syzygium buettnerianum</i>	81	2	NL
<i>Syzygium</i>			
<i>pseudofastigiatum</i>	163	2	NL
<i>Kunzea rupestris</i>	42	2	VU
<i>Syzygium puberulum</i>	110	2	NL
<i>Kunzea praestans</i>	34	2	NL
<i>Leptospermum rupicola</i>	39	2	NL
<i>Melaleuca cliffortioides</i>	76	2	NL
<i>Melaleuca linguiformis</i>	33	2	NL
<i>Melaleuca fulgens</i>			
<i>steadmanii</i>	122	2	NL

<i>Melaleuca fulgens</i>			
<i>corrugate</i>	88	2	NL
<i>Melaleuca macronychia</i>			
<i>macronychia</i>	31	2	NL
<i>Melaleuca fabri</i>	66	2	NL
<i>Melaleuca exuvia</i>	77	2	NL
<i>Melaleuca eximia</i>	31	2	NL
<i>Melaleuca pearsonii</i>	51	2	NL
<i>Melaleuca ctenoides</i>	64	2	NL
<i>Micromyrtus fimbrisepala</i>	59	2	NL
<i>Melaleuca coccinea</i>	43	2	NL
<i>Melaleuca araucarioides</i>	42	2	NL
<i>Melaleuca polycephala</i>	75	2	NL
<i>Melaleuca pomphostoma</i>	39	2	NL
<i>Melaleuca psammophila</i>	139	2	NL
<i>Melaleuca campanae</i>	36	2	NL
<i>Melaleuca</i>			
<i>calothamnoides</i>	48	2	NL
<i>Melaleuca stipitata</i>	31	2	NL
<i>Melaleuca bromelioides</i>	70	2	NL
<i>Melaleuca tamariscina</i>			
<i>irbyana</i>	171	2	NL
<i>Melaleuca teretifolia</i>	116	2	NL
<i>Scholtzia ciliata</i>	62	2	NL
<i>Melaleuca podiocarpa</i>	61	2	NL
<i>Thryptomene longifolia</i>	36	2	NL
<i>Uromyrtus lamingtonensis</i>	35	2	NL
<i>Verticordia vicinella</i>	41	2	NL
<i>Verticordia brevifolia</i>	32	2	NL
<i>Verticordia mitchelliana</i>	80	2	NL
<i>Verticordia oculata</i>	64	2	NL
<i>Triplarina volcanica</i>			
<i>borealis</i>	47	2	NL
<i>Homoranthus porteri</i>	143	2	VU
<i>Hypocalymma</i> sp. <i>scott</i>			
<i>river</i>	36	2	NL
<i>Verticordia etheliana</i>	40	2	NL
<i>Homoranthus prolixus</i>	66	2	VU
<i>Verticordia decussata</i>	184	2	NL
<i>Xanthostemon xerophilus</i>	50	2	NL
<i>Homalocalyx aurea</i>	65	2	NL
<i>Xanthostemon formosus</i>	53	2	EN
<i>Xanthostemon graniticus</i>	33	2	NL
<i>Triplarina imbricata</i>	31	2	EN
<i>Verticordia gracilis</i>	44	2	NL
<i>Triplarina volcanica</i>	79	2	NL
<i>Xanthostemon</i>			
<i>oppositifolius</i>	146	2	VU
<i>Eucalyptus distans</i>	304	3	NL
<i>Verticordia monadelpha</i>	81	3	NL

<i>Beaufortia cyrtodonta</i>	98	3	NL
<i>Callistemon shiressii</i>	44	3	NL
<i>Verticordia laciniata</i>	67	3	NL
<i>Eucalyptus</i>			
<i>dichromophloia</i>	173	3	NL
<i>Beaufortia sprengelioides</i>	48	3	NL
<i>Eucalyptus dawsonii</i>	224	3	NL
<i>Melaleuca torquata</i>	124	3	NL
<i>Callistemon brachyandrus</i>	124	3	NL
<i>Micromyrtus clavata</i>	33	3	NL
<i>Eucalyptus pleurocorys</i>	32	3	NL
<i>Verticordia insignis</i>	50	3	NL
<i>Eucalyptus conveniens</i>	51	3	NL
<i>Eucalyptus conglomerata</i>	166	3	EN
<i>Micromyrtus monotaxis</i>	33	3	NL
<i>Gossia sankowskiorum</i>	100	3	NL
<i>Baeckea intratropica</i>	34	3	NL
<i>Eucalyptus kumarlensis</i>	93	3	NL
<i>Astartea affinis</i>	50	3	NL
<i>Eucalyptus imitans</i>	76	3	NL
<i>Astartea sp. scott river</i>	245	3	NL
<i>Melaleuca megacephala</i>	169	3	NL
<i>Melaleuca monantha</i>	174	3	NL
<i>Melaleuca nanophylla</i>	82	3	NL
<i>Eucalyptus hallii</i>	244	3	VU
<i>Asteromyrtus magnifica</i>	220	3	NL
<i>Babingtonia bidwillii</i>	78	3	NL
<i>Melaleuca ringens</i>	41	3	NL
<i>Melaleuca plumea</i>	91	3	NL
<i>Melaleuca sparsiflora</i>	99	3	NL
<i>Baeckea latens</i>	36	3	NL
<i>Baeckea leptantha</i>	40	3	NL
<i>Baeckea pachyphylla</i>	37	3	NL
<i>Eucalyptus extrica</i>	94	3	NL
<i>Eucalyptus exilipes</i>	261	3	NL
<i>Eucalyptus eudesmioides</i>			
<i>selachiana</i>	46	3	NL
<i>Rhodamnia maideniana</i>	168	3	NL
<i>Melaleuca procera</i>	47	3	NL
<i>Eucalyptus clivicola</i>	126	3	NL
<i>Eucalyptus elliptica</i>	188	3	NL
<i>Melaleuca sericea</i>	199	3	NL
<i>Eucalyptus fraseri</i>	135	3	NL
<i>Syzygium dansiei</i>	67	3	NL
<i>Calothamnus brevifolius</i>	38	3	NL
<i>Darwinia sanguinea</i>	83	3	NL
<i>Verticordia</i>			
<i>blepharophylla</i>	39	3	NL
<i>Syncarpia verecunda</i>	72	3	NL
<i>Darwinia grandiflora</i>	53	3	NL

<i>Darwinia glaucophylla</i>	40	3	NL
<i>Darwinia fascicularis</i>			
<i>oligantha</i>	50	3	NL
<i>Uromyrtus australis</i>	69	3	EN
<i>Calytrix erosipetala</i>	51	3	NL
<i>Darwinia biflora</i>	59	3	VU
<i>Scholtzia parviflora</i>	82	3	NL
<i>Corymbia serendipita</i>	107	3	NL
<i>Scholtzia oligandra</i>	45	3	NL
<i>Syzygium malaccense</i>	128	3	NL
<i>Corymbia papillosa</i>	310	3	NL
<i>Syzygium monospermum</i>	39	3	NL
<i>Syzygium moorei</i>	93	3	VU
<i>Calytrix islensis</i>	37	3	NL
<i>Calytrix microcoma</i>	229	3	NL
<i>Corymbia gilbertensis</i>	194	3	NL
<i>Syzygium sharoniae</i>	62	3	NL
<i>Corymbia arnhemensis</i>	578	3	NL
<i>Thryptomene wittweri</i>	51	3	VU
<i>Chamelaucium virgatum</i>	31	3	NL
<i>Corymbia zygophylla</i>	407	3	NL
<i>Rhodomyrtus effusa</i>	103	3	NL
<i>Eucalyptus captiosa</i>	152	3	NL
<i>Eremaea purpurea</i>	56	3	NL
<i>Phymatocarpus</i>			
<i>porphyrocephalus</i>	92	3	NL
<i>Eucalyptus brevipes</i>	50	3	EN
<i>Rhodamnia sharpeana</i>	50	3	NL
<i>Eucalyptus beardiana</i>	117	3	EN
<i>Eucalyptus beaniana</i>	82	3	VU
<i>Verticordia fragrans</i>	32	3	NL
<i>Eucalyptus baudiniana</i>	64	3	NL
<i>Calothamnus gibbosus</i>	37	3	NL
<i>Calothamnus validus</i>	58	3	NL
<i>Eucalyptus barklyensis</i>	71	3	NL
<i>Neofabricia sericisepala</i>	258	3	NL
<i>Rhodomyrtus trineura</i>			
<i>capensis</i>	43	3	NL
<i>Rinzia affinis</i>	45	3	NL
<i>Eucalyptus badjensis</i>	120	3	NL
<i>Eucalyptus argutifolia</i>	81	3	VU
<i>Rinzia dimorphandra</i>	34	3	NL
<i>Eucalyptus acies</i>	115	3	NL
<i>Melaleuca lateralis</i>	69	3	NL
<i>Calothamnus tuberosus</i>	55	3	NL
<i>Eucalyptus crucis</i>	92	3	NL
<i>Eremaea fimbriata</i>	85	3	NL
<i>Eremaea acutifolia</i>	60	3	NL
<i>Calothamnus hirsutus</i>	59	3	NL
<i>Eucalyptus placita</i>	67	3	NL

<i>Melaleuca capitata</i>	142	3	NL
<i>Eucalyptus sargentii</i>	278	3	NL
<i>Eucalyptus rudderi</i>	44	3	NL
<i>Leptospermum deanei</i>	39	3	VU
<i>Eucalyptus roycei</i>	116	3	NL
<i>Eucalyptus rigens</i>	83	3	NL
<i>Leptospermum macrocarpum</i>	71	3	NL
<i>Leptospermum maxwellii</i>	54	3	NL
<i>Leptospermum subglabratum</i>	43	3	NL
<i>Eucalyptus pulverulenta</i>	235	3	VU
<i>Leptospermum thompsonii</i>	58	3	VU
<i>Lamarchea sulcata</i>	90	3	NL
<i>Malleostemon hursthousei</i>	73	3	NL
<i>Eucalyptus sparsa</i>	256	3	NL
<i>Malleostemon minilyaensis</i>	46	3	NL
<i>Malleostemon peltiger</i>	107	3	NL
<i>Eucalyptus petrensis</i>	73	3	NL
<i>Melaleuca adenostyla</i>	52	3	NL
<i>Eucalyptus pantoleuca</i>	143	3	NL
<i>Melaleuca alsophila</i>	212	3	NL
<i>Eucalyptus paliformis</i>	126	3	NL
<i>Melaleuca amydra</i>	57	3	NL
<i>Eucalyptus pachycalyx</i>	336	3	NL
<i>Eucalyptus ornata</i>	69	3	NL
<i>Melaleuca borealis</i>	72	3	NL
<i>Lithomyrtus dunlopii</i>	199	3	NL
<i>Eucalyptus tephroclada</i>	102	3	NL
<i>Gossia retusa</i>	44	3	NL
<i>Euryomyrtus denticulata</i>	40	3	NL
<i>Eucalyptus woodwardii</i>	53	3	NL
<i>Homoranthus decasetus</i>	90	3	NL
<i>Homoranthus homoranthoides</i>	176	3	NL
<i>Eucalyptus umbrawarrensii</i>	349	3	NL
<i>Homoranthus thomasi</i>	182	3	NL
<i>Hypocalymma asperum</i>	49	3	NL
<i>Eucalyptus tholiformis</i>	239	3	NL
<i>Hypocalymma puniceum</i>	35	3	NL
<i>Kunzea affinis</i>	46	3	NL
<i>Leptospermum argenteum</i>	43	3	NL
<i>Eucalyptus tephrodes</i>	123	3	NL
<i>Eucalyptus rupestris</i>	99	3	NL
<i>Eucalyptus tenuis</i>	106	3	NL
<i>Kunzea cambagei</i>	35	3	VU
<i>Eucalyptus synandra</i>	111	3	VU

<i>Eucalyptus subglucida</i>	33	3	NL
<i>Eucalyptus suberea</i>	132	3	VU
<i>Eucalyptus strzeleckii</i>	152	3	VU
<i>Eucalyptus stowardii</i>	229	3	NL
<i>Eucalyptus stenostoma</i>	159	3	NL
<i>Eucalyptus staigeriana</i>	134	3	NL
<i>Eucalyptus splendens</i>	35	3	NL
<i>Lamarchea hakeifolia</i>	43	3	NL
<i>Eucalyptus terebra</i>	137	3	NL
<i>Eucalyptus mimica</i>	69	3	NL
<i>Eucalyptus merrickiae</i>	134	3	VU
<i>Melaleuca clarksonii</i>	94	3	NL
<i>Eucalyptus morrisii</i>	198	3	NL
<i>Melaleuca ciliosa</i>	97	3	NL
<i>Eucalyptus lucens</i>	160	3	NL
<i>Eucalyptus microneura</i>	362	3	NL
<i>Melaleuca hollidayi</i>	64	3	NL
<i>Eucalyptus microschemata</i>	67	3	NL
<i>Eucalyptus limitaris</i>	110	3	NL
<i>Eucalyptus macrocarpa</i>	214	3	NL
<i>Eucalyptus serraensis</i>	109	4	NL
<i>Eucalyptus gregsoniana</i>	186	4	NL
<i>Verticordia interioris</i>	84	4	NL
<i>Corymbia umbonata</i>	322	4	NL
<i>Syzygium bungadinna</i>	121	4	NL
<i>Syzygium hodgkinsoniae</i>	126	4	VU
<i>Eucalyptus similis</i>	458	4	NL
<i>Eucalyptus singularis</i>	49	4	NL
<i>Melaleuca oxyphylla</i>	95	4	NL
<i>Melaleuca dichroma</i>	60	4	NL
<i>Eucalyptus vegrandis</i>	204	4	NL
<i>Eucalyptus valens</i>	113	4	NL
<i>Corymbia jacobsiana</i>	383	4	NL
<i>Eucalyptus helidonica</i>	97	4	NL
<i>Beaufortia purpurea</i>	49	4	NL
<i>Verticordia minutiflora</i>	40	4	NL
<i>Corymbia collina</i>	205	4	NL
<i>Sinoga lysicephala</i>	34	4	NL
<i>Verticordia nitens</i>	100	4	NL
<i>Eucalyptus laeliae</i>	225	4	NL
<i>Darwinia pauciflora</i>	98	4	NL
<i>Sphaerantia discolor</i>	73	4	NL
<i>Melaleuca phoidophylla</i>	71	4	NL
<i>Eucalyptus rubiginosa</i>	175	4	NL
<i>Eucalyptus verrucata</i>	90	4	NL
<i>Melaleuca lateriflora</i>			
<i>acutifolia</i>	42	4	NL
<i>Corymbia ellipsoidea</i>	197	4	NL
<i>Eucalyptus rummeryi</i>	100	4	NL
<i>Homoranthus lunatus</i>	39	4	VU

<i>Verticordia lehmannii</i>	45	4	NL
<i>Eucalyptus cretata</i>	294	4	NL
<i>Eucalyptus saxatilis</i>	146	4	NL
<i>Darwinia capitellata</i>	85	4	NL
<i>Darwinia axillaris</i>	52	4	NL
<i>Melaleuca pallescens</i>	195	4	NL
<i>Syzygium alliligneum</i>	103	4	NL
<i>Calytrix gracilis</i>	133	4	NL
<i>Callistemon pauciflorus</i>	90	4	NL
<i>Eucalyptus jucunda</i>	276	4	NL
<i>Calytrix platycheiridia</i>	31	4	NL
<i>Calytrix paucicostata</i>	35	4	NL
<i>Eucalyptus hypolaena</i>	84	4	NL
<i>Triplarina bancroftii</i>	57	4	NL
<i>Calothamnus</i>			
<i>homalophyllus</i>	161	4	NL
<i>Calothamnus huegelii</i>	33	4	NL
<i>Thryptomene</i>			
<i>strongylophylla</i>	61	4	NL
<i>Calytrix gypsophila</i>	50	4	NL
<i>Eucalyptus jutsonii</i>	132	4	NL
<i>Verticordia capillaris</i>	78	4	NL
<i>Calothamnus oldfieldii</i>	66	4	NL
<i>Eucalyptus incerata</i>	65	4	NL
<i>Calothamnus pallidifolius</i>	42	4	NL
<i>Calytrix duplistipulata</i>	68	4	NL
<i>Eucalyptus taurina</i>	101	4	NL
<i>Calytrix birdii</i>	44	4	NL
<i>Eucalyptus irritans</i>	43	4	NL
<i>Melaleuca</i>			
<i>leptospermoides</i>	186	4	NL
<i>Thryptomene cuspidata</i>	104	4	NL
<i>Darwinia</i> sp. <i>williamson</i>	31	4	NL
<i>Callistemon pinifolius</i>	39	4	NL
<i>Eucalyptus gardneri</i>	186	4	NL
<i>Darwinia forrestii</i>	37	4	NL
<i>Syzygium xerampelinum</i>	121	4	NL
<i>Corymbia cadophora</i>	193	4	NL
<i>Thryptomene biseriata</i>	54	4	NL
<i>Melaleuca globifera</i>	73	4	NL
<i>Calytrix pulchella</i>	56	4	NL
<i>Eucalyptus macarthurii</i>	208	4	NL
<i>Corymbia dampieri</i>	407	4	NL
<i>Chamelaucium</i>			
<i>conostigmum</i>	41	4	NL
<i>Calothamnus</i>			
<i>chrysantherus</i>	95	4	NL
<i>Thryptomene ericaea</i>	165	4	NL
<i>Eucalyptus torquata</i>	248	4	NL
<i>Calytrix truncatifolia</i>	57	4	NL

<i>Calytrix sylvana</i>	72	4	NL
<i>Thryptomene hyporhytis</i>	127	4	NL
<i>Calytrix smeatoniana</i>	75	4	NL
<i>Corymbia abbreviata</i>	205	4	NL
<i>Astartea astarteoides</i>	34	4	NL
<i>Eucalyptus ovularis</i>	180	4	NL
<i>Eucalyptus pachyloma</i>	236	4	NL
<i>Eucalyptus crenulata</i>	143	4	EN
<i>Melaleuca chisholmii</i>	133	4	NL
<i>Micromyrtus imbricata</i>	81	4	NL
<i>Eucalyptus corrugata</i>	172	4	NL
<i>Pilidiodigma papuanum</i>	100	4	NL
<i>Eucalyptus cooperiana</i>	245	4	NL
<i>Melaleuca xerophila</i>	231	4	NL
<i>Homalocalyx</i>			
<i>pulcherrimus</i>	37	4	NL
<i>Eucalyptus parramattensis</i>	236	4	NL
<i>Darwinia taxifolia</i>	61	4	NL
<i>Euryomyrtus</i>			
<i>leptospermoides</i>	64	4	NL
<i>Astus tetragonus</i>	61	4	NL
<i>Eucalyptus percostata</i>	77	4	NL
<i>Eucalyptus exilis</i>	117	4	NL
<i>Micromyrtus littoralis</i>	149	4	NL
<i>Eucalyptus deflexa</i>	159	4	NL
<i>Agonis obtusissima</i>	49	4	NL
<i>Melaleuca sculponeata</i>	43	4	NL
<i>Melaleuca holosericea</i>	46	4	NL
<i>Eucalyptus nova-anglica</i>	273	4	NL
<i>Eucalyptus discreta</i>	195	4	NL
<i>Eucalyptus obesa</i>	96	4	NL
<i>Eucalyptus olida</i>	59	4	NL
<i>Micromyrtus blakelyi</i>	38	4	VU
<i>Melaleuca sclerophylla</i>	89	4	NL
<i>Gossia inophloia</i>	99	4	NL
<i>Gossia pubiflora</i>	96	4	NL
<i>Melaleuca blaeriifolia</i>	100	4	NL
<i>Melaleuca thapsina</i>	94	4	NL
<i>Angophora melanoxylon</i>	167	4	NL
<i>Eucalyptus curtisii</i>	463	4	NL
<i>Melaleuca tuberculata</i>			
<i>arenaria</i>	39	4	NL
<i>Asteromyrtus arnhemica</i>	85	4	NL
<i>Eucalyptus densa</i>	197	4	NL
<i>Eucalyptus raveretiana</i>	369	4	VU
<i>Eucalyptus atrata</i>	276	4	NL
<i>Verticordia rennieana</i>	63	4	NL
<i>Baeckea corynophylla</i>	107	4	NL
<i>Asteromyrtus angustifolia</i>	186	4	NL
<i>Eucalyptus arachnaea</i>	404	4	NL

<i>Verticordia patens</i>	39	4	NL
<i>Rinzia carnos</i>	56	4	NL
<i>Eucalyptus formanii</i>	135	4	NL
<i>Eucalyptus psammitica</i>	66	4	NL
<i>Baeckea muricata</i>	69	4	NL
<i>Eucalyptus aspersa</i>	202	4	NL
<i>Eucalyptus websteriana</i>	160	4	NL
<i>Leptospermum</i>			
<i>namadgiensis</i>	74	4	NL
<i>Melaleuca concinna</i>	60	4	NL
<i>Verticordia paludosa</i>	31	4	NL
<i>Eremaea ebracteata</i>	110	4	NL
<i>Baeckea polyandra</i>	35	4	NL
<i>Baeckea polystemonea</i>	165	4	NL
<i>Leptospermum</i>			
<i>epacridoideum</i>	67	4	NL
<i>Eucalyptus wilcoxii</i>	34	4	NL
<i>Melaleuca pritzelii</i>	68	4	NL
<i>Eucalyptus caesia</i>	174	4	NL
<i>Leptospermum</i>			
<i>wooroonooran</i>	114	4	NL
<i>Lithomyrtus microphylla</i>	345	4	NL
<i>Eucalyptus buprestium</i>	198	4	NL
<i>Verticordia subulata</i>	79	4	NL
<i>Eucalyptus xanthonema</i>	157	4	NL
<i>Verticordia venusta</i>	114	4	NL
<i>Waterhousea</i>			
<i>mulgraveana</i>	171	4	NL
<i>Angophora euryphylla</i>	66	5	NL
<i>Aluta appressa</i>	60	5	NL
<i>Eucalyptus jacksonii</i>	67	5	NL
<i>Verticordia brachypoda</i>	174	5	NL
<i>Calothamnus planifolius</i>	83	5	NL
<i>Calothamnus preissii</i>	48	5	NL
<i>Calothamnus rupestris</i>	90	5	NL
<i>Calothamnus schaueri</i>	46	5	NL
<i>Austromyrtus tenuifolia</i>	56	5	NL
<i>Welchiodendron</i>			
<i>longivalve</i>	417	5	NL
<i>Gossia floribunda</i>	250	5	NL
<i>Verticordia sieberi</i>	37	5	NL
<i>Baeckea blackettii</i>	50	5	NL
<i>Homalocalyx ericaeus</i>	351	5	NL
<i>Melaleuca leiopyxis</i>	66	5	NL
<i>Melaleuca huegelii</i>	74	5	NL
<i>Calothamnus</i>			
<i>blepharospermus</i>	80	5	NL
<i>Eucalyptus utilis</i>	76	5	NL
<i>Calothamnus asper</i>	49	5	NL
<i>Beaufortia incana</i>	158	5	NL

<i>Backhousia bancroftii</i>	115	5	NL
<i>Eucalyptus xanthoclada</i>	317	5	NL
<i>Melaleuca lecanantha</i>	50	5	NL
Homoranthus			
darwinioides	70	5	VU
<i>Babingtonia subcuneata</i>	32	5	NL
<i>Kunzea baxteri</i>	85	5	NL
<i>Verticordia penicillaris</i>	87	5	NL
<i>Eucalyptus angustissima</i>	204	5	NL
<i>Eucalyptus brevistylis</i>	143	5	NL
<i>Eucalyptus pimpiniana</i>	237	5	NL
<i>Eucalyptus fergusonii</i>	66	5	NL
<i>Eucalyptus platypus</i>	166	5	NL
<i>Eucalyptus prolixa</i>	124	5	NL
<i>Eucalyptus bakeri</i>	495	5	NL
<i>Eucalyptus aspratilis</i>	100	5	NL
<i>Kunzea jucunda</i>	64	5	NL
<i>Eucalyptus melanoleuca</i>	371	5	NL
<i>Pilidiostigma sessile</i>	66	5	NL
<i>Rinzia crassifolia</i>	59	5	NL
<i>Eucalyptus alligatrix</i>	153	5	NL
<i>Eucalyptus pyriformis</i>	218	5	NL
<i>Leptospermum speciosum</i>	127	5	NL
<i>Eucalyptus remota</i>	236	5	NL
<i>Eremaea ectadioclada</i>	58	5	NL
<i>Melaleuca condylosa</i>	43	5	NL
<i>Eucalyptus argyphaea</i>	130	5	NL
<i>Eucalyptus</i>			
<i>conferruminata</i>	87	5	NL
<i>Eucalyptus neglecta</i>	248	5	NL
<i>Eucalyptus dolichocera</i>	169	5	NL
<i>Eucalyptus odontocarpa</i>	739	5	NL
<i>Melaleuca subalaris</i>	66	5	NL
<i>Eucalyptus decolor</i>	121	5	NL
Melaleuca biconvexa	77	5	VU
<i>Melaleuca cheelii</i>	198	5	NL
<i>Eucalyptus famelica</i>	78	5	NL
<i>Eucalyptus exigua</i>	70	5	NL
<i>Rhodamnia glabrescens</i>	105	5	NL
<i>Micromyrtus sulphurea</i>	68	5	NL
<i>Eucalyptus cneorifolia</i>	369	5	NL
<i>Neofabricia mjoebergii</i>	219	5	NL
<i>Eucalyptus carnei</i>	202	5	NL
Eucalyptus parvula	238	5	VU
<i>Pileanthus vernicosus</i>	43	5	NL
Eucalyptus camfieldii	172	5	VU
<i>Darwinia pimelioides</i>	64	5	NL
<i>Micromyrtus elobata</i>	116	5	NL
<i>Calytrix formosa</i>	76	5	NL
<i>Eucalyptus froggattii</i>	249	5	NL

<i>Thryptomene hexandra</i>	155	5	NL
<i>Kunzea flavescens</i>	115	5	NL
<i>Thryptomene urceolaris</i>	87	5	NL
<i>Kunzea ericifolia</i>	41	5	NL
<i>Eucalyptus suggrandis</i>	337	5	NL
<i>Triplarina paludosa</i>	89	5	NL
<i>Chamelaucium floriferum</i>	50	5	NL
<i>Calytrix glutinosa</i>	111	5	NL
<i>Thryptomene denticulata</i>	170	5	NL
<i>Melaleuca formosa</i>	111	5	NL
<i>Eucalyptus tardecidens</i>	224	5	NL
<i>Calytrix desolata</i>	116	5	NL
<i>Verticordia bifimbriata</i>	62	5	NL
<i>Calytrix creswellii</i>	36	5	NL
<i>Calytrix chrysantha</i>	56	5	NL
<i>Calytrix brevifolia</i>	266	5	NL
<i>Calytrix arborescens</i>	149	5	NL
<i>Eucalyptus suggrandis</i>			
<i>alipes</i>	136	5	NL
<i>Syzygium erythrocalyx</i>	69	5	NL
<i>Melaleuca linophylla</i>	94	5	NL
<i>Darwinia peduncularis</i>	32	5	NL
<i>Syzygium anisatum</i>	60	5	NL
<i>Melaleuca densispicata</i>	235	5	NL
<i>Eucalyptus latiuscula</i>	61	5	NL
<i>Eucalyptus gillii</i>	540	5	NL
<i>Eucalyptus semiglobosa</i>	35	5	NL
<i>Calytrix violacea</i>	99	5	NL
<i>Leptospermum anfractum</i>	53	5	NL
<i>Leptospermum</i>			
<i>divaricatum</i>	148	5	NL
<i>Eucalyptus halophila</i>	133	5	NL
<i>Corymbia kombolgiensis</i>	708	5	NL
<i>Eucalyptus ebbanoensis</i>	260	5	NL
<i>Corymbia cliftoniana</i>	185	5	NL
<i>Thaleropia queenslandica</i>	95	5	NL
<i>Melaleuca eurystoma</i>	50	5	NL
<i>Thryptomene calycina</i>	214	5	NL
<i>Chamelaucium</i>			
<i>pauciflorum</i>	86	5	NL
<i>Syzygium armstrongii</i>	302	5	NL

Fabaceae – Peas, legumes

The ANHAT database has 353042 records for 1350 species and subspecies of Fabaceae. One species is considered extinct and excluded from analysis (**Table 14**).

Table 14 Fabaceae species considered extinct

Species	Common name	No. of records
<i>Pultenaea maidenii</i>		14

Fifty-seven species account for approximately 50% of the total species records in ANHAT (

Table 15). These species have over 600 records each.

Table 15 Fabaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Bossiaea eriocarpa</i>	678	0.18
<i>Bossiaea bossiaeoides</i>	688	0.19
<i>Swainsona affinis</i>	694	0.19
<i>Aotus subspinescens</i>	699	0.19
<i>Cajanus reticulatus</i>	702	0.19
<i>Desmodium Muellerei</i>	713	0.19
<i>Millettia pinnata</i>	714	0.19
<i>Mirbelia viminalis</i>	717	0.19
<i>Pultenaea hispidula</i>	718	0.19
<i>Dillwynia retorta</i>	723	0.19
<i>Hovea longipes</i>	729	0.20
<i>Desmodium trichostachyum</i>	730	0.20
<i>Phyllota pleurandroides</i>	731	0.20
<i>Cajanus marmoratus</i>	734	0.20
<i>Sphaerolobium vimineum</i>	742	0.20
<i>Swainsona galegifolia</i>	742	0.20
<i>Daviesia genistifolia</i>	747	0.20
<i>Tephrosia rosea</i>	761	0.21
<i>Glycine microphylla</i>	772	0.21
<i>Desmodium filiforme</i>	772	0.21
<i>Pultenaea villosa</i>	783	0.21
<i>Trigonella suavissima</i>	783	0.21
<i>Zornia dyctiocarpa</i>	784	0.21
<i>Pultenaea humilis</i>	786	0.21
<i>Pycnospora lutescens</i>	787	0.21

<i>Crotalaria eremaea strehlowii</i>	796	0.21
<i>Oxylobium ellipticum</i>	810	0.22
<i>Crotalaria cunninghamii</i>	813	0.22
<i>Templetonia hookeri</i>	813	0.22
<i>Swainsona procumbens</i>	827	0.22
<i>Cracca juncea</i>	838	0.23
<i>Pultenaea laxiflora</i>	844	0.23
<i>Cajanus acutifolius</i>	846	0.23
<i>Gompholobium ecostatum</i>	858	0.23
<i>Cracca phaeosperma</i>	858	0.23
<i>Phyllota phyllicoides</i>	858	0.23
<i>Cracca remotiflora</i>	863	0.23
<i>Swainsona campylantha</i>	878	0.24
<i>Gompholobium subulatum</i>	893	0.24
<i>Templetonia egena</i>	893	0.24
<i>Desmodium brachypodum</i>	896	0.24
<i>Crotalaria montana angustifolia</i>	902	0.24
<i>Austrostenisia blackii</i>	913	0.25
<i>Tephrosia supina</i>	922	0.25
<i>Gastrolobium grandiflorum</i>	924	0.25
<i>Podolobium ilicifolium</i>	929	0.25
<i>Pultenaea retusa</i>	933	0.25
<i>Pultenaea acerose</i>	961	0.26
<i>Viminaria juncea</i>	978	0.26
<i>Crotalaria brevis</i>	1008	0.27
<i>Piptomeris thesioides</i>	1045	0.28
<i>Bossiaea foliosa</i>	1048	0.28
<i>Templetonia retusa</i>	1050	0.28
<i>Hovea montana</i>	1078	0.29
<i>Crotalaria eremaea</i>	1116	0.30
<i>Pultenaea spinosa</i>	1116	0.30
<i>Pultenaea pedunculata</i>	1140	0.31
<i>Oxylobium arborescens</i>	1145	0.31
<i>Crotalaria novaehollandiae</i>	1147	0.31
<i>Podolobium alpestre</i>	1155	0.31
<i>Cracca leptoclada</i>	1169	0.31
<i>Pultenaea mollis</i>	1173	0.32
<i>Swainsona phacoides</i>	1191	0.32
<i>Uraria lagopodioides</i>	1209	0.33
<i>Piptomeris dilatata</i>	1228	0.33
<i>Tephrosia brachyodon</i>	1276	0.34
<i>Lotus australis</i>	1281	0.35
<i>Erythrina vespertilio</i>	1283	0.35
<i>Dillwynia retorta phyllicoides</i>	1293	0.35
<i>Cullen cinereum</i>	1333	0.36
<i>Vigna lanceolata</i>	1333	0.36
<i>Bossiaea cinerea</i>	1357	0.37
<i>Aeschynomene indica</i>	1360	0.37
<i>Indigofera colutea</i>	1376	0.37
<i>Indigofera hirsute</i>	1425	0.38

<i>Sesbania cannabina</i>	1493	0.40
<i>Indigofera pratensis</i>	1499	0.40
<i>Crotalaria medicaginea neglecta</i>	1512	0.41
<i>Abrus precatorius</i>	1543	0.42
<i>Daviesia brevifolia</i>	1556	0.42
<i>Desmodium gunnii</i>	1558	0.42
<i>Maughania parviflora</i>	1560	0.42
<i>Desmodium varians</i>	1612	0.43
<i>Zornia muriculata</i>	1635	0.44
<i>Crotalaria montana</i>	1670	0.45
<i>Indigofera linnaei</i>	1677	0.45
<i>Pultenaea largiflorens</i>	1687	0.45
<i>Glycine canescens</i>	1758	0.47
<i>Gompholobium huegelii</i>	1763	0.47
<i>Pultenaea scabra</i>	1848	0.50
<i>Cullen australasicum</i>	1853	0.50
<i>Pultenaea gunnii</i>	1854	0.50
<i>Goodia lotifolia</i>	1912	0.52
<i>Jacksonia scoparia</i>	1947	0.52
<i>Crotalaria medicaginea</i>	1956	0.53
<i>Glycine tabacina</i>	1963	0.53
<i>Kennedia rubicunda</i>	2008	0.54
<i>Desmodium rhytidophyllum</i>	2096	0.56
<i>Lotus cruentus</i>	2125	0.57
<i>Pultenaea tenuifolia</i>	2211	0.60
<i>Daviesia latifolia</i>	2236	0.60
<i>Aotus ericoides</i>	2298	0.62
<i>Galactia tenuiflora</i>	2301	0.62
<i>Glycine tomentella</i>	2343	0.63
<i>Trifolium glomeratum</i>	2356	0.63
<i>Indigofera australis</i>	2522	0.68
<i>Indigofera linifolia</i>	2647	0.71
<i>Rhynchosia minima</i>	2689	0.72
<i>Pultenaea juniperina</i>	2712	0.73
<i>Eutaxia microphylla</i>	2720	0.73
<i>Daviesia leptophylla</i>	2799	0.75
<i>Bossiaea prostrata</i>	2857	0.77
<i>Pultenaea daphnoides</i>	3120	0.84
<i>Dillwynia glaberrima</i>	3206	0.86
<i>Daviesia ulicifolia</i>	3250	0.88
<i>Kennedia prostrata</i>	3255	0.88
<i>Hovea heterophylla</i>	3383	0.91
<i>Platylobium obtusangulum</i>	3384	0.91
<i>Platylobium formosum</i>	4025	1.08
<i>Dillwynia hispidula</i>	5398	1.45
<i>Hardenbergia violacea</i>	5579	1.50
<i>Glycine clandestina</i>	6494	1.75
Total	186680	50.26

Two hundred and eighty-four had 30 or fewer individual site records in the ANHAT database (

Table 16). Of these, 23 species are listed as threatened (including one species classified as critically endangered). These species have been excluded from analysis but are included here for reference. This family is predominantly restricted to south-west Western Australia and so the locations in the list are dominated by this area of Australia. Again, the distributions of these species are relatively small, but this is at least partly a consequence of there being so few records. It also is partly due to the high levels of endemism in south-west Western Australia and so a necessarily smaller range. Exclusion of these poorly recorded species eliminates 349031 records.

Table 16 Fabaceae species with 30 or fewer individual site records in the ANHAT database.

<i>Species</i>	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Crotalaria nana</i>	1	0.0			100	NL
<i>Desmodium renifolium</i>	1	0.0			100	NL
<i>Eutaxia alternifolia</i>	1	100.0	SW		100	NL
<i>Gastrolobium revolutum</i>	1	0.0			100	NL
<i>Gompholobium pungens</i>	1	0.0	W		100	NL
<i>Indigofera cinericolor</i>	1	0.0			100	NL
<i>Indigofera trita maffei</i>	1	0.0			200	NL
<i>Jacksonia l</i>	1	100.0			100	NL
<i>Jacksonia ulicina</i>	1	0.0			100	NL
<i>Latrobea obovata</i>	1	100.0	SW		100	NL
<i>Piptomeris racemosa</i>	1	0.0			100	NL
<i>Pultenaea stuartiana</i>	1	0.0			1200	VU
<i>Rothia trifoliata</i>	1	0.0			100	NL
<i>Sophora howinsula</i>	1	0.0			300	NL
<i>Strongylodon siderospermus</i>	1	0.0			100	NL
<i>Swainsona sp. hamersley station</i>	1	100.0			100	NL
<i>Zornia diphylla</i>	1	0.0			100	NL
<i>Aotus sp. cunderdin</i>	2	0.0			100	NL
<i>Aotus sp. mt frankland</i>	2	100.0			100	NL
<i>Bossiaea sp. waroona</i>	2	100.0			100	NL
<i>Chamaecytisus palmensis</i>	2	50.0	SW		1200	NL
<i>Cracca graminifolia</i>	2	0.0			100	NL
<i>Desmodium repandum</i>	2	0.0			100	NL
<i>Desmodium triquetrum</i>	2	0.0			100	NL
<i>Eutaxia densifolia</i>	2	100.0	SW		100	NL
<i>Eutaxia we blackwell 3276</i>	2	0.0			100	NL
<i>Glycine aphyonota</i>	2	100.0			100	NL
<i>Mirbelia pedicellosa</i>	2	50.0	SW		200	NL
<i>Mirbelia ternate</i>	2	0.0	W		100	NL
<i>Mucuna diabolica</i>	2	50.0			200	NL
<i>Platylobium microphyllum</i>	2	0.0	NE		100	NL

<i>Rothia indica</i>	2	0.0		200	NL
<i>Urodon</i> sp. <i>Narkal</i>	2	0.0		100	NL
<i>Cullen praeruptorum</i>	3	0.0	NW	100	NL
<i>Desmodium whitfordii</i>	3	0.0		300	NL
<i>Eutaxia lasiophylla</i>	3	0.0	SW	300	NL
<i>Gastrolobium euryphyllum</i>	3	100.0	SW	100	NL
<i>Inocarpus fagiferus</i>	3	0.0		200	NL
<i>Latrobea elliptica</i>	3	100.0	SW	100	NL
<i>Mirbelia rigida</i>	3	66.7	W	300	NL
<i>Mucuna diabolica kenneallyi</i>	3	33.3		400	NL
<i>Swainsona dictyocarpa</i>	3	0.0		300	NL
<i>Swainsona vestita</i>	3	66.7		200	NL
<i>Alysicarpus suffruticosus</i>	4	0.0		200	NL
<i>Aotus</i> sp. <i>peak charles</i>	4	0.0		200	NL
<i>Daviesia elongate</i>	4	0.0		400	VU
<i>Gastrolobium humile</i>	4	50.0	SW	200	NL
<i>Indigofera cordifolia</i>	4	100.0		500	NL
<i>Indigofera mackinlayi</i>	4	25.0		400	NL
<i>Jacksonia bifida</i>	4	100.0		100	NL
<i>Jacksonia</i> sp. <i>collie</i>	4	100.0		100	EN
<i>Jacksonia turneriana</i>	4	100.0		200	NL
<i>Pultenaea</i> sp. <i>mt lesueur</i>	4	100.0		100	NL
<i>Tephrosia</i> sp. <i>f kimberley</i> <i>flora</i>	4	0.0		200	NL
<i>Aotus</i> sp. <i>west river</i>	5	0.0		200	NL
<i>Aphyllodium parvifolium</i>	5	0.0	NW	400	NL
<i>Indigofera efoliata</i>	5	0.0		500	EN
<i>Mirbelia magentea</i>	5	20.0	SW	400	NL
<i>Mirbelia taxifolia</i>	5	0.0	SW	200	NL
<i>Otione tortile</i>	5	80.0	SW	300	NL
<i>Pultenaea calycina proxena</i>	5	0.0		300	NL
<i>Sesbania bispinosa</i>	5	0.0		300	NL
<i>Tephrosia debilis</i>	5	0.0		100	NL
<i>Zornia pedunculata</i>	5	100.0		100	NL
<i>Bossiaea laxa</i>	6	0.0	SW	100	NL
<i>Cullen candidum</i>	6	0.0	NW	400	NL
<i>Daviesia asperula</i>	6	33.3		1100	NL
<i>Daviesia sarissa</i>	6	0.0	SW	300	NL
<i>Eutaxia neurocalyx major</i>	6	16.7		900	NL
<i>Isotropis canescens</i>	6	33.3		500	NL
<i>Jacksonia rupestris</i>	6	33.3		400	NL
<i>Lotus hispidus</i>	6	0.0		600	NL
<i>Mirbelia bursarioides</i>	6	33.3	W	500	NL
<i>Mirbelia stipitata</i>	6	0.0		400	NL
<i>Muelleranthus crenulatus</i>	6	0.0		200	NL
<i>Pultenaea wudjariensis</i>	6	0.0	SW	300	NL
<i>Swainsona halophila</i>	6	16.7	SW	500	NL
<i>Aotus diffusa</i>	7	14.3	SW	400	NL
<i>Daviesia debilior</i>	7	14.3	W	200	NL
<i>Dillwynia peduncularis</i>	7	0.0		500	NL

<i>Dunbaria punctata</i>	7	28.6		500	NL
<i>Eutaxia lasiocalyx</i>	7	0.0	SW	300	NL
<i>Eutaxia verticillata</i>	7	14.3	SW	500	NL
<i>Gastrolobium ferrugineum</i>	7	28.6	SW	400	NL
<i>Gastrolobium luteifolium</i>	7	100.0	SW	200	NL
<i>Gompholobium muticum</i>	7	14.3	SW,W	700	NL
<i>Indigofera hendecaphylla</i>	7	0.0		300	NL
<i>Indigofera sp. areyonga</i>	7	0.0		300	NL
<i>Jacksonia debilis</i>	7	0.0	SW	300	NL
<i>Jacksonia sparsa</i>	7	71.4	SW	300	NL
<i>Latrobea recurva</i>	7	14.3	SW	400	NL
<i>Tephrosia sp. maud creek</i>	7	100.0		300	NL
<i>Tephrosia timorensis</i>	7	0.0		300	NL
<i>Alysicarpus rugosus</i>					
<i>reticulatus</i>	8	0.0		800	NL
<i>Aotus tenuis</i>	8	25.0	SW	700	NL
<i>Daviesia intricate</i>	8	37.5	SW	400	NL
<i>Derris uliginosa</i>	8	62.5		700	NL
<i>Gastrolobium effusum</i>	8	12.5	SW	100	NL
<i>Gastrolobium wonganensis</i>	8	0.0	SW	200	NL
<i>Glycine pacifica</i>	8	0.0		5400	NL
<i>Gompholobium karijini</i>	8	62.5	W	700	NL
<i>Indigofera oxyrachis</i>	8	0.0		200	NL
<i>Jacksonia pungens</i>	8	0.0	SW	200	EN
<i>Ormocarpum orientale</i>	8	0.0		700	NL
<i>Ptychosema pusillum</i>	8	12.5		600	VU
<i>Pultenaea sp. southern</i>	8	0.0		400	NL
<i>Tephrosia baueri</i>	8	12.5		900	NL
<i>Tephrosia vogelii</i>	8	37.5		300	NL
<i>Bossiaea eremaea</i>	9	0.0	W	400	NL
<i>Crotalaria dissitiflora</i>					
<i>benthamiana</i>	9	0.0		900	NL
<i>Dendrolobium cheelii</i>	9	22.2		700	NL
<i>Eutaxia rubricarina</i>	9	22.2	SW	600	NL
<i>Gompholobium wonganense</i>	9	22.2	SW	200	NL
<i>Indigofera pilifera</i>	9	0.0		500	NL
<i>Jacksonia elongata</i>	9	44.4	SW	900	NL
<i>Jacksonia humilis</i>	9	44.4	SW	600	NL
<i>Pultenaea indira</i>					
<i>monstrosita</i>	9	33.3		600	NL
<i>Tephrosia leveillei</i>	9	0.0		400	VU
<i>Alysicarpus longifolius</i>	10	60.0		1000	NL
<i>Flemingia schultzei</i>	10	10.0		1100	NL
<i>Otton rigidum</i>	10	40.0	SW	800	NL
<i>Swainsona perlonga</i>	10	50.0	W	600	NL
<i>Tephrosia valleculata</i>	10	100.0		100	NL
<i>Chorizema circinale</i>	11	0.0	SW	400	NL
<i>Daviesia pleurophylla</i>	11	54.5	W	500	NL
<i>Eutaxia nanophylla</i>	11	9.1	SW	600	NL
<i>Gompholobium laxum</i>	11	27.3	SW,W	1000	NL

<i>Hovea asperifolia</i>					
<i>spinosissima</i>	11	0.0		400	NL
<i>Kennedia macrophylla</i>	11	36.4	SW	500	EN
<i>Sphaerolobium benetectum</i>	11	45.4	SW	500	NL
<i>Swainsona longicarinata</i>	11	9.1	W	1200	NL
<i>Tephrosia brachyodon</i>					
<i>retinervis</i>	11	0.0		700	NL
<i>Aeschynomene micrantha</i>	12	0.0		900	NL
<i>Alysicarpus major</i>	12	33.3		900	NL
<i>Cracca tinctoria</i>	12	0.0		500	NL
<i>Eutaxia lutea</i>	12	0.0	SW	1000	NL
<i>Jacksonia quairading</i>	12	8.3		300	EN
<i>Jacksonia tarinensis</i>	12	16.7	SW	600	NL
<i>Rhynchosia rostrata</i>	12	66.7		700	NL
<i>Sesbania cannabina sericea</i>	12	8.3		600	NL
<i>Zornia acuta</i>	12	0.0		800	NL
<i>Dalbergia densa</i>	13	23.1		1200	NL
<i>Daviesia glossosema</i>	13	100.0	SW	300	CE
<i>Gastrolobium nudifolium</i>	13	30.8	SW	800	NL
<i>Jacksonia acicularis</i>	13	0.0	SW,W	900	NL
<i>Pultenaea neurocalyx</i>	13	30.8	SW	900	NL
<i>Strongylodon lucidus</i>	13	92.3		500	NL
<i>Tephrosia subnuda</i>	13	46.1		1500	NL
<i>Jacksonia epiphyllum</i>	14	57.1	SW	800	NL
<i>Jacksonia quinkanensis</i>	14	0.0		700	NL
<i>Pultenaea adunca</i>	14	28.6	SW	900	NL
<i>Chorizema varium</i>	15	0.0	SW	800	EN
<i>Dillwynia rupestris</i>	15	100.0		400	NL
<i>Phylacium bracteosum</i>	15	100.0	NE	100	NL
<i>Pultenaea boormanii</i>	15	0.0		2800	NL
<i>Swainsona similis</i>	15	13.3		1000	NL
<i>Aphyllodium latifolium</i>	16	0.0	NE	500	NL
<i>Daviesia sarissa redacta</i>	16	62.5		600	NL
<i>Eutaxia epacridoides</i>	16	25.0	SW	1600	NL
<i>Eutaxia neurocalyx</i>					
<i>leptophylla</i>	16	18.7		1300	NL
<i>Gastrolobium truncatum</i>	16	0.0	SW	1000	NL
<i>Jacksonia calcicola</i>	16	68.7	SW,W	1400	NL
<i>Mirbelia sp. helena &</i>					
<i>aurora</i>	16	12.5		1300	NL
<i>Zornia disticha</i>	16	0.0		500	NL
<i>Daviesia subulata</i>	17	0.0	W	100	NL
<i>Derris koolgibberah</i>	17	23.5		500	NL
<i>Gastrolobium papilio</i>	17	11.8	SW	200	EN
<i>Pultenaea calycina</i>	17	29.4		1300	NL
<i>Swainsona calcicola</i>	17	17.6	W	1100	NL
<i>Cracca forrestiana</i>	18	38.9		1600	NL
<i>Daviesia ovata</i>	18	50.0	SW	500	NL
<i>Dillwynia crispifolia</i>	18	27.8		1000	NL
<i>Gastrolobium acrocaroli</i>	18	94.4	SW	300	NL

<i>Gastrolobium crispatum</i>	18	38.9	SW,W	700	NL
<i>Gompholobium cyaninum</i>	18	38.9	SW	1800	NL
<i>Jacksonia nutans</i>	18	33.3	SW,W	1300	NL
<i>Oxylobium</i> sp. south-coast variant	18	44.4		700	NL
<i>Pultenaea brachyphylla</i>	18	50.0	SW	900	NL
<i>Cracca oligophylla</i>	19	52.6		1300	NL
<i>Cullen cuneatum</i>	19	0.0	NW	1100	NL
<i>Daviesia pseudaphylla</i>	19	94.7	SW	600	EN
<i>Dillwynia glauca</i>	19	5.3		800	NL
<i>Gastrolobium nudum</i>	19	52.6	SW	700	NL
<i>Gastrolobium spectabile</i>	19	5.3	SW	800	NL
<i>Gastrolobium tergiversum</i>	19	100.0	SW	200	NL
<i>Glycine peratosa</i>	19	15.8	SW	1600	NL
<i>Indigofera arrecta</i>	19	10.5		700	NL
<i>Indigofera decora</i>	19	0.0		900	NL
<i>Pultenaea gunnii tuberculata</i>	19	57.9		600	NL
<i>Tephrosia humifusa</i>	19	31.6		900	NL
<i>Gastrolobium aculeatum</i>	20	60.0	SW	600	NL
<i>Gastrolobium dorrienii</i>	20	15.0	SW	1100	NL
<i>Latrobea glabrescens</i>	20	30.0	SW	1500	NL
<i>Sphaerolobium gracile</i>	20	25.0	W	1600	NL
<i>Swainsona extrajacens</i>	20	55.0		1300	NL
<i>Swainsona paucifoliolata</i>	20	5.0	W	1600	NL
<i>Bossiaea celata</i>	21	23.8	SW	500	NL
<i>Daviesia ramosissima</i>	21	66.7	W	1100	NL
<i>Daviesia spinosissima</i>	21	9.5	SW	1300	NL
<i>Gastrolobium diabolophyllum</i>	21	0.0	SW	300	NL
<i>Indigofera ixocarpa</i>	21	38.1	W	600	NL
<i>Jacksonia rubra</i>	21	42.9	SW	1100	NL
<i>Otton simplicifolium</i>	21	0.0	W	2000	NL
<i>Daviesia intricata xiphophylla</i>	22	0.0		400	NL
<i>Daviesia smithiorum</i>	22	40.9	SW	300	NL
<i>Desmodium heterophyllum</i>	22	0.0		1000	NL
<i>Eutaxia neurocalyx</i>	22	27.3		1800	NL
<i>Gastrolobium modestum</i>	22	0.0	SW	400	VU
<i>Gastrolobium mondurup</i>	22	100.0	SW	200	NL
<i>Gompholobium glutinosum</i>	22	27.3	W	1400	NL
<i>Sphaerolobium fornicatum</i>	22	36.4		1400	NL
<i>Bossiaea peduncularis</i>	23	13.0	SW	800	NL
<i>Dillwynia palustris</i>	23	52.2		600	NL
<i>Erythrina insularis</i>	23	4.3		1400	NL
<i>Gastrolobium lehmannii</i>	23	4.3	SW	1000	VU
<i>Gastrolobium pulchellum</i>	23	95.6	SW	700	NL
<i>Mirbelia subcordata</i>	23	78.3	SW	1100	NL
<i>Pultenaea alea</i>	23	0.0		900	NL
<i>Pultenaea daena</i>	23	8.7	SW	800	NL

<i>Daviesia microcarpa</i>	24	0.0	SW	500	EN
<i>Gastrolobium graniticum</i>	24	12.5	SW	900	EN
<i>Gastrolobium vestitum</i>	24	100.0	SW	200	NL
<i>Indigofera triflora</i>	24	16.7		800	NL
<i>Sphaerolobium validum</i>	24	12.5	SW	1300	NL
<i>Swainsona bracteata</i>	24	4.2		3500	NL
<i>Almaleea cambagei</i>	25	40.0	E	900	VU
<i>Cajanus viscidus</i>	25	40.0		1600	NL
<i>Chorizema humile</i>	25	0.0	W	1500	EN
<i>Daviesia euryloba</i>	25	8.0	SW	1300	NL
<i>Daviesia grossa</i>	25	100.0	SW	100	NL
<i>Daviesia quoquoversus</i>	25	68.0		800	NL
<i>Gastrolobium crenulatum</i>	25	100.0	SW	800	NL
<i>Gastrolobium cruciatum</i>	25	20.0	SW	1300	NL
<i>Gastrolobium elegans</i>	25	44.0	SW	700	NL
<i>Gastrolobium involutum</i>	25	4.0	SW	300	NL
<i>Gastrolobium venulosum</i>	25	16.0	SW	1200	NL
<i>Gompholobium virgatum</i>					
<i>emarginatum</i>	25	48.0		900	NL
<i>Kennedia microphylla</i>	25	20.0	SW	1800	NL
<i>Kennedia retrorsa</i>	25	60.0		1000	VU
<i>Pultenaea baeuerlenii</i>	25	80.0		900	VU
<i>Pultenaea lapidosa</i>	25	4.0		700	NL
<i>Pultenaea rodwayi</i>	25	100.0		800	NL
<i>Sphaerolobium calcicola</i>	25	56.0	SW	1200	NL
<i>Swainsona cadellii</i>	25	20.0		3700	NL
<i>Swainsona</i> sp. <i>millstream</i>	25	96.0		1300	NL
<i>Indigofera brevidens</i>					
<i>uncinate</i>	26	19.2		1400	NL
<i>Indigofera haemata</i>	26	0.0		500	NL
<i>Leptosema aculeatum</i>	26	34.6	W,WI	1300	NL
<i>Sphaerolobium acanthos</i>	26	92.3		700	NL
<i>Tadehagi robustum</i>	26	0.0		500	NL
<i>Zornia pallida</i>	26	11.5		1300	NL
<i>Zornia ramosa</i>	26	19.2		1200	NL
			NE,NW,C		
<i>Aphyllodium stylosanthoides</i>	27	59.3	N	1300	NL
<i>Daviesia cunderdin</i>	27	0.0	SW	200	EN
<i>Gastrolobium alternifolium</i>	27	44.4	SW	800	NL
<i>Gastrolobium heterophyllum</i>	27	37.0	SW	1800	NL
<i>Glycine albicans</i>	27	18.5		1200	NL
<i>Jacksonia arenicola</i>	27	22.2	W	1700	NL
<i>Jacksonia viscosa</i>	27	29.6	SW	1600	NL
<i>Mirbelia granitica</i>	27	18.5	SW	1800	NL
<i>Rhynchosia bungarensis</i>	27	37.0	W	1700	NL
<i>Swainsona gracilis</i>	27	18.5	SW,W	2300	NL
<i>Swainsona minutiflora</i>	27	7.4		1100	NL
<i>Tephrosia clementii</i>	27	7.4	W	2200	NL
<i>Zornia oligantha</i>	27	85.2		1100	NL
<i>Bossiaea modesta</i>	28	3.6	SW	500	NL

<i>Daviesia debilior sinuans</i>	28	10.7		1000	NL
<i>Daviesia umbonata</i>	28	3.6	SW,W	1300	NL
<i>Desmodium incanum</i>	28	0.0		1200	NL
<i>Isotropis parviflora</i>	28	0.0		1100	NL
<i>Alysicarpus brownii</i>	29	27.6		1500	NL
<i>Gastrolobium minus</i>	29	20.7	SW	1300	NL
<i>Gastrolobium rhombifolium</i>	29	41.4	SW	1100	NL
<i>Gastrolobium tenue</i>	29	13.8	SW	800	NL
<i>Hovea magnibractea</i>	29	75.9		600	NL
<i>Kennedia glabrata</i>	29	89.7	SW	1200	VU
<i>Podolobium aestivum</i>	29	96.5	E	700	NL
<i>Swainsona paradoxa</i>	29	3.4	W	1500	NL
<i>Cullen virens</i>	30	10.0	NW	1600	NL
<i>Daviesia sarissa sarissa</i>	30	16.7		1400	NL
<i>Desmodium tiwiense</i>	30	6.7		1600	NL
<i>Gastrolobium hians</i>	30	0.0	SW	200	NL
<i>Gastrolobium pyramidale</i>	30	93.3	SW	600	NL
<i>Tephrosia crocea</i>	30	13.3		1500	NL

Removal of extinct and poorly recorded species leaves 349031 records in ANHAT for 1065 species (and subspecies). The mean number of records per species for species with greater than 30 records was 327.7, with a mean of 29.4 for the percent of records in the NRS.

One hundred and ninety-seven species of Fabaceae had 45% or greater of individual site records located within PAs (

Table 17). Of those 197 species, nine species are listed as threatened, including one species classified as endangered. Four species have 100% of their records within PAs.

Table 17 Fabaceae species with >45% of site records within PAs.

<i>Species</i>	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Dillwynia hispida</i>	2432	5398	45.0			148600	NL
<i>Dillwynia rudis</i>	32	71	45.1			5900	NL
<i>Leptosema bossiaeoides</i>	55	122	45.1	CN		3900	NL
<i>Bossiaea ensata</i>	163	361	45.1			19200	NL
<i>Pultenaea graveolens</i>	114	251	45.4			4000	NL
<i>Jacksonia grevilleoides</i>	15	33	45.4	SW		2100	NL
<i>Pultenaea hartmannii</i>	60	132	45.4			2000	NL

<i>Alysicarpus schomburgkii</i>	201	442	45.5		16900	NL
<i>Desmodium nemorosum</i>	87	191	45.5		12500	NL
<i>Pultenaea ferruginea</i>	57	125	45.6		7400	NL
<i>Gastrolobium cyanophyllum</i>	16	35	45.7	SW	1300	NL
<i>Pultenaea polifolia</i>	118	258	45.7		11700	NL
<i>Sophora fraseri</i>	73	159	45.9		5000	VU
<i>Pultenaea largiflorens</i>	775	1687	45.9		29500	NL
<i>Dillwynia dillwynioides</i>	23	50	46.0	SW	1800	NL
<i>Pultenaea millarii</i>	111	241	46.1		4700	NL
<i>Daviesia alternifolia</i>	59	128	46.1	SW	5200	NL
<i>Jacksonia reclinata</i>	65	141	46.1		5600	NL
<i>Glycine hirticaulis</i>	66	143	46.1		3100	NL
<i>Pultenaea rariflora</i>	58	125	46.4		3800	NL
<i>Isotropis centralis</i>	72	155	46.4		5100	NL
<i>Aotus carinata</i>	21	45	46.7	SW	700	NL
<i>Phyllota gracilis</i>	35	75	46.7	SW	3700	NL
<i>Bossiaea rupicola</i>	70	150	46.7		2200	NL
<i>Templetonia hookeri</i>	380	813	46.7	NW,CN ,EI,W,C I	23200	NL
<i>Piptomeris dilatata</i>	574	1228	46.7		36100	NL
<i>Tephrosia brachyodon longipes</i>	22	47	46.8		1700	NL
<i>Cajanus geminatus</i>	62	132	47.0		7400	NL
<i>Daviesia campephylla</i>	16	34	47.1	SW	800	NL
<i>Ormosia ormondii</i>	65	138	47.1		4000	NL
<i>Aotus mollis</i>	49	104	47.1		7900	NL
<i>Mirbelia confertiflora</i>	53	112	47.3		2900	NL
<i>Gastrolobium epacridoides</i>	18	38	47.4	SW	1400	NL
<i>Pultenaea rostrata</i>	27	57	47.4		3500	NL
<i>Jacksonia rigida</i>	19	40	47.5	W	2500	NL

<i>Urodon</i>						
<i>phylicoides</i>	22	46	47.8		2200	NL
<i>Bossiaea</i>						
<i>praetermissa</i>	60	125	48.0	SW	7000	NL
<i>Bossiaea</i>						
<i>heterophylla</i>	301	627	48.0		29300	NL
<i>Indigofera</i>						
<i>haplophylla</i>	188	390	48.2		14700	NL
<i>Callerya pilipes</i>	28	58	48.3		1500	NL
<i>Mirbelia</i>						
<i>oxylobioides</i>	238	492	48.4		17800	NL
<i>Pultenaea acerosa</i>	465	961	48.4		18500	NL
<i>Latrobea</i>						
<i>diosmifolia</i>	48	99	48.5	SW	4700	NL
<i>Dillwynia</i>						
<i>glaberrima</i>	1555	3206	48.5	SW	80900	NL
<i>Daviesia reclinata</i>	167	344	48.5		10100	NL
<i>Pultenaea</i>						
<i>parrisiae</i>	17	35	48.6		1100	VU
<i>Pultenaea</i>						
<i>elachista</i>	90	185	48.6	SW	10700	NL
<i>Swainsona</i>						
<i>lessertiifolia</i>	312	639	48.8		21700	NL
<i>Gastrolobium</i>						
<i>melanopetalum</i>	23	47	48.9	SW	2200	NL
<i>Daviesia</i>						
<i>purpurascens</i>	50	102	49.0	SW,W	4700	NL
<i>Cullen</i>						
<i>microcephalum</i>	187	381	49.1	E,SE	16200	NL
<i>Desmodium</i>						
<i>pycnotrichum</i>	319	645	49.5		21800	NL
<i>Leptosema</i>						
<i>chapmanii</i>	48	97	49.5	E	1900	NL
<i>Eutaxia parvifolia</i>	98	198	49.5	SW	9500	NL
<i>Gompholobium</i>						
<i>subulatum</i>	445	893	49.8		27300	NL
<i>Sphaerolobium</i>						
<i>pubescens</i>	17	34	50.0	SW	2200	NL
<i>Latrobea</i>						
<i>genistoides</i>	26	52	50.0	SW	2800	NL
<i>Mirbelia baueri</i>	28	56	50.0		2300	NL
<i>Dillwynia</i>						
<i>prostrata</i>	52	104	50.0		4100	NL
<i>Bossiaea carinalis</i>	157	311	50.5		6900	NL
<i>Gastrolobium</i>						
<i>rotundifolium</i>	39	77	50.6	SW	2600	NL
<i>Daviesia ulicifolia</i>						
<i>ruscifolia</i>	205	403	50.9		16800	NL

<i>Pultenaea cuneata</i>	23	45	51.1		3700	NL
<i>Pultenaea echinula</i>	22	43	51.2		2500	NL
<i>Daviesia major</i>	20	39	51.3	SW	1500	NL
<i>Pultenaea villifera</i>	50	97	51.5		4100	NL
<i>Sphaerolobium vimineum</i>	383	742	51.6	SW	26800	NL
<i>Pultenaea blakelyi</i>	56	108	51.8		6600	NL
<i>Pultenaea platyphylla</i>	55	106	51.9		2400	NL
<i>Daviesia wyattiana</i>	218	420	51.9		9800	NL
<i>Templetonia retusa</i>	545	1050	51.9	SW, W, CS	43200	NL
<i>Cajanus lanceolatus</i>	38	73	52.0		4000	NL
<i>Eutaxia obovata</i>	98	188	52.1	SW	8800	NL
<i>Pultenaea muelleri</i>	52	98	53.1		3500	NL
<i>Chorizema retrorsum</i>	59	111	53.1	SW	3900	NL
<i>Gastrolobium congestum</i>	41	77	53.2	SW	3400	NL
<i>Daviesia nova-anglica</i>	24	45	53.3		2500	NL
<i>Pultenaea humilis</i>	421	786	53.6		18600	NL
<i>Hardenbergia perbrevidens</i>	67	125	53.6		3700	NL
<i>Cracca polyzyga</i>	250	464	53.9		14300	NL
<i>Daviesia brevifolia</i>	843	1556	54.2	SW	47500	NL
<i>Pultenaea weindorferi</i>	58	107	54.2		1700	NL
<i>Desmodium ormocarpoides</i>	77	142	54.2		3300	NL
<i>Daviesia crassa</i>	19	35	54.3	SW	1800	NL
<i>Rhynchosia filiformis</i>	19	35	54.3		1000	NL
<i>Phyllota pleurandroides</i>	397	731	54.3		31000	NL
<i>Gompholobium ecostatum</i>	466	858	54.3		24600	NL
<i>Daviesia mimosoides acris</i>	25	46	54.3		2100	NL
<i>Desmodium velutinum</i>	49	90	54.4		2400	NL
<i>Daviesia abnormis</i>	29	53	54.7	SW	2800	NL

<i>Pultenaea vrolandii</i>	61	111	54.9		3000	NL
<i>Bossiaea stephensonii</i>	22	40	55.0		2400	NL
<i>Zornia prostrata macrantha</i>	112	203	55.2		12800	NL
<i>Pultenaea borea</i>	51	92	55.4		1800	NL
<i>Pultenaea capitellata</i>	56	101	55.4		4200	NL
<i>Aotus passerinoides</i>	25	45	55.6	SW	2100	NL
<i>Hovea a</i>	51	91	56.0		3900	NL
<i>Pultenaea daltonii</i>	47	83	56.6		3200	NL
<i>Bossiaea bracteosa</i>	64	113	56.6		2600	NL
<i>Leptosema villosum</i>	97	171	56.7	CN	5500	NL
<i>Plagiocarpus axillaris</i>	171	300	57.0	NW,CN	9500	NL
<i>Pultenaea robusta</i>	44	77	57.1		3000	NL
<i>Cracca reticulata</i>	76	133	57.1		5000	NL
<i>Aotus subspinescens</i>	402	699	57.5		31900	NL
<i>Almaleea subumbellata</i>	153	266	57.5	SE,TAS	20400	NL
<i>Oxylobium carinatum</i>	34	59	57.6		3100	NL
<i>Pultenaea mollis</i>	677	1173	57.7		19300	NL
<i>Desmodium brownii</i>	377	651	57.9		18600	NL
<i>Bossiaea foliosa</i>	608	1048	58.0		19400	NL
<i>Bossiaea disticha</i>	42	71	59.1	SW	1200	NL
<i>Pultenaea pauciflora</i>	35	59	59.3	SW	900	VU
<i>Hovea purpurea</i>	111	186	59.7		11700	NL
<i>Tephrosia spechtii</i>	251	419	59.9		13700	NL
<i>Piptomeris carduacea</i>	36	60	60.0		2000	NL
<i>Tephrosia subpectinata</i>	168	279	60.2		8400	NL
<i>Desmodium glareosum</i>	189	310	61.0		10400	NL
<i>Pultenaea williamsonii</i>	25	41	60.1		1400	NL
<i>Daviesia stricta</i>	47	77	61.0		2200	NL
<i>Gastrolobium subcordatum</i>	33	54	61.1	SW	500	NL

<i>Hovea nitida</i>	52	85	61.2		1900	NL
<i>Gompholobium aspalathoides</i>	48	78	61.5		3300	NL
<i>Bossiaea dentata</i>	72	117	61.5	SW	4800	NL
<i>Daviesia speciosa</i>	21	34	61.7	W	600	EN
<i>Gompholobium villosum</i>	61	98	62.2	SW	4100	NL
<i>Tephrosia arnhemica</i>	71	114	62.3		3900	NL
<i>Austrosteenisia stipularis</i>	98	157	62.4	NE	4200	NL
<i>Bossiaea oligosperma</i>	26	41	63.4		1400	VU
<i>Tephrosia sp. conduplicate</i>	21	33	63.6		1300	NL
<i>Bossiaea kiamensis</i>	77	120	64.2		3100	NL
<i>Gastrolobium stenophyllum</i>	30	46	65.2	SW	1700	NL
<i>Sphaerolobium rostratum</i>	57	87	65.5	SW	2700	NL
<i>Hovea speciosa</i>	21	32	65.6		1800	NL
<i>Piptomeris velutina</i>	71	108	65.7		4600	NL
<i>Podolobium alpestre</i>	768	1155	66.5	E,SE	16800	NL
<i>Hovea asperifolia</i>	144	212	67.9		8300	NL
<i>Tephrosia gyropoda</i>	103	151	68.2		4300	NL
<i>Daviesia oppositifolia</i>	29	42	69.0	SW	2000	NL
<i>Daviesia newbeyi</i>	72	103	69.9	SW	3600	NL
<i>Oxylobium ellipticum</i>	575	810	71.0		39500	NL
<i>Gastrolobium brevipes</i>	138	193	71.5		4200	NL
<i>Hovea montana</i>	772	1078	71.6		10400	NL
<i>Gastrolobium stipulare</i>	33	46	71.7	SW	3500	NL
<i>Jacksonia calycina</i>	51	71	71.8	SW	2100	NL
<i>Pultenaea pycnocephala</i>	59	82	71.9		3300	NL
<i>Daviesia striata</i>	50	69	72.5	SW	2200	NL
<i>Pultenaea whiteana</i>	36	49	73.5		800	NL
<i>Gastrolobium formosum</i>	85	115	73.9	SW	1900	NL

<i>Cajanus</i>						
<i>reticulatus</i>						
<i>maritimus</i>	24	32	75.0		1900	NL
<i>Pultenaea trifida</i>	136	181	75.1		1800	NL
<i>Daviesia discolor</i>	61	80	76.2		1700	VU
<i>Daviesia retrorsa</i>	36	47	76.6	SW	1800	NL
<i>Bossiaea webbii</i>	44	57	77.2	SW	1600	NL
<i>Leptosema</i>						
<i>uniflorum</i>	136	176	77.3	CN	5000	NL
<i>Pultenaea</i>						
<i>fasciculata</i>	123	157	78.3		8000	NL
<i>Pultenaea</i>						
<i>villifera</i>						
<i>glabrescens</i>	257	326	78.8		2000	VU
<i>Hovea corrickiae</i>	82	104	78.8		2100	NL
<i>Pultenaea</i>						
<i>patellifolia</i>	45	57	78.9		1300	NL
<i>Pultenaea</i>						
<i>pinifolia</i>	201	252	79.8	SW	16600	NL
<i>Swainsona</i>						
<i>sejuncta</i>	45	56	80.4		1100	NL
<i>Pultenaea tarik</i>	52	64	81.2		1400	NL
<i>Jacksonia</i>						
<i>pendens</i>	82	100	82.0		3800	NL
<i>Indigofera</i>						
<i>rupicola</i>	52	63	82.5		2100	NL
<i>Chorizema</i>						
<i>trigonum</i>	92	111	82.3	SW	3900	NL
<i>Daviesia</i>						
<i>trigonophylla</i>	59	71	83.1	SW	2100	NL
<i>Latrobea hirtella</i>	30	35	85.7	SW	900	NL
<i>Pultenaea tenella</i>	138	159	86.8		2000	NL
<i>Jacksonia stellaris</i>	89	101	88.1		2800	NL
<i>Gompholobium</i>						
<i>gairdnerianum</i>	108	122	88.5		4600	NL
<i>Indigofera</i>						
<i>verruculosa</i>	31	35	88.6		500	NL
<i>Daviesia</i>						
<i>crenulata</i>	39	44	88.6	SW	1200	NL
<i>Daviesia laevis</i>	55	62	88.7		2000	VU
<i>Pultenaea</i>						
<i>benthamii</i>	138	155	89.0		3400	NL
<i>Gompholobium</i>						
<i>roseum</i>	34	38	89.5	SW,W	1400	NL
<i>Uraria</i> sp.						
<i>litchfield</i>	111	124	89.5		2300	NL
<i>Glycine argyrea</i>	78	87	90.0		900	NL

<i>Aotus genistoides</i>	28	31	90.3	SW	900	NL
<i>Tephrosia ephippioides</i>	69	76	90.8		2300	NL
<i>Pultenaea subalpina</i>	91	100	91.0		1400	NL
<i>Almaleea capitata</i>	107	117	91.4	SE	1700	NL
<i>Bossiaea rosmarinifolia</i>	99	108	91.7		1200	NL
<i>Dillwynia pungens</i>	46	50	92.0	SW	1600	NL
<i>Dillwynia oreodoxa</i>	103	111	92.8		2100	NL
<i>Pultenaea luehmannii</i>	56	60	93.3		1400	NL
<i>Jacksonia spicata</i>	127	136	93.4		2200	NL
<i>Jacksonia remota</i>	61	65	93.8		2000	NL
<i>Gastrolobium leakeanum</i>	68	72	94.4	SW	1600	NL
<i>Piptomeris compressa</i>	43	45	95.6		900	NL
<i>Pultenaea williamsoniana</i>	88	92	95.6		1300	VU
<i>Platylobium alternifolium</i>	51	53	96.2	SE	800	NL
<i>Pultenaea costata</i>	146	150	97.3		1300	NL
<i>Gastrolobium pycnostachyum</i>	43	44	97.7	SW	600	NL
<i>Daviesia mesophylla</i>	45	46	97.8	SW	1000	NL
<i>Gastrolobium rubrum</i>	70	71	98.6	SW	1300	NL
<i>Pultenaea victoriensis</i>	33	33	100.0		600	NL
<i>Gastrolobium east peak</i> (ed middleton edm4)	53	53	100.0		700	NL
<i>Daviesia suaveolens</i>	75	75	100.0		1700	NL
<i>Daviesia obovata</i>	92	92	100.0	SW	3100	NL

One hundred and forty-nine species had less than 10% of ANHAT records located within PAs (**Table 18**). Eleven of the 149 species are listed as threatened, including four endangered species. Seventeen of the 149 species have yet to be recorded in a PA.

Table 18 Fabaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Daviesia lineata</i>	0	33	0.0	SW		400	NL
<i>Gastrolobium reflexum</i>	0	35	0.0	SW,W		1400	NL
<i>Daviesia megacalyx</i>	0	36	0.0	SW		700	EN
<i>Hovea cymbiformis</i>	0	36	0.0			500	NL
<i>Indigofera circinella</i>	0	38	0.0			600	NL
<i>Indigofera scabrella</i>	0	42	0.0			1400	NL
<i>Cajanus lanuginosus</i>	0	45	0.0			1400	NL
<i>Daviesia bursarioides</i>	0	45	0.0	W		900	EN
<i>Cullen corallum</i>	0	55	0.0	NW,CI		2900	NL
<i>Gastrolobium propinquum</i>	0	56	0.0	W		1300	NL
<i>Pultenaea bracteaminor</i>	0	60	0.0			1700	NL
<i>Crotalaria medicaginea linearis</i>	0	61	0.0			2400	NL
<i>Lamprolobium grandiflorum</i>	0	62	0.0			600	NL
<i>Thinicola incana</i>	0	73	0.0	NW,WI		3900	NL
<i>Indigofera schultziiana</i>	0	83	0.0			800	NL
<i>Jacksonia arnhemica</i>	0	99	0.0			4900	NL
<i>Leptosema anomalum</i>	0	164	0.0	NW,CN, W,CI,WI		6900	NL
<i>Zornia chaetophora</i>	1	122	0.8			5200	NL
<i>Sesbania campylocarpa</i>	1	77	1.3			3000	NL
<i>Swainsona rostrata</i>	1	67	1.5			2600	NL
<i>Cajanus mareebensis</i>	1	55	1.8			1500	EN
<i>Indigofera spicata</i>	2	104	1.9			3200	NL
<i>Gastrolobium tomentosum</i>	1	51	2.0	SW		1500	NL
<i>Swainsona disjuncta</i>	1	51	2.0	SW		2000	NL
<i>Indigofera baileyi</i>	2	101	2.0			3700	NL
<i>Desmodium scorpiurus</i>	2	84	2.4			3400	NL
<i>Hovea nana</i>	3	118	2.5			1300	NL
<i>Swainsona elegans</i>	1	38	2.6	W		2900	NL
<i>Swainsona incei</i>	1	38	2.6	W		2200	NL
<i>Gompholobium simplicifolium</i>	1	39	2.6			2400	NL
<i>Indigofera ewartiana</i>	5	189	2.6			8600	NL
<i>Crotalaria mitchellii</i>	3	111	2.7			6500	NL

laevis

<i>Gastrolobium microcarpum</i>	2	72	2.8	SW	2400	NL
<i>Piptomeris sericea</i>	1	32	3.1		1800	NL
<i>Sesbania erubescens</i>	4	130	3.1		5400	NL
<i>Tephrosia savannicola</i>	4	125	3.2	W	3900	NL
<i>Alysicarpus bupleurifolius</i>	4	126	3.2		4700	NL
<i>Maughania pauciflora</i>	19	589	3.2		26600	NL
<i>Jacksonia fasciculata</i>	2	61	3.3	SW,W	2700	NL
<i>Sesbania chippendalei</i>	4	122	3.3		4300	NL
<i>Desmodium strigillosum</i>	2	59	3.4		1600	NL
<i>Zornia albiflora</i>	9	252	3.6		11700	NL
<i>Swainsona burkei</i>	11	304	3.6		11700	NL
<i>Cajanus confertiflorus</i>	7	188	3.7		5000	NL
<i>Daviesia pachyloma</i>	2	53	3.8	SW	2800	NL
<i>Aotus cordifolia</i>	2	51	3.9	SW	3300	NL
<i>Swainsona luteola</i>	6	151	4.0		6000	NL
<i>Desmodium campylocaulon</i>	15	378	4.0		17500	NL
<i>Glycine lactovirens</i>	2	49	4.1		1700	NL
<i>Tephrosia macrostachya</i>	3	73	4.1		2900	NL
<i>Kennedia stirlingii</i>	4	95	4.2	SW	3000	NL
<i>Dalbergia sissoo</i>	5	114	4.4		3600	NL
<i>Indigofera polygaloides</i>	4	87	4.6		4400	NL
<i>Phyllota humifusa</i>	3	64	4.7		1700	VU
<i>Swainsona plagiotropis</i>	9	186	4.8		3800	VU
<i>Chorizema ulotropis</i>	2	41	4.9	SW	1900	NL
<i>Sophora longipes</i>	2	41	4.9		1800	NL
<i>Tephrosia delestangii</i>	11	214	5.1		7900	NL
<i>Tephrosia flagellaris</i>	6	116	5.2		3400	NL
<i>Neonotonia wightii</i>	13	250	5.2		7800	NL
<i>Crotalaria dissitiflora rugosa</i>	16	303	5.3		11800	NL
<i>Swainsona parviflora</i>	2	37	5.4		2300	NL
<i>Bossiaea arenicola</i>	4	74	5.4		1900	NL
<i>Sesbania simpliciuscula</i>	15	278	5.4		10000	NL
<i>Gastrolobium hamulosum</i>	3	52	5.6	SW	1600	EN

<i>Uraria cylindracea</i>	3	54	5.6		4700	NL
<i>Daviesia oxyclada</i>	4	72	5.6	SW,W	2700	NL
<i>Daviesia oxylobium</i>	2	35	5.7	SW	1700	NL
<i>Pultenaea urodon</i>	2	35	5.7		2200	NL
<i>Crotalaria dissitiflora</i>	26	452	5.7		19500	NL
<i>Gastrolobium bennettsianum</i>	7	121	5.8	SW,W	5500	NL
<i>Swainsona beasleyana</i>	3	51	5.9	SW,W	3500	NL
<i>Swainsona tanamiensis</i>	4	68	5.9		2300	NL
<i>Bossiaea laidlawiana</i>	5	85	5.9		2600	NL
<i>Sesbania brachycarpa</i>	16	272	5.9		9000	NL
<i>Gastrolobium triangulare</i>	3	49	6.1	W	1200	NL
<i>Daviesia nudiflora amplexens</i>	2	32	6.2		800	NL
<i>Gastrolobium pusillum</i>	2	32	6.2	SW	1800	NL
<i>Swainsona villosa</i>	19	306	6.2		11600	NL
<i>Daviesia triflora</i>	8	127	6.3	SW,W	4600	NL
<i>Aotus pseudoprocumbens</i>	2	31	6.4	SW	2500	NL
<i>Tephrosia filipes vestita</i>	9	139	6.5		4300	NL
<i>Tephrosia gaudium-solis</i>	4	61	6.6		2100	NL
<i>Swainsona viridis</i>	5	76	6.6		3700	NL
<i>Cullen balsamicum</i>	19	289	6.6	NW,CN,E I,CI	9700	NL
<i>Crotalaria spectabilis</i>	14	209	6.7		6700	NL
<i>Cullen tenax</i>	42	631	6.7	E,EI,SE	33700	NL
<i>Daviesia nudiflora hirtella</i>	3	44	6.8		2100	NL
<i>Piptomeris foliosa</i>	3	44	6.8		2700	NL
<i>Mucuna reptans</i>	6	88	6.8		2300	NL
<i>Zornia stirlingii</i>	8	117	6.8		3900	NL
<i>Uraria picta</i>	16	235	6.8		8200	NL
<i>Zornia muelleriana</i>	23	339	6.8		13900	NL
<i>Pultenaea parviflora</i>	5	72	6.9		2000	VU
<i>Daviesia physodes</i>	13	189	6.9	SW,W	8900	NL
<i>Gastrolobium calycinum</i>	17	246	6.9	SW	12200	NL
<i>Swainsona swainsonioides</i>	28	403	6.9		21100	NL
<i>Chorizema dicksonii</i>	14	200	7.0	SW	7400	NL
<i>Phyllodium hackeri</i>	3	42	7.1		1500	NL

<i>Cracca nematophylla</i>	13	182	7.1		4400	NL
<i>Desmodium macrocarpum</i>	7	96	7.2		3300	NL
<i>Dendrolobium stipatum</i>	3	41	7.3		1300	NL
<i>Tephrosia procera</i>	4	55	7.3		2900	NL
<i>Swainsona queenslandica</i>	22	301	7.3		16000	NL
<i>Desmodium flagellare</i>	4	53	7.5		2500	NL
<i>Gastrolobium laytonii</i>	8	105	7.6	SW,W	5100	NL
<i>Zornia adenophora</i>	9	118	7.6		4400	NL
<i>Daviesia flava</i>	10	132	7.6		3000	NL
<i>Bossiaea divaricata</i>	3	39	7.7	SW	1600	NL
<i>Pultenaea skinneri</i>	6	78	7.7	SW	2800	NL
<i>Tephrosia benthamii</i>	4	50	8.0		2900	NL
<i>Jacksonia macrocalyx</i>	4	49	8.2	SW,W	2400	NL
<i>Sesbania benthamiana</i>	14	171	8.2		7600	NL
<i>Chorizema genistoides</i>	7	83	8.4	SW,W	2200	NL
<i>Indigofera suffruticosa</i>	13	153	8.5		4800	NL
<i>Podolobium scandens</i>	14	164	8.5	E,SE	11100	NL
<i>Crotalaria ramosissima</i>	33	387	8.5	W	22200	NL
<i>Pultenaea trichophylla</i>	5	58	8.6		1100	VU
<i>Daviesia daphnoides</i>	7	81	8.6	SW,W	3600	NL
<i>Cracca bidwillii</i>	8	93	8.6		5300	NL
<i>Muelleranthus trifoliolatus</i>	16	185	8.6	W	10400	NL
<i>Tephrosia dietrichiae</i>	6	69	8.7		3100	NL
<i>Cullen leucanthum</i>	34	388	8.8	NE,NW,C N,W,CI, WI	19200	NL
<i>Dillwynia acerosa</i>	5	56	8.9	SW NW,SW, CN,EI,W, CI,CS,WI	3500	NL
<i>Cullen cinereum</i>	119	1333	8.9		66400	NL
<i>Dendrolobium polyneurum</i>	6	67	9.0		2300	NL
<i>Swainsona pterostylis</i>	16	177	9.0	W	12500	NL
<i>Tephrosia arenicola</i>	3	33	9.1		2200	NL
<i>Pultenaea purpurea</i>	11	121	9.1	SW	5200	NL
<i>Glycine latifolia</i>	31	340	9.1		17800	NL
<i>Bossiaea armitii</i>	22	238	9.2		6600	NL
<i>Aenictophyton</i>	8	86	9.3	NW,W,CI	3800	NL

<i>reconditum</i>				,WI		
<i>Dillwynia tenuifolia</i>	13	140	9.3		3700	VU
<i>Daviesia elongata elongata</i>	3	32	9.4		700	VU
<i>Daviesia longifolia</i>	15	159	9.4	SW,W	7900	NL
<i>Daviesia benthamii benthamii</i>	19	202	9.4		11700	NL
<i>Aphyllodium biarticulatum</i>	44	470	9.4	NE,NW,C N,E,EI,	21700	NL
<i>Swainsona campylantha</i>	83	878	9.4		36200	NL
<i>Eutaxia cuneata</i>	6	63	9.5	SW	3500	NL
<i>Gastrolobium stowardii</i>	9	95	9.5	SW	5700	NL
<i>Jacksonia argentea</i>	9	95	9.5		3200	NL
<i>Pultenaea bracteamajor</i>	9	95	9.5		3000	NL
<i>Gastrolobium sericeum</i>	7	72	9.7	SW	3700	NL
<i>Jacksonia aculeata</i>	17	175	9.7	W	10800	NL
<i>Chorizema rhynchotropis</i>	6	61	9.8	SW,W	2800	NL
<i>Desmodium hannii</i>	6	61	9.8		2600	NL
<i>Crotalaria aridicola densifolia</i>	14	143	9.8		6000	NL
<i>Cajanus scarabaeoides</i>	18	182	9.9		7000	NL
<i>Desmodium acanthocladum</i>	6	60	10.00		2700	VU

A total of 34 Fabaceae species had records in more than 100 separate reserves (

Table 19). Thirty-two species in this list had over a thousand records, with an average of 2631 records per species. No species is classified as threatened.

Table 19 Fabaceae species recorded at more than 100 reserves.

Species	No. Records	No. Reserves	No. reserves >1000ha	EPBC status
<i>Daviesia latifolia</i>	2236	100	73	NL
<i>Pultenaea juniperina</i>	2712	100	75	NL
<i>Crotalaria montana</i>	1670	101	73	NL
<i>Lotus australis</i>	1281	108	75	NL
<i>Viminaria juncea</i>	978	109	75	NL
<i>Rhynchosia minima</i>	2689	111	101	NL
<i>Pultenaea largiflorens</i>	1687	114	38	NL
<i>Aotus ericoides</i>	2298	117	83	NL
<i>Austrosteenisia blackii</i>	913	124	88	NL
<i>Goodia lotifolia</i>	1912	124	96	NL
<i>Gompholobium huegelii</i>	1763	129	87	NL

<i>Jacksonia scoparia</i>	1947	130	91	NL
<i>Desmodium gunnii</i>	1558	133	97	NL
<i>Daviesia brevifolia</i>	1556	136	58	NL
<i>Kennedia rubicunda</i>	2008	136	110	NL
<i>Platylobium formosum</i>	4025	140	97	NL
<i>Desmodium varians</i>	1612	149	113	NL
<i>Glycine tabacina</i>	1963	152	103	NL
<i>Platylobium obtusangulum</i>	3384	164	44	NL
<i>Desmodium rhytidophyllum</i>	2096	171	123	NL
<i>Dillwynia glaberrima</i>	3206	174	100	NL
<i>Pultenaea tenuifolia</i>	2211	181	94	NL
<i>Daviesia leptophylla</i>	2799	187	78	NL
<i>Trifolium glomeratum</i>	2356	194	79	NL
<i>Hovea heterophylla</i>	3383	194	107	NL
<i>Pultenaea daphnoides</i>	3120	196	109	NL
<i>Bossiaea prostrata</i>	2857	197	95	NL
<i>Daviesia ulicifolia</i>	3250	208	131	NL
<i>Indigofera australis</i>	2522	254	180	NL
<i>Eutaxia microphylla</i>	2720	290	147	NL
<i>Kennedia prostrata</i>	3255	291	147	NL
<i>Dillwynia hispida</i>	5398	355	172	NL
<i>Glycine clandestina</i>	6494	404	264	NL
<i>Hardenbergia violacea</i>	5579	434	260	NL

A total of 374 species had records in five or fewer PAs (**Table 20**). Twenty-two species were classified as threatened, including eight species listed as endangered. The majority of species in this list had fewer than 100 individual site records, and no species had more than 400 site records.

Table 20 Fabaceae species recorded from five or fewer PAs.

Species	No. Records	No. reserves	EPBC status
<i>Daviesia lineata</i>	33	0	NL
<i>Gastrolobium reflexum</i>	35	0	NL
<i>Hovea cymbiformis</i>	36	0	NL
<i>Daviesia megacalyx</i>	36	0	EN
<i>Indigofera circinella</i>	38	0	NL
<i>Indigofera scabrella</i>	42	0	NL
<i>Cajanus lanuginosus</i>	45	0	NL
<i>Daviesia bursarioides</i>	45	0	EN
<i>Cullen corallum</i>	55	0	NL
<i>Gastrolobium propinquum</i>	56	0	NL
<i>Pultenaea bracteaminor</i>	60	0	NL
<i>Crotalaria medicaginea linearis</i>	61	0	NL
<i>Lamprolobium grandiflorum</i>	62	0	NL
<i>Thinicola incana</i>	73	0	NL
<i>Indigofera schultziiana</i>	83	0	NL

<i>Jacksonia arnhemica</i>	99	0	NL
<i>Leptosema anomalum</i>	164	0	NL
<i>Aotus genistoides</i>	31	1	NL
<i>Daviesia nudiflora amplexens</i>	32	1	NL
<i>Piptomeris sericea</i>	32	1	NL
<i>Daviesia speciosa</i>	34	1	EN
<i>Tephrosia carriemichelliae</i>	35	1	NL
<i>Indigofera longibractea</i>	35	1	NL
<i>Mirbelia densiflora</i>	35	1	NL
<i>Latrobea hirtella</i>	35	1	NL
<i>Templetonia neglecta</i>	37	1	NL
<i>Swainsona elegans</i>	38	1	NL
<i>Swainsona incei</i>	38	1	NL
<i>Glycine pullenii</i>	38	1	NL
<i>Bossiaea divaricata</i>	39	1	NL
<i>Gompholobium simplicifolium</i>	39	1	NL
<i>Sophora longipes</i>	41	1	NL
<i>Dendrolobium stipatum</i>	41	1	NL
<i>Chorizema ulotropis</i>	41	1	NL
<i>Daviesia crenulata</i>	44	1	NL
<i>Aotus carinata</i>	45	1	NL
<i>Piptomeris compressa</i>	45	1	NL
<i>Desmodium tenax</i>	45	1	NL
<i>Tephrosia maculata</i>	49	1	NL
<i>Glycine lactovirens</i>	49	1	NL
<i>Gastrolobium tomentosum</i>	51	1	NL
<i>Swainsona disjuncta</i>	51	1	NL
<i>Gastrolobium hamulosum</i>	52	1	EN
<i>Hovea acanthoclada</i>	53	1	NL
<i>Gastrolobium east peak (ed middleton edm4</i>	53	1	NL
<i>Desmodium flagellare</i>	53	1	NL
<i>Gastrolobium subcordatum</i>	54	1	NL
<i>Cajanus mareebensis</i>	55	1	EN
<i>Cullen walkingtonii</i>	56	1	NL
<i>Daviesia anceps</i>	58	1	NL
<i>Desmodium strigillosum</i>	59	1	NL
<i>Desmodium acanthocladum</i>	60	1	VU
<i>Jacksonia fasciculata</i>	61	1	NL
<i>Swainsona rostrata</i>	67	1	NL
<i>Gastrolobium rubrum</i>	71	1	NL
<i>Gastrolobium microcarpum</i>	72	1	NL
<i>Gastrolobium leakeanum</i>	72	1	NL
<i>Bossiaea arenicola</i>	74	1	NL
<i>Sesbania campylocarpa</i>	77	1	NL
<i>Dillwynia stipulifera</i>	78	1	NL
<i>Desmodium scorpiurus</i>	84	1	NL
<i>Gastrolobium racemosum</i>	88	1	NL
<i>Pultenaea williamsoniana</i>	92	1	VU
<i>Jacksonia argentea</i>	95	1	NL

<i>Indigofera baileyi</i>	101	1	NL
<i>Indigofera spicata</i>	104	1	NL
<i>Hovea nana</i>	118	1	NL
<i>Zornia chaetophora</i>	122	1	NL
<i>Sesbania erubescens</i>	130	1	NL
<i>Aotus pseudoprocumbens</i>	31	2	NL
<i>Daviesia elongata elongata</i>	32	2	VU
<i>Gastrolobium pusillum</i>	32	2	NL
<i>Swainsona fraseri</i>	33	2	NL
<i>Tephrosia arenicola</i>	33	2	NL
<i>Tephrosia</i> sp. <i>conduplicate</i>	33	2	NL
<i>Jacksonia venosa</i>	33	2	NL
<i>Jacksonia grevilleoides</i>	33	2	NL
<i>Bossiaea flexuosa</i>	33	2	NL
<i>Daviesia campephylla</i>	34	2	NL
<i>Gastrolobium glaucum</i>	35	2	EN
<i>Indigofera verruculosa</i>	35	2	NL
<i>Pultenaea urodon</i>	35	2	NL
<i>Rhynchosia filiformis</i>	35	2	NL
<i>Daviesia oxylobium</i>	35	2	NL
<i>Leptosema cervicorne</i>	36	2	NL
<i>Daviesia microphylla</i>	36	2	NL
<i>Kennedia becxiana</i>	37	2	NL
<i>Swainsona parviflora</i>	37	2	NL
<i>Gastrolobium glabratum</i>	37	2	NL
<i>Gompholobium roseum</i>	38	2	NL
<i>Phyllodium hackeri</i>	42	2	NL
<i>Dioclea hexandra</i>	44	2	VU
<i>Indigofera ammobia</i>	46	2	NL
<i>Gastrolobium stenophyllum</i>	46	2	NL
<i>Daviesia mesophylla</i>	46	2	NL
<i>Indigofera rugosa</i>	47	2	NL
<i>Daviesia retrorsa</i>	47	2	NL
<i>Swainsona cyclocarpa</i>	47	2	NL
<i>Daviesia debilior debilior</i>	47	2	NL
<i>Daviesia ulicifolia pilligensis</i>	47	2	NL
<i>Daviesia euphorbioides</i>	47	2	EN
<i>Gastrolobium appressum</i>	49	2	VU
<i>Tephrosia benthamii</i>	50	2	NL
<i>Smithia sensitiva</i>	50	2	NL
<i>Daviesia pteroclada</i>	50	2	NL
<i>Aotus cordifolia</i>	51	2	NL
<i>Daviesia pachyloma</i>	53	2	NL
<i>Uraria cylindracea</i>	54	2	NL
<i>Tephrosia procera</i>	55	2	NL
<i>Galactia tenuiflora macrantha</i>	56	2	NL
<i>Swainsona sejuncta</i>	56	2	NL
<i>Canavalia cathartica</i>	58	2	NL
<i>Pultenaea pauciflora</i>	59	2	VU
<i>Pultenaea luehmannii</i>	60	2	NL

<i>Tephrosia gaudium-solis</i>	61	2	NL
<i>Desmodium hannii</i>	61	2	NL
<i>Eutaxia cuneata</i>	63	2	NL
<i>Phyllota humifusa</i>	64	2	VU
<i>Pultenaea tarik</i>	64	2	NL
<i>Jacksonia remota</i>	65	2	NL
<i>Piptomeris cupulifera</i>	70	2	NL
<i>Indigofera fractiflexa</i>	70	2	NL
<i>Daviesia oxyclada</i>	72	2	NL
<i>Tephrosia macrostachya</i>	73	2	NL
<i>Swainsona viridis</i>	76	2	NL
<i>Pultenaea arida</i>	77	2	NL
<i>Dendrolobium multiflorum</i>	86	2	NL
<i>Glycine argyrea</i>	87	2	NL
<i>Indigofera polygaloides</i>	87	2	NL
<i>Daviesia obovata</i>	92	2	NL
<i>Daviesia pachyphylla</i>	93	2	NL
<i>Daviesia eremaea</i>	93	2	NL
<i>Jacksonia pendens</i>	100	2	NL
<i>Jacksonia stellaris</i>	101	2	NL
<i>Daviesia newbeyi</i>	103	2	NL
<i>Cajanus aromaticus</i>	107	2	NL
<i>Tephrosia flagellaris</i>	116	2	NL
<i>Sesbania chippendalei</i>	122	2	NL
<i>Leptosema bossiaeoides</i>	122	2	NL
<i>Alysicarpus bupleurifolius</i>	126	2	NL
<i>Daviesia flava</i>	132	2	NL
<i>Cracca reticulata</i>	133	2	NL
<i>Tephrosia filipes vestita</i>	139	2	NL
<i>Jacksonia reclinata</i>	141	2	NL
<i>Swainsona luteola</i>	151	2	NL
<i>Cracca nematophylla</i>	182	2	NL
<i>Swainsona plagiotropis</i>	186	2	VU
<i>Sesbania simpliciuscula</i>	278	2	NL
<i>Cullen stipulaceum</i>	32	3	NL
<i>Swainsona laciniata</i>	32	3	NL
<i>Gastrolobium semiteres</i>	33	3	NL
<i>Pultenaea victoriensis</i>	33	3	NL
<i>Gastrolobium cyanophyllum</i>	35	3	NL
<i>Crotalaria mysorensis</i>	35	3	NL
<i>Daviesia rhizomata</i>	35	3	NL
<i>Indigofera coronillifolia</i>	36	3	NL
<i>Daviesia pauciflora</i>	37	3	NL
<i>Stonesiella selaginoides</i>	37	3	EN
<i>Bossiaea atrata</i>	37	3	NL
<i>Bossiaea concinna</i>	38	3	NL
<i>Cullen lachnostachys</i>	38	3	NL
<i>Gastrolobium epacridoides</i>	38	3	NL
<i>Swainsona fuscoviridis</i>	38	3	NL
<i>Daviesia spiralis</i>	39	3	NL

<i>Mirbelia longifolia</i>	39	3	NL
<i>Jacksonia rigida</i>	40	3	NL
<i>Latrobea brunonis</i>	41	3	NL
<i>Pultenaea barbata</i>	42	3	NL
<i>Daviesia nudiflora hirtella</i>	44	3	NL
<i>Gastrolobium pycnostachyum</i>	44	3	NL
<i>Piptomeris foliosa</i>	44	3	NL
<i>Daviesia mollis</i>	45	3	NL
<i>Urodon phyllicoides</i>	46	3	NL
<i>Gastrolobium ilicifolium</i>	46	3	NL
<i>Pultenaea whiteana</i>	49	3	NL
<i>Gastrolobium triangulare</i>	49	3	NL
<i>Dillwynia pungens</i>	50	3	NL
<i>Swainsona beasleyana</i>	51	3	NL
<i>Swainsona stenodonta</i>	52	3	NL
<i>Pultenaea aristata</i>	55	3	VU
<i>Chorizema cytisoides</i>	55	3	NL
<i>Gastrolobium nutans</i>	55	3	NL
<i>Mirbelia baueri</i>	56	3	NL
<i>Swainsona decurrens</i>	56	3	NL
<i>Pultenaea trichophylla</i>	58	3	VU
<i>Zornia maritima</i>	60	3	NL
<i>Piptomeris carduacea</i>	60	3	NL
<i>Gompholobium inconspicuum</i>	61	3	NL
<i>Swainsona maccullochiana</i>	62	3	NL
<i>Leptosema macrocarpum</i>	63	3	NL
<i>Rothia indica australis</i>	64	3	NL
<i>Mirbelia ovata</i>	64	3	NL
<i>Pultenaea radiata</i>	64	3	NL
<i>Dendrolobium polyneurum</i>	67	3	NL
<i>Swainsona eremaea</i>	67	3	NL
<i>Swainsona tanamiensis</i>	68	3	NL
<i>Daviesia striata</i>	69	3	NL
<i>Bossiaea disticha</i>	71	3	NL
<i>Daviesia trigonophylla</i>	71	3	NL
<i>Pultenaea parviflora</i>	72	3	VU
<i>Cajanus lanceolatus</i>	73	3	NL
<i>Tephrosia ephippioides</i>	76	3	NL
<i>Daviesia stricta</i>	77	3	NL
<i>Pultenaea skinneri</i>	78	3	NL
<i>Daviesia discolor</i>	80	3	VU
<i>Cracca eriocarpa</i>	82	3	NL
<i>Chorizema genistoides</i>	83	3	NL
<i>Sesbania sesban</i>	86	3	NL
<i>Pultenaea reflexifolia</i>	86	3	NL
<i>Mucuna reptans</i>	88	3	NL
<i>Almaleea incurvata</i>	88	3	NL
<i>Desmodium velutinum</i>	90	3	NL
<i>Desmodium macrocarpum</i>	96	3	NL
<i>Leptosema chapmanii</i>	97	3	NL

<i>Gastrolobium velutinum</i>	98	3	NL
<i>Pultenaea canescens</i>	105	3	NL
<i>Crotalaria mitchellii laevis</i>	111	3	NL
<i>Dalbergia sissoo</i>	114	3	NL
<i>Zornia stirlingii</i>	117	3	NL
<i>Zornia adenophora</i>	118	3	NL
<i>Pultenaea purpurea</i>	121	3	NL
<i>Tephrosia bifacialis</i>	124	3	NL
<i>Tephrosia savannicola</i>	125	3	NL
<i>Jacksonia spicata</i>	136	3	NL
<i>Cracca stuartii</i>	140	3	NL
<i>Pultenaea costata</i>	150	3	NL
<i>Jacksonia aculeata</i>	175	3	NL
<i>Cajanus confertiflorus</i>	188	3	NL
<i>Indigofera ewartiana</i>	189	3	NL
<i>Hovea arnhemica</i>	207	3	NL
<i>Sesbania brachycarpa</i>	272	3	NL
<i>Desmodium campylocaulon</i>	378	3	NL
<i>Phyllota grandiflora</i>	31	4	NL
<i>Cajanus reticulatus maritimus</i>	32	4	NL
<i>Glycine arenaria</i>	36	4	NL
<i>Bossiaea spinosa</i>	37	4	NL
<i>Oxylobium cordifolium</i>	39	4	NL
<i>Bossiaea oligosperma</i>	41	4	VU
<i>Mirbelia multicaulis</i>	42	4	NL
<i>Jacksonia arida</i>	42	4	NL
<i>Daviesia oppositifolia</i>	42	4	NL
<i>Eutaxia leptophylla</i>	42	4	NL
<i>Pultenaea echinula</i>	43	4	NL
<i>Isotropis forrestii</i>	44	4	NL
<i>Gastrolobium nervosum</i>	44	4	NL
<i>Cajanus crassicaulis</i>	47	4	NL
<i>Jacksonia macrocalyx</i>	49	4	NL
<i>Oxylobium spathulatum</i>	49	4	NL
<i>Gastrolobium punctatum</i>	51	4	NL
<i>Daviesia nudiflora drummondii</i>	52	4	NL
<i>Cracca flammea</i>	52	4	NL
<i>Swainsona monticola</i>	53	4	NL
<i>Austrosteenisia mollitricha</i>	55	4	NL
<i>Dillwynia acerosa</i>	56	4	NL
<i>Pultenaea maritima</i>	56	4	NL
<i>Pultenaea patellifolia</i>	57	4	NL
<i>Phyllota squarrosa</i>	58	4	NL
<i>Indigofera rupicola</i>	63	4	NL
<i>Daviesia decipiens</i>	63	4	NL
<i>Crotalaria quinquefolia</i>	65	4	NL
<i>Phyllota luehmannii</i>	65	4	NL
<i>Templetonia battii</i>	66	4	NL
<i>Pultenaea divaricata</i>	67	4	NL
<i>Dunbaria rotundifolia</i>	68	4	NL

<i>Tephrosia dietrichiae</i>	69	4	NL
<i>Gompholobium obcordatum</i>	71	4	NL
<i>Leptosema tomentosum</i>	71	4	NL
<i>Templetonia smithiana</i>	73	4	NL
<i>Daviesia suaveolens</i>	75	4	NL
<i>Piptomeris angulata</i>	75	4	NL
<i>Gastrolobium rotundifolium</i>	77	4	NL
<i>Daviesia daphnoides</i>	81	4	NL
<i>Alysicarpus rugosus</i>	81	4	NL
<i>Bossiaea lenticularis</i>	82	4	NL
<i>Aenictophyton reconditum</i>	86	4	NL
<i>Pultenaea millarii angustifolia</i>	87	4	NL
<i>Hovea angustissima</i>	87	4	NL
<i>Bossiaea cucullata</i>	88	4	NL
<i>Daviesia uniflora</i>	89	4	NL
<i>Pultenaea borea</i>	92	4	NL
<i>Kennedia stirlingii</i>	95	4	NL
<i>Pultenaea bracteamajor</i>	95	4	NL
<i>Pultenaea subalpina</i>	100	4	NL
<i>Pultenaea weindorferi</i>	107	4	NL
<i>Chorizema uncinatum</i>	107	4	NL
<i>Chorizema trigonum</i>	111	4	NL
<i>Daviesia croniniana</i>	111	4	NL
<i>Tephrosia arnhemica</i>	114	4	NL
<i>Almaleea capitata</i>	117	4	NL
<i>Uraria</i> sp. <i>litchfield</i>	124	4	NL
<i>Gastrolobium floribundum</i>	130	4	NL
<i>Swainsona fissimontana</i>	136	4	NL
<i>Gastrolobium musaceum</i>	137	4	NL
<i>Cullen plumosum</i>	138	4	NL
<i>Sesbania javanica</i>	141	4	NL
<i>Crotalaria aridicola densifolia</i>	143	4	NL
<i>Dillwynia brunioides</i>	143	4	NL
<i>Cracca lamproloboides</i>	146	4	NL
<i>Tephrosia gyropoda</i>	151	4	NL
<i>Leptosema villosum</i>	171	4	NL
<i>Piptomeris vernicosa</i>	180	4	NL
<i>Neonotonia wightii</i>	250	4	NL
<i>Zornia albiflora</i>	252	4	NL
<i>Daviesia crassa</i>	35	5	NL
<i>Pultenaea parrisiae</i>	35	5	VU
<i>Pultenaea aspalathoides</i>	36	5	NL
<i>Daviesia major</i>	39	5	NL
<i>Swainsona forrestii</i>	39	5	NL
<i>Sphaerolobium pulchellum</i>	40	5	NL
<i>Pultenaea williamsonii</i>	41	5	NL
<i>Gastrolobium densifolium</i>	41	5	NL
<i>Latrobea tenella</i>	42	5	NL
<i>Glycine pindanica</i>	44	5	NL
<i>Templetonia drummondii</i>	48	5	NL

<i>Indigofera boviperda</i>	50	5	NL
<i>Bossiaea halophila</i>	51	5	NL
<i>Daviesia pubigera</i>	51	5	NL
<i>Lespedeza juncea</i>	52	5	NL
<i>Mirbelia seorsifolia</i>	52	5	NL
<i>Platylobium alternifolium</i>	53	5	NL
<i>Dillwynia divaricata</i>	54	5	NL
<i>Aotus tietkensis</i>	55	5	NL
<i>Bossiaea webbii</i>	57	5	NL
<i>Gastrolobium tetragonophyllum</i>	58	5	NL
<i>Daviesia rubiginosa</i>	60	5	NL
<i>Chorizema rhynchotropis</i>	61	5	NL
<i>Swainsona microcalyx</i>	61	5	NL
<i>Indigofera glandulosa</i>	63	5	NL
<i>Daviesia intricata intricata</i>	64	5	NL
<i>Alysicarpus glumaceus</i>	64	5	NL
<i>Daviesia articulata</i>	70	5	NL
<i>Pultenaea ochreatea</i>	70	5	NL
<i>Gastrolobium sericeum</i>	72	5	NL
<i>Daviesia dilatata</i>	73	5	NL
<i>Bossiaea aquifolium</i>	76	5	NL
<i>Gastrolobium congestum</i>	77	5	NL
<i>Pultenaea robusta</i>	77	5	NL
<i>Daviesia apiculata</i>	81	5	NL
<i>Chorizema obtusifolium</i>	82	5	NL
<i>Kennedia nigricans</i>	84	5	NL
<i>Alysicarpus aurantiacus</i>	84	5	NL
<i>Bossiaea laidlawiana</i>	85	5	NL
<i>Indigofera tryonii</i>	86	5	NL
<i>Crotalaria aridicola glabrata</i>	88	5	NL
<i>Gastrolobium melanocarpum</i>	88	5	NL
<i>Smithia conferta</i>	90	5	NL
<i>Indigofera sericovexilla</i>	92	5	NL
<i>Cracca bidwillii</i>	93	5	NL
<i>Gompholobium uncinatum</i>	95	5	NL
<i>Gompholobium villosum</i>	98	5	NL
<i>Gastrolobium rigidum</i>	101	5	NL
<i>Gastrolobium laytonii</i>	105	5	NL
<i>Bossiaea rosmarinifolia</i>	108	5	NL
<i>Bossiaea leptacantha</i>	109	5	NL
<i>Hovea clavata</i>	113	5	NL
<i>Daviesia incrassata reversifolia</i>	117	5	NL
<i>Bossiaea kiamensis</i>	120	5	NL
<i>Swainsona unifoliolata</i>	125	5	NL
<i>Hardenbergia perbrevidens</i>	125	5	NL
<i>Cracca macrocarpa</i>	126	5	NL
<i>Daviesia triflora</i>	127	5	NL
<i>Maughania trifoliastrum</i>	130	5	NL
<i>Pultenaea hartmannii</i>	132	5	NL
<i>Aeschynomene aspera</i>	139	5	NL

<i>Hovea graniticola</i>	142	5	NL
<i>Gastrolobium oxylobioides</i>	162	5	NL
<i>Crotalaria montana exserta</i>	166	5	NL
<i>Leptosema uniflorum</i>	176	5	NL
<i>Pultenaea trifida</i>	181	5	NL
<i>Gastrolobium brevipes</i>	193	5	NL
<i>Tephrosia conspicua</i>	213	5	NL
<i>Tephrosia delestangii</i>	214	5	NL
<i>Cullen balsamicum</i>	289	5	NL
<i>Swainsona villosa</i>	306	5	NL

A total of 421 species of Fabaceae had records in five or fewer PAs greater than 1000 hectares, including 18 species classified as threatened and, within these, five endangered species (

Table 21).

Table 21 Fabaceae species recorded in five or fewer PAs greater than 1000 ha.

<i>Species</i>	No. Records	No. Reserves >1000ha	EPBC status
<i>Indigofera baileyi</i>	101	1	NL
<i>Indigofera spicata</i>	104	1	NL
<i>Hovea nana</i>	118	1	NL
<i>Zornia chaetophora</i>	122	1	NL
<i>Sesbania erubescens</i>	130	1	NL
<i>Gastrolobium floribundum</i>	130	1	NL
<i>Daviesia flava</i>	132	1	NL
<i>Swainsona luteola</i>	151	1	NL
<i>Swainsona plagiotropis</i>	186	1	VU
<i>Cajanus confertiflorus</i>	188	1	NL
<i>Swainsona murrayana</i>	242	1	VU
<i>Aotus genistoides</i>	31	1	NL
<i>Daviesia campephylla</i>	34	1	NL
<i>Daviesia speciosa</i>	34	1	EN
<i>Tephrosia carriemichelliae</i>	35	1	NL
<i>Latrobea hirtella</i>	35	1	NL
<i>Indigofera longibractea</i>	35	1	NL
<i>Gastrolobium cyanophyllum</i>	35	1	NL
<i>Pultenaea urodon</i>	35	1	NL
<i>Mirbelia densiflora</i>	35	1	NL
<i>Daviesia microphylla</i>	36	1	NL
<i>Templetonia neglecta</i>	37	1	NL
<i>Swainsona incei</i>	38	1	NL
<i>Gompholobium roseum</i>	38	1	NL
<i>Swainsona elegans</i>	38	1	NL
<i>Glycine pullenii</i>	38	1	NL
<i>Gompholobium simplicifolium</i>	39	1	NL

<i>Daviesia spiralis</i>	39	1	NL
<i>Bossiaea divaricata</i>	39	1	NL
<i>Dendrolobium stipatum</i>	41	1	NL
<i>Chorizema ulotropis</i>	41	1	NL
<i>Sophora longipes</i>	41	1	NL
<i>Daviesia crenulata</i>	44	1	NL
<i>Piptomeris foliosa</i>	44	1	NL
<i>Aotus carinata</i>	45	1	NL
<i>Desmodium tenax</i>	45	1	NL
<i>Piptomeris compressa</i>	45	1	NL
<i>Gastrolobium stenophyllum</i>	46	1	NL
<i>Glycine lactovirens</i>	49	1	NL
<i>Tephrosia maculata</i>	49	1	NL
<i>Smithia sensitiva</i>	50	1	NL
<i>Gastrolobium tomentosum</i>	51	1	NL
<i>Swainsona disjuncta</i>	51	1	NL
<i>Gastrolobium east peak (ed middleton edm4</i>	53	1	NL
<i>Desmodium flagellare</i>	53	1	NL
<i>Hovea acanthoclada</i>	53	1	NL
<i>Daviesia pachyloma</i>	53	1	NL
<i>Gastrolobium subcordatum</i>	54	1	NL
<i>Cajanus mareebensis</i>	55	1	EN
<i>Cullen walkingtonii</i>	56	1	NL
<i>Daviesia anceps</i>	58	1	NL
<i>Pultenaea pauciflora</i>	59	1	VU
<i>Desmodium strigillosum</i>	59	1	NL
<i>Zornia maritima</i>	60	1	NL
<i>Eutaxia cuneata</i>	63	1	NL
<i>Swainsona rostrata</i>	67	1	NL
<i>Gastrolobium rubrum</i>	71	1	NL
<i>Gompholobium obcordatum</i>	71	1	NL
<i>Gastrolobium leakeanum</i>	72	1	NL
<i>Bossiaea arenicola</i>	74	1	NL
<i>Gastrolobium rotundifolium</i>	77	1	NL
<i>Sesbania campylocarpa</i>	77	1	NL
<i>Pultenaea kraehenbuehlii</i>	78	1	NL
<i>Dillwynia stipulifera</i>	78	1	NL
<i>Chorizema genistoides</i>	83	1	NL
<i>Desmodium scorpiurus</i>	84	1	NL
<i>Pultenaea reflexifolia</i>	86	1	NL
<i>Gastrolobium racemosum</i>	88	1	NL
<i>Pultenaea williamsoniana</i>	92	1	VU
<i>Jacksonia argentea</i>	95	1	NL
<i>Jacksonia pendens</i>	100	2	NL
<i>Jacksonia stellaris</i>	101	2	NL
<i>Daviesia newbeyi</i>	103	2	NL
<i>Cajanus aromaticus</i>	107	2	NL
<i>Gastrolobium trilobium</i>	110	2	NL
<i>Chorizema trigonum</i>	111	2	NL

<i>Dalbergia sissoo</i>	114	2	NL
<i>Tephrosia flagellaris</i>	116	2	NL
<i>Daviesia asperula obliqua</i>	121	2	NL
<i>Gastrolobium bennettsianum</i>	121	2	NL
<i>Sesbania chippendalei</i>	122	2	NL
<i>Leptosema bossiaeoides</i>	122	2	NL
<i>Alysicarpus bupleurifolius</i>	126	2	NL
<i>Cracca reticulata</i>	133	2	NL
<i>Tephrosia filipes vestita</i>	139	2	NL
<i>Jacksonia reclinata</i>	141	2	NL
<i>Indigofera suffruticosa</i>	153	2	NL
<i>Pultenaea trifida</i>	181	2	NL
<i>Cracca nematophylla</i>	182	2	NL
<i>Neonotonia wightii</i>	250	2	NL
<i>Sesbania simpliciuscula</i>	278	2	NL
<i>Aotus pseudoprocumbens</i>	31	2	NL
<i>Gastrolobium pusillum</i>	32	2	NL
<i>Daviesia elongata elongata</i>	32	2	VU
<i>Tephrosia sp. conduplicate</i>	33	2	NL
<i>Swainsona fraseri</i>	33	2	NL
<i>Bossiaea flexuosa</i>	33	2	NL
<i>Jacksonia grevilleoides</i>	33	2	NL
<i>Jacksonia venosa</i>	33	2	NL
<i>Tephrosia arenicola</i>	33	2	NL
<i>Rhynchosia filiformis</i>	35	2	NL
<i>Indigofera verruculosa</i>	35	2	NL
<i>Daviesia rhizomata</i>	35	2	NL
<i>Leptosema cervicorne</i>	36	2	NL
<i>Gastrolobium glabratum</i>	37	2	NL
<i>Bossiaea atrata</i>	37	2	NL
<i>Swainsona parviflora</i>	37	2	NL
<i>Daviesia pauciflora</i>	37	2	NL
<i>Kennedia becxiana</i>	37	2	NL
<i>Gastrolobium epacridoides</i>	38	2	NL
<i>Swainsona fuscoviridis</i>	38	2	NL
<i>Bossiaea concinna</i>	38	2	NL
<i>Mirbelia longifolia</i>	39	2	NL
<i>Oxylobium cordifolium</i>	39	2	NL
<i>Jacksonia rigida</i>	40	2	NL
<i>Latrobea brunonis</i>	41	2	NL
<i>Phyllodium hackeri</i>	42	2	NL
<i>Dioclea hexandra</i>	44	2	VU
<i>Daviesia mesophylla</i>	46	2	NL
<i>Indigofera ammobia</i>	46	2	NL
<i>Daviesia debilior debilior</i>	47	2	NL
<i>Swainsona cyclocarpa</i>	47	2	NL
<i>Isotropis juncea</i>	47	2	NL
<i>Indigofera rugosa</i>	47	2	NL
<i>Daviesia retrorsa</i>	47	2	NL
<i>Daviesia ulicifolia pilligensis</i>	47	2	NL

<i>Jacksonia macrocalyx</i>	49	2	NL
<i>Tephrosia benthamii</i>	50	2	NL
<i>Daviesia pteroclada</i>	50	2	NL
<i>Aotus cordifolia</i>	51	2	NL
<i>Uraria cylindracea</i>	54	2	NL
<i>Tephrosia procera</i>	55	2	NL
<i>Pultenaea aristata</i>	55	2	VU
<i>Swainsona sejuncta</i>	56	2	NL
<i>Galactia tenuiflora macrantha</i>	56	2	NL
<i>Canavalia cathartica</i>	58	2	NL
<i>Piptomeris carduacea</i>	60	2	NL
<i>Pultenaea luehmannii</i>	60	2	NL
<i>Tephrosia gaudium-solis</i>	61	2	NL
<i>Desmodium hannii</i>	61	2	NL
<i>Pultenaea tarik</i>	64	2	NL
<i>Mirbelia ovata</i>	64	2	NL
<i>Phyllota humifusa</i>	64	2	VU
<i>Jacksonia remota</i>	65	2	NL
<i>Daviesia striata</i>	69	2	NL
<i>Piptomeris cupulifera</i>	70	2	NL
<i>Indigofera fractiflexa</i>	70	2	NL
<i>Bossiaea disticha</i>	71	2	NL
<i>Daviesia oxyclada</i>	72	2	NL
<i>Tephrosia macrostachya</i>	73	2	NL
<i>Templetonia smithiana</i>	73	2	NL
<i>Swainsona viridis</i>	76	2	NL
<i>Pultenaea arida</i>	77	2	NL
<i>Pultenaea skinneri</i>	78	2	NL
<i>Dendrolobium multiflorum</i>	86	2	NL
<i>Glycine argyrea</i>	87	2	NL
<i>Indigofera polygaloides</i>	87	2	NL
<i>Daviesia obovata</i>	92	2	NL
<i>Daviesia eremaea</i>	93	2	NL
<i>Daviesia pachyphylla</i>	93	2	NL
<i>Pultenaea subalpina</i>	100	3	NL
<i>Gastrolobium callistachys</i>	100	3	NL
<i>Pultenaea canescens</i>	105	3	NL
<i>Daviesia hakeoides hakeoides</i>	107	3	NL
<i>Chorizema uncinatum</i>	107	3	NL
<i>Gastrolobium parvifolium</i>	108	3	NL
<i>Crotalaria mitchellii laevis</i>	111	3	NL
<i>Zornia stirlingii</i>	117	3	NL
<i>Zornia adenophora</i>	118	3	NL
<i>Pultenaea purpurea</i>	121	3	NL
<i>Tephrosia bifacialis</i>	124	3	NL
<i>Tephrosia savannicola</i>	125	3	NL
<i>Jacksonia spicata</i>	136	3	NL
<i>Gastrolobium musaceum</i>	137	3	NL
<i>Cracca stuartii</i>	140	3	NL
<i>Pultenaea costata</i>	150	3	NL

<i>Gastrolobium oxylobioides</i>	162	3	NL
<i>Jacksonia aculeata</i>	175	3	NL
<i>Indigofera ewartiana</i>	189	3	NL
<i>Hovea arnhemica</i>	207	3	NL
<i>Sesbania brachycarpa</i>	272	3	NL
<i>Cullen parvum</i>	289	3	EN
<i>Cullen stipulaceum</i>	32	3	NL
<i>Swainsona laciniata</i>	32	3	NL
<i>Pultenaea villifera glabrescens</i>	326	3	VU
<i>Gastrolobium semiteres</i>	33	3	NL
<i>Pultenaea victoriensis</i>	33	3	NL
<i>Crotalaria mysorensis</i>	35	3	NL
<i>Daviesia crassa</i>	35	3	NL
<i>Pultenaea involucrata</i>	352	3	NL
<i>Indigofera coronillifolia</i>	36	3	NL
<i>Stonesiella selaginoides</i>	37	3	EN
<i>Desmodium campylocaulon</i>	378	3	NL
<i>Cullen lachnostachys</i>	38	3	NL
<i>Latrobea tenella</i>	42	3	NL
<i>Pultenaea barbata</i>	42	3	NL
<i>Eutaxia leptophylla</i>	42	3	NL
<i>Daviesia tortuosa</i>	44	3	NL
<i>Daviesia nudiflora hirtella</i>	44	3	NL
<i>Gastrolobium pycnostachyum</i>	44	3	NL
<i>Gastrolobium nervosum</i>	44	3	NL
<i>Daviesia mollis</i>	45	3	NL
<i>Urodon phyllicoides</i>	46	3	NL
<i>Gastrolobium ilicifolium</i>	46	3	NL
<i>Pultenaea whiteana</i>	49	3	NL
<i>Dillwynia pungens</i>	50	3	NL
<i>Swainsona beasleyana</i>	51	3	NL
<i>Lespedeza juncea</i>	52	3	NL
<i>Swainsona stenodonta</i>	52	3	NL
<i>Swainsona monticola</i>	53	3	NL
<i>Pultenaea penna</i>	53	3	NL
<i>Gastrolobium nutans</i>	55	3	NL
<i>Chorizema cytisoides</i>	55	3	NL
<i>Gastrolobium discolor</i>	55	3	NL
<i>Swainsona decurrens</i>	56	3	NL
<i>Pultenaea maritima</i>	56	3	NL
<i>Mirbelia baueri</i>	56	3	NL
<i>Dillwynia acerosa</i>	56	3	NL
<i>Daviesia rubiginosa</i>	60	3	NL
<i>Gompholobium inconspicuum</i>	61	3	NL
<i>Chorizema rhynchotropis</i>	61	3	NL
<i>Swainsona maccullochiana</i>	62	3	NL
<i>Daviesia decipiens</i>	63	3	NL
<i>Leptosema macrocarpum</i>	63	3	NL
<i>Rothia indica australis</i>	64	3	NL
<i>Daviesia intricata intricata</i>	64	3	NL

<i>Pultenaea radiata</i>	64	3	NL
<i>Templetonia battii</i>	66	3	NL
<i>Swainsona eremaea</i>	67	3	NL
<i>Dendrolobium polyneurum</i>	67	3	NL
<i>Dunbaria rotundifolia</i>	68	3	NL
<i>Swainsona tanamiensis</i>	68	3	NL
<i>Daviesia elongata implexa</i>	69	3	NL
<i>Daviesia trigonophylla</i>	71	3	NL
<i>Cajanus lanceolatus</i>	73	3	NL
<i>Piptomeris angulata</i>	75	3	NL
<i>Tephrosia ephippioides</i>	76	3	NL
<i>Daviesia stricta</i>	77	3	NL
<i>Daviesia discolor</i>	80	3	VU
<i>Cracca eriocarpa</i>	82	3	NL
<i>Sesbania sesban</i>	86	3	NL
<i>Almaleea incurvata</i>	88	3	NL
<i>Mucuna reptans</i>	88	3	NL
<i>Daviesia uniflora</i>	89	3	NL
<i>Desmodium velutinum</i>	90	3	NL
<i>Indigofera sericovexilla</i>	92	3	NL
<i>Pultenaea bracteamajor</i>	95	3	NL
<i>Desmodium macrocarpum</i>	96	3	NL
<i>Leptosema chapmanii</i>	97	3	NL
<i>Gastrolobium velutinum</i>	98	3	NL
<i>Pultenaea weindorferi</i>	107	4	NL
<i>Bossiaea rosmarinifolia</i>	108	4	NL
<i>Daviesia croniniana</i>	111	4	NL
<i>Tephrosia arnhemica</i>	114	4	NL
<i>Almaleea capitata</i>	117	4	NL
<i>Daviesia incrassata reversifolia</i>	117	4	NL
<i>Hovea impressinerva</i>	119	4	NL
<i>Uraria sp. litchfield</i>	124	4	NL
<i>Daviesia triflora</i>	127	4	NL
<i>Swainsona fissimontana</i>	136	4	NL
<i>Cullen plumosum</i>	138	4	NL
<i>Dillwynia tenuifolia</i>	140	4	VU
<i>Sesbania javanica</i>	141	4	NL
<i>Hovea graniticola</i>	142	4	NL
<i>Dillwynia brunioides</i>	143	4	NL
<i>Crotalaria aridicola densifolia</i>	143	4	NL
<i>Gastrolobium villosum</i>	144	4	NL
<i>Cracca lamproloboides</i>	146	4	NL
<i>Tephrosia gyropoda</i>	151	4	NL
<i>Daviesia longifolia</i>	159	4	NL
<i>Podolobium scandens</i>	164	4	NL
<i>Gastrolobium obovatum</i>	169	4	NL
<i>Leptosema villosum</i>	171	4	NL
<i>Piptomeris vernicosa</i>	180	4	NL
<i>Zornia albiflora</i>	252	4	NL
<i>Phyllota grandiflora</i>	31	4	NL

<i>Daviesia hakeoides</i>	31	4	NL
<i>Cajanus reticulatus maritimus</i>	32	4	NL
<i>Gastrolobium tricuspidatum</i>	35	4	NL
<i>Glycine arenaria</i>	36	4	NL
<i>Bossiaea spinosa</i>	37	4	NL
<i>Daviesia major</i>	39	4	NL
<i>Sphaerolobium pulchellum</i>	40	4	NL
<i>Gastrolobium densifolium</i>	41	4	NL
<i>Bossiaea oligosperma</i>	41	4	VU
<i>Daviesia oppositifolia</i>	42	4	NL
<i>Jacksonia arida</i>	42	4	NL
<i>Mirbelia multicaulis</i>	42	4	NL
<i>Pultenaea echinula</i>	43	4	NL
<i>Isotropis forrestii</i>	44	4	NL
<i>Cajanus crassicaulis</i>	47	4	NL
<i>Oxylobium spathulatum</i>	49	4	NL
<i>Gastrolobium punctatum</i>	51	4	NL
<i>Bossiaea halophila</i>	51	4	NL
<i>Cracca flammea</i>	52	4	NL
<i>Austrosteenisia mollitricha</i>	55	4	NL
<i>Hovea tasmanica</i>	56	4	NL
<i>Pultenaea patellifolia</i>	57	4	NL
<i>Phyllota squarrosa</i>	58	4	NL
<i>Swainsona microcalyx</i>	61	4	NL
<i>Gastrolobium acutum</i>	63	4	NL
<i>Bossiaea smithiorum</i>	63	4	NL
<i>Indigofera rupicola</i>	63	4	NL
<i>Crotalaria quinquefolia</i>	65	4	NL
<i>Phyllota luehmannii</i>	65	4	NL
<i>Pultenaea divaricata</i>	67	4	NL
<i>Tephrosia dietrichiae</i>	69	4	NL
<i>Daviesia articulata</i>	70	4	NL
<i>Leptosema tomentosum</i>	71	4	NL
<i>Gastrolobium sericeum</i>	72	4	NL
<i>Trifolium stellatum</i>	73	4	NL
<i>Daviesia suaveolens</i>	75	4	NL
<i>Bossiaea aquifolium</i>	76	4	NL
<i>Gastrolobium celsianum</i>	77	4	NL
<i>Pultenaea robusta</i>	77	4	NL
<i>Alysicarpus rugosus</i>	81	4	NL
<i>Daviesia daphnoides</i>	81	4	NL
<i>Bossiaea lenticularis</i>	82	4	NL
<i>Daviesia polyphylla</i>	83	4	NL
<i>Alysicarpus aurantiacus</i>	84	4	NL
<i>Kennedia nigricans</i>	84	4	NL
<i>Aenictophyton reconditum</i>	86	4	NL
<i>Gastrolobium spathulatum</i>	87	4	NL
<i>Pultenaea millarii angustifolia</i>	87	4	NL
<i>Hovea angustissima</i>	87	4	NL
<i>Bossiaea cucullata</i>	88	4	NL

<i>Crotalaria aridicola glabrata</i>	88	4	NL
<i>Daviesia brachyphylla</i>	92	4	NL
<i>Pultenaea borea</i>	92	4	NL
<i>Cristonia biloba</i>	92	4	NL
<i>Kennedia stirlingii</i>	95	4	NL
<i>Daviesia squarrosa</i>	97	4	NL
<i>Swainsona recta</i>	98	4	EN
<i>Gastrolobium rigidum</i>	101	5	NL
<i>Gastrolobium laytonii</i>	105	5	NL
<i>Pultenaea platyphylla</i>	106	5	NL
<i>Pultenaea stipularis</i>	106	5	NL
<i>Piptomeris velutina</i>	108	5	NL
<i>Bossiaea leptacantha</i>	109	5	NL
<i>Dillwynia oreodoxa</i>	111	5	NL
<i>Hovea clavata</i>	113	5	NL
<i>Bossiaea bracteosa</i>	113	5	NL
<i>Daviesia cardiophylla</i>	115	5	NL
<i>Gastrolobium polystachyum</i>	117	5	NL
<i>Bossiaea kiamensis</i>	120	5	NL
<i>Gastrolobium latifolium</i>	121	5	NL
<i>Kennedia procurrens</i>	124	5	NL
<i>Hardenbergia perbrevidens</i>	125	5	NL
<i>Swainsona unifoliolata</i>	125	5	NL
<i>Cracca macrocarpa</i>	126	5	NL
<i>Gastrolobium bracteolosum</i>	128	5	NL
<i>Maughania trifoliatrum</i>	130	5	NL
<i>Dalbergia densa australis</i>	131	5	NL
<i>Pultenaea hartmannii</i>	132	5	NL
<i>Indigofera bancroftii</i>	133	5	NL
<i>Christia australasica</i>	136	5	NL
<i>Aeschynomene aspera</i>	139	5	NL
<i>Glycine curvata</i>	156	5	NL
<i>Pultenaea tenella</i>	159	5	NL
<i>Crotalaria montana exserta</i>	166	5	NL
<i>Leptosema uniflorum</i>	176	5	NL
<i>Aeschynomene villosa</i>	184	5	NL
<i>Gastrolobium brevipes</i>	193	5	NL
<i>Gastrolobium capitatum</i>	208	5	NL
<i>Tephrosia conspicua</i>	213	5	NL
<i>Tephrosia delestangii</i>	214	5	NL
<i>Gastrolobium calycinum</i>	246	5	NL
<i>Pultenaea graveolens</i>	251	5	NL
<i>Cullen balsamicum</i>	289	5	NL
<i>Swainsona villosa</i>	306	5	NL
<i>Pultenaea indira</i>	32	5	NL
<i>Pultenaea parrisiae</i>	35	5	VU
<i>Pultenaea aspalathoides</i>	36	5	NL
<i>Swainsona forrestii</i>	39	5	NL
<i>Pultenaea spinulosa</i>	39	5	NL
<i>Pultenaea williamsonii</i>	41	5	NL

<i>Glycine pindanica</i>	44	5	NL
<i>Pultenaea cuneata</i>	45	5	NL
<i>Swainsona elegantoides</i>	45	5	NL
<i>Tephrosia brachyodon longipes</i>	47	5	NL
<i>Templetonia drummondii</i>	48	5	NL
<i>Dillwynia dillwynioides</i>	50	5	NL
<i>Indigofera boviparda</i>	50	5	NL
<i>Daviesia pubigera</i>	51	5	NL
<i>Mirbelia seorsifolia</i>	52	5	NL
<i>Platylobium alternifolium</i>	53	5	NL
<i>Sphaerolobium racemulosum</i>	53	5	NL
<i>Dillwynia divaricata</i>	54	5	NL
<i>Aotus tietkensis</i>	55	5	NL
<i>Bossiaea webbii</i>	57	5	NL
<i>Pultenaea rostrata</i>	57	5	NL
<i>Gastrolobium tetragonophyllum</i>	58	5	NL
<i>Oxylobium carinatum</i>	59	5	NL
<i>Gompholobium aristatum</i>	61	5	NL
<i>Daviesia uncinata</i>	62	5	NL
<i>Indigofera glandulosa</i>	63	5	NL
<i>Alysicarpus glumaceus</i>	64	5	NL
<i>Erichsenia uncinata</i>	68	5	NL
<i>Daviesia epiphyllum</i>	68	5	NL
<i>Pultenaea ochreatea</i>	70	5	NL
<i>Jacksonia calycina</i>	71	5	NL
<i>Bossiaea pulchella</i>	71	5	NL
<i>Gastrolobium hookeri</i>	72	5	NL
<i>Gastrolobium reticulatum</i>	72	5	NL
<i>Isotropis foliosa</i>	73	5	NL
<i>Gastrolobium brownii</i>	73	5	NL
<i>Daviesia dilatata</i>	73	5	NL
<i>Gastrolobium congestum</i>	77	5	NL
<i>Daviesia apiculata</i>	81	5	NL
<i>Chorizema obtusifolium</i>	82	5	NL
<i>Pultenaea daltonii</i>	83	5	NL
<i>Bossiaea laidlawiana</i>	85	5	NL
<i>Indigofera tryonii</i>	86	5	NL
<i>Gastrolobium melanocarpum</i>	88	5	NL
<i>Smithia conferta</i>	90	5	NL
<i>Daviesia elliptica</i>	93	5	NL
<i>Cracca bidwillii</i>	93	5	NL
<i>Pultenaea prolifera</i>	94	5	NL
<i>Gompholobium uncinatum</i>	95	5	NL
<i>Gastrolobium stowardii</i>	95	5	NL
<i>Gompholobium villosum</i>	98	5	NL

Proteaceae

The ANHAT database has 222127 records for 1240 species and subspecies of Proteaceae. No species of Proteaceae are considered extinct.

Seventy-one species account for approximately 50% of the total species records in ANHAT (

Table 22). These species have over 600 records each, and, in the case of the *Banksia marginata*, over 9000 records.

Table 22 Proteaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Hakea francisiana</i>	616	0.30
<i>Xylomelum scottianum</i>	619	0.31
<i>Persoonia silvatica</i>	629	0.31
<i>Hakea ulicina</i>	646	0.32
<i>Banksia aemula</i>	650	0.32
<i>Orites lancifolius</i>	679	0.34
<i>Persoonia chamaepeuce</i>	679	0.34
<i>Grevillea aquifolium</i>	682	0.34
<i>Banksia robur</i>	684	0.34
<i>Hakea lissocarpha</i>	684	0.34
<i>Hakea nodosa</i>	699	0.34
<i>Conospermum patens</i>	701	0.35
<i>Banksia ilicifolia</i>	707	0.35
<i>Lomatia silaifolia</i>	725	0.36
<i>Banksia ericifolia</i>	730	0.36
<i>Grevillea lanigera</i>	751	0.37
<i>Persoonia virgata</i>	755	0.37
<i>Banksia integrifolia</i>	762	0.38
<i>Conospermum taxifolium</i>	793	0.39
<i>Persoonia sericea</i>	809	0.40
<i>Banksia sphaerocarpa</i>	811	0.40
<i>Grevillea pterosperma</i>	813	0.40
<i>Banksia integrifolia compare</i>	827	0.41
<i>Hakea macrocarpa</i>	854	0.42
<i>Hakea rugosa</i>	859	0.42
<i>Banksia littoralis</i>	873	0.43
<i>Grevillea dryandri dryandra</i>	891	0.44
<i>Grevillea ilicifolia</i>	952	0.47
<i>Banksia oblongifolia</i>	1008	0.50
<i>Grevillea stenobotrya</i>	1021	0.50
<i>Telopea oreads</i>	1060	0.52
<i>Grevillea lavandulacea</i>	1085	0.54
<i>Lomatia myricoides</i>	1100	0.54
<i>Grevillea australis</i>	1115	0.55

<i>Helicia australasica</i>	1128	0.56
<i>Adenanthos terminalis</i>	1145	0.57
<i>Hakea carinata</i>	1171	0.58
<i>Grevillea juncifolia</i>	1171	0.58
<i>Grevillea heliosperma</i>	1179	0.58
<i>Hakea eriantha</i>	1228	0.61
<i>Banksia spinulosa spinulosa</i>	1268	0.63
<i>Banksia spinulosa cunninghamii</i>	1282	0.63
<i>Grevillea refracta</i>	1396	0.69
<i>Grevillea striata</i>	1416	0.70
<i>Banksia dentata</i>	1418	0.70
<i>Grevillea huegelii</i>	1438	0.71
<i>Hakea lorea lorea</i>	1475	0.73
<i>Grevillea wickhamii</i>	1477	0.73
<i>Grevillea decurrens</i>	1496	0.74
<i>Banksia attenuate</i>	1517	0.75
<i>Hakea mitchellii</i>	1544	0.76
<i>Grevillea glauca</i>	1656	0.82
<i>Grevillea alpine</i>	1664	0.82
<i>Hakea sericea</i>	1680	0.83
<i>Hakea leucoptera leucoptera</i>	1690	0.83
<i>Persoonia juniperina</i>	1756	0.87
<i>Banksia integrifolia integrifolia</i>	1774	0.88
<i>Lomatia fraseri</i>	1779	0.88
<i>Banksia ornate</i>	1843	0.91
<i>Banksia grandis</i>	2077	1.03
<i>Grevillea parallela</i>	2138	1.06
<i>Hakea rostrate</i>	2146	1.06
<i>Persoonia confertiflora</i>	2151	1.06
<i>Hakea arborescens</i>	2173	1.07
<i>Isopogon ceratophyllus</i>	2205	1.09
<i>Lomatia ilicifolia</i>	2232	1.10
<i>Persoonia linearis</i>	2579	1.27
<i>Banksia serrata</i>	2932	1.45
<i>Grevillea pteridifolia</i>	3591	1.77
<i>Persoonia falcate</i>	3780	1.87
<i>Banksia marginate</i>	9960	4.92
Total	101824	50.31

Two hundred and sixty-nine species had 30 or fewer individual site records in the ANHAT database (**Table 23**). Of those species, 44 species are listed as threatened (including two species classified as critically endangered). There are species on this list from across Australia, although there are few inland species. Most commonly, the species on this list are located from Western Australia and particularly the south-west of the state. These species come from a wide range of vegetation associations, with perhaps heath-like vegetation groups being the type in which these species are most likely to be found. They have been excluded from analysis but are included here for reference. Exclusion of these poorly recorded species eliminates 4546 records.

Table 23 Proteaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC
<i>Dryandra</i> 1	1	0.00			100	NL
<i>Dryandra</i> 41	1	0.00			100	NL
<i>Dryandra</i> 42	1	0.00			100	NL
<i>Dryandra</i> 46	1	0.00			100	NL
<i>Dryandra drummondii marcorufa</i>	1	0.00	SW	He	100	NL
<i>Dryandra fraseri crebra</i>	1	0.00			100	NL
<i>Grevillea</i> sp. <i>stirling range</i>	1	100.00			100	NL
<i>Adenanthos eyrei</i>	10	80.00	SW	He	400	EN
<i>Conospermum filifolium</i>	10	50.00	SW		700	NL
<i>Dryandra subpinnatifida subpinnatifida</i>	10	60.00	SW	Sc	700	NL
<i>Grevillea adenotricha</i>	10	50.00	NW		900	NL
<i>Grevillea juniperina sulphurea</i>	10	0.00	E	Wet	600	NL
<i>Grevillea lissopleura</i>	10	20.00	SW	Sc	500	NL
<i>Grevillea marriottii</i>	10	0.00	SW		100	NL
<i>Hakea pritzelii</i>	10	20.00	SW	He	700	NL
<i>Persoonia pauciflora</i>	10	0.00	E		200	CE
<i>Conospermum galeatum</i>	11	0.00	SW		700	NL
<i>Grevillea batrachioides</i>	11	100.00	SW	SL	200	EN
<i>Grevillea cheilocarpa</i>	11	72.73	SW	He	400	NL
<i>Grevillea pythara</i>	11	0.00	SW	Rd	500	EN
<i>Lambertia rariflora</i>	11	18.18	SW	For	600	NL
				Kwonga		
<i>Synaphea brachyceras</i>	11	0.00	SW	n	400	NL
<i>Synaphea macrophylla</i>	11	9.09	SW	For	800	NL
<i>Synaphea nexosa</i>	11	0.00	SW	Sc	300	NL
<i>Adenanthos pungens effusus</i>	12	0.00	SW	Sandy Soil	300	EN
<i>Conospermum densiflorum unicephalatum</i>	12	0.00			700	EN
<i>Dryandra trifontinalis</i>	12	0.00	W	WL	300	NL
<i>Grevillea acanthifolia paludosa</i>	12	91.67	SE	For	400	EN
<i>Grevillea callichlaena</i>	12	100.00	SE		100	NL
				RH,		
<i>Grevillea donaldiana</i>	12	0.00	NW	Sand	200	NL
<i>Grevillea kedumbensis</i>	12	91.67	E	For	600	NL
<i>Grevillea variifolia</i>	12	41.67	W		1000	NL
<i>Hakea ilicifolia</i>	12	25.00	SW		800	NL
<i>Petrophile filifolia</i>	12	25.00			1100	NL
				Kwonga		
<i>Synaphea preissii</i>	12	50.00	SW	n, SL	800	NL

<i>Dryandra fuscobracteata</i>	13	7.69	SW	He	300	NL
<i>Grevillea corrugata</i>	13	15.38	SW	WL	500	NL
<i>Grevillea dryandroides</i>	13	0.00	SW		600	NL
<i>Grevillea maccutcheonii</i>	13	30.77	SW		300	EN
<i>Grevillea rara</i>	13	30.77	SW	For	400	EN
<i>Grevillea virgata</i>	13	7.69	E	For, Swamp Kwonga	100	NL
<i>Lambertia echinata</i>	13	7.69	SW	n	1000	NL
<i>Persoonia cordifolia</i>	13	0.00	SW	He Cliff	200	NL
<i>Banksia epica</i>	14	100.00	SW	tops	500	NL
<i>Grevillea curviloba curviloba</i>	14	7.14	SW	SL	800	EN
<i>Grevillea infundibularis</i>	14	100.00	SW	He	300	EN
<i>Hakea ochroptera</i>	14	50.00	E	RF	900	NL
<i>Isopogon mnoraifolius</i>	14	50.00	E	He, WL	1700	NL
<i>Persoonia micranthera</i>	14	100.00	SW	Mon	300	EN
<i>Petrophile antecessens</i>	14	21.43	SW		800	NL
<i>Synaphea endothrix</i>	14	35.71	SW	Kwonga n	700	NL
<i>Adenanthos velutinus</i>	15	0.00	SW		500	EN
<i>Banksia conferta</i>	15	26.67	E		400	NL
<i>Dryandra borealis</i>	15	26.67	W		1400	NL
<i>Grevillea bemboka</i>	15	100.00	SE		300	NL
<i>Grevillea fililoba</i>	15	6.67	W	Sc	700	NL
<i>Grevillea humifusa</i>	15	6.67	SW	SL, WL	900	EN
<i>Grevillea masonii</i>	15	0.00	E	WL	900	EN
<i>Grevillea minutiflora</i>	15	20.00	SW	SL	900	NL
<i>Grevillea miqueliana moroka</i>	15	86.67	SE	For, WL	500	NL
<i>Grevillea punctata</i>	15	0.00	SW	SL	500	NL
<i>Grevillea xiphoidea</i>	15	0.00	SW	SL	500	NL
<i>Hakea recurva arida</i>	15	20.00	W	Sand	1400	NL
<i>Persoonia baeckeoides</i>	15	6.67	SW	He He, Mal	400	NL
<i>Persoonia hakeiformis</i>	15	40.00	SW	He, WL	900	NL
<i>Persoonia pertinax</i>	15	46.67	SW	WL	1100	NL
<i>Petrophile pauciflora</i>	15	33.33	W	He	1300	NL
<i>Banksia laevigata</i>	16	12.50	SW		1000	NL
<i>Conospermum coerulescens</i>	16	37.50	SW		1200	NL
<i>Grevillea capitellata</i>	16	25.00	E	Wet	700	NL
<i>Grevillea microstyla</i>	16	31.25	NW	WL Kwonga	200	NL
<i>Synaphea oulopha</i>	16	12.50	W	n	600	NL
<i>Grevillea acropogon</i>	17	0.00	SW	He	200	NL
<i>Grevillea raybrownii</i>	17	5.88	E	For	700	NL
<i>Isopogon uncinatus</i>	17	35.29	SW	Sc	1000	EN
<i>Petrophile clavata</i>	17	23.53	SW,W		800	NL
<i>Petrophile latericola</i>	17	17.65			500	EN

<i>Synaphea canaliculata</i>	17	41.18	SW		600	NL
				Kwonga		
<i>Synaphea drummondii</i>	17	58.82	SW	n	1100	NL
<i>Dryandra epimicta</i>	18	38.89	SW	He, SL	900	NL
<i>Dryandra idiogenes</i>	18	0.00	SW	He, Mal	500	NL
<i>Grevillea imberbis</i>	18	61.11	E	He, WL	500	NL
<i>Grevillea pachylostyla</i>	18	94.44	SE	RH	600	NL
<i>Grevillea subterlineata</i>	18	0.00	W	SL	800	NL
				Sand,		
<i>Hakea dohertyi</i>	18	100.00	E	For	500	EN
				WL,		
<i>Hakea hastata</i>	18	11.11	SW	Mal	1500	NL
<i>Hollandaea</i> sp. pinnacle rock track	18	100.00			200	NL
				WL,		
<i>Persoonia bowgada</i>	18	44.44	W	Mal He	1300	NL
<i>Persoonia recedens</i>	18	11.11	E	For	700	NL
<i>Synaphea quartzitica</i>	18	38.89	SW	SL	600	EN
				Kwonga		
<i>Synaphea sparsiflora</i>	18	5.56	SW,W	n	1000	NL
<i>Conospermum</i> <i>multispicatum</i>	19	5.26	SW		900	NL
<i>Dryandra hirsuta</i>	19	89.47	SW	SL, WL	900	NL
<i>Grevillea calcicola</i>	19	31.58	W	Mal SL	1200	NL
				SL, Mal		
<i>Grevillea decipiens</i>	19	26.32	SW	WL	1100	NL
				Mal He,		
<i>Grevillea fastigiata</i>	19	0.00	SW	SL	1000	NL
<i>Grevillea makinsonii</i>	19	5.26	SW,W	He	1000	NL
<i>Grevillea phanerophlebia</i>	19	10.53			800	NL
<i>Grevillea secunda</i>	19	31.58	W	WL, SL	1400	NL
<i>Stirlingia divaricatissima</i>	19	94.74	SW	SL, For	900	NL
<i>Synaphea panhesya</i>	19	21.05	SW	WL	800	NL
<i>Dryandra</i> 20	2	0.00			200	NL
<i>Dryandra</i> 22	2	0.00			200	NL
<i>Dryandra</i> 36	2	0.00			100	NL
<i>Dryandra</i> 37	2	0.00			200	NL
<i>Dryandra fraseri effusa</i>	2	100.00			100	NL
<i>Dryandra ionthocarpa</i>	2	0.00	SW	He	300	EN
<i>Grevillea crowleyi</i>	2	0.00	SW		100	NL
<i>Grevillea thyrsoides</i>	2	0.00			200	NL
<i>Dryandra longifolia</i>	20	100.00	SW		800	NL
<i>Dryandra montana</i>	20	80.00	SW	He	300	EN
<i>Grevillea crassifolia</i>	20	85.00	SW	SL	1200	NL
<i>Grevillea mollis</i>	20	90.00	E	For, SL	300	EN
				For,		
<i>Grevillea montis-cole</i>	20	10.00	SE	WL	600	NL
<i>Grevillea pinifolia</i>	20	10.00	SW,W	SL	1100	NL
<i>Grevillea sericea riparia</i>	20	45.00	SE	Rip	1300	NL
<i>Grevillea synapheae</i>	20	20.00	W	He	1500	NL

<i>pachyphylla</i>						
<i>Hakea petiolaris</i>	20	30.00	SW	RH	1500	NL
<i>Persoonia biglandulosa</i>	20	15.00	W	He	900	NL
<i>Persoonia marginata</i>	20	5.00	E	For, Sand	800	VU
<i>Stenocarpus</i> sp.						
<i>hinchinbrook island</i>	20	70.00			700	NL
<i>Austromuellera valida</i>	21	80.95	NE	RF	400	NL
<i>Conospermum sigmoideum</i>	21	71.43	SW		1500	NL
<i>Dryandra anatona</i>	21	90.48	SW		800	EN
<i>Dryandra conferta parva</i>	21	38.10	SW	SL, He	1500	NL
<i>Dryandra erythrocephala</i>						
<i>inopinata</i>	21	42.86	SW	He	1400	NL
<i>Dryandra fililoba</i>	21	14.29	SW	He, WL	1100	NL
<i>Dryandra</i>						
<i>insulanemorecincta</i>	21	4.76	SW	He	400	NL
<i>Dryandra stenoprion</i>	21	38.10	SW	He	1300	NL
<i>Eidothea hardeniana</i>	21	90.48	E,W		300	CE
<i>Grevillea delta</i>	21	71.43	SW	Mal He	300	NL
<i>Grevillea evanescens</i>	21	4.76	SW	WL	900	NL
<i>Grevillea montis-cole</i>						
<i>brevistyla</i>	21	71.43	SE	WL	300	VU
<i>Grevillea oldei</i>	21	0.00	E	He, WL	500	NL
<i>Hakea pulvinifera</i>	21	33.33	E	Hillside	600	EN
<i>Synaphea damopsis</i>	21	4.76	SW	For	1000	NL
<i>Dryandra baxteri</i>	22	9.09	SW		1400	NL
<i>Dryandra plumosa</i>	22	27.27			1900	NL
<i>Grevillea angustiloba</i>						
<i>wirregaensis</i>	22	9.09			900	NL
<i>Grevillea epicroca</i>	22	90.91	E	For	700	NL
<i>Grevillea manglesioides</i>						
<i>metaxa</i>	22	9.09	SW	SL, WL	1100	NL
<i>Grevillea rosieri</i>	22	9.09	SW	SL	1000	NL
				RH,		
<i>Grevillea spinosa</i>	22	0.00	W	Sand	1500	NL
<i>Hollandaea riparia</i>	22	100.00	NE		500	NL
<i>Persoonia moscalii</i>	22	100.00	TAS	Al He	600	NL
<i>Stirlingia seselifolia</i>	22	36.36	SW	For	1700	NL
				Deep		
<i>Adenanthos acanthophyllus</i>	23	91.30	W	sand	700	NL
<i>Banksia oligantha</i>	23	34.78	SW	SL	1300	EN
<i>Dryandra mucronulata</i>	23	39.13			2100	NL
<i>Grevillea dryandroides</i>						
<i>hirsuta</i>	23	4.35	SW	He, WL Mal SL,	1100	EN
<i>Grevillea pilosa redacta</i>	23	4.35	SW	He	800	NL
<i>Grevillea scortechinii</i>	23	0.00	E		700	NL
<i>Grevillea shuttleworthiana</i>						
<i>shuttleworthiana</i>	23	17.39	W	He	1400	NL
<i>Hakea bicornata</i>	23	13.04	SW	SL	1300	NL

<i>Hakea macrorrhyncha</i>	23	43.48	E	For, WL	1400	NL
<i>Hakea orthorrhyncha</i>	23	30.43	W	SL	2000	NL
<i>Isopogon fletcheri</i>	23	69.57	E	Wet	500	VU
<i>Persoonia dillwynioides</i>	23	65.22	SW	He	1100	NL
				Kwonga		
<i>Synaphea rangiferops</i>	23	17.39	SW	n	900	NL
<i>Dryandra corvijuga</i>	24	0.00	SW	Mal He	200	NL
<i>Grevillea fistulosa</i>	24	91.67	SW	He, SL	1000	NL
<i>Grevillea maxwellii</i>	24	0.00	SW	He	700	EN
<i>Grevillea molyneuxii</i>	24	41.67	E	He, SL	400	EN
<i>Grevillea shiressii</i>	24	66.67	E	For, SL	700	VU
<i>Hakea aculeata</i>	24	0.00	SW	SL	1200	VU
				Kwong		
<i>Lambertia fairallii</i>	24	87.50	SW	an	900	EN
<i>Macadamia grandis</i>	24	83.33	NE		700	NL
<i>Petrophile carduacea</i>	24	75.00	SW	Sc, He	1000	NL
<i>Petrophile plumosa</i>	24	33.33	SW	SL, SaP	900	NL
<i>Synaphea incurva</i>	24	0.00	SW	WL, SL	900	NL
				Kwonga		
<i>Synaphea lesueurensis</i>	24	50.00	SW	n	500	NL
				For,		
<i>Grevillea humilis lucens</i>	25	72.00	E	WL	400	NL
<i>Grevillea murex</i>	25	0.00	W	WL, SL	700	EN
<i>Grevillea prominens</i>	25	24.00	SW	For	1400	NL
<i>Grevillea scortechinii</i>						
<i>sarmentosa</i>	25	16.00	E	WL	1000	VU
<i>Hakea hookeriana</i>	25	96.00	SW	Sc	1000	NL
<i>Persoonia katerae</i>	25	28.00	E	He, For	1000	NL
<i>Persoonia rufa</i>	25	88.00	E	He, For	1100	NL
<i>Dryandra nana</i>	26	19.23	SW	He	1400	NL
<i>Dryandra seneciifolia</i>	26	50.00	SW	Mal He	1700	NL
<i>Grevillea acrobotrya</i>	26	30.77	SW	He	1100	NL
<i>Grevillea biformis</i>						
<i>cymbiformis</i>	26	30.77		He	1000	NL
<i>Grevillea decora telfordi</i>	26	0.00	NE	For	500	NL
<i>Grevillea manglesioides</i>	26	7.69			1600	NL
				Mal He,		
<i>Grevillea rigida</i>	26	26.92	SW	SL	1600	NL
<i>Persoonia scabra</i>	26	34.62	SW	Mal	1600	NL
				Kwonga		
<i>Synaphea parviflora</i>	26	50.00	SW	n	500	NL
				Mal SL,		
<i>Dryandra pseudoplumosa</i>	27	25.93	SW	WL	700	NL
<i>Dryandra subpinnatifida</i>	27	0.00	SW		1500	NL
<i>Dryandra viscida</i>	27	0.00	SW	Sc	700	NL
<i>Grevillea althoferorum</i>	27	59.26	W	He	600	EN
				WL,		
<i>Grevillea latifolia</i>	27	3.70	NW	GrL	1600	NL
<i>Grevillea pilosa</i>	27	0.00			1500	NL

<i>Hakea loranthifolia</i>	27	18.52	SW	WL	1500	NL
<i>Persoonia daphnoides</i>	27	25.93	E	For	1000	NL
<i>Persoonia graminea</i>	27	18.52	SW	He, For	1700	NL
<i>Synaphea petiolaris simplex</i>	27	14.81	SW	WL	900	NL
<i>Conospermum cinereum</i>	28	7.14	SW		1800	NL
<i>Grevillea alpivaga</i>	28	100.00	SE	WL	400	NL
<i>Grevillea aspleniifolia</i>	28	82.14	E	WL	2000	NL
<i>Grevillea erectiloba</i>	28	64.29	SW,W	SL	1500	NL
<i>Grevillea exposita</i>	28	25.00	W		1000	NL
<i>Grevillea leucoclada</i>	28	96.43	W	CS	800	NL
<i>Grevillea psilantha</i>	28	92.86	NW	RH	500	NL
<i>Grevillea ramosissima hypargyrea</i>	28	60.71	SE	WL	1000	NL
<i>Grevillea rhizomatosa</i>	28	92.86	E	For	600	VU
<i>Hakea rigida</i>	28	75.00	SW	Mal SL	1300	NL
				Mal		
				Kwonga		
<i>Synaphea bifurcata</i>	28	10.71	SW	n	700	NL
<i>Banksia lullfitzii</i>	29	48.28	SW		1400	NL
<i>Conospermum leianthum</i>	29	34.48	SW		2100	NL
<i>Dryandra drummondii</i>	29	41.38	SW		2200	NL
<i>Grevillea brachystylis</i>	29	17.24			1600	NL
<i>Grevillea humilis maritima</i>	29	62.07	E	He	800	NL
<i>Grevillea manglesioides ferricola</i>	29	86.21	SW	He	700	NL
<i>Grevillea thelemanniana</i>	29	13.79	SW	Wet	1700	NL
<i>Persoonia hindii</i>	29	0.00	E		400	NL
				Kwonga		
<i>Stirlingia abrotanoides</i>	29	24.14	SW	n	2100	NL
<i>Adenanthos glabrescens exasperatus</i>	3	33.33	SW	Sandy Soil	300	NL
<i>Dryandra 23</i>	3	0.00			200	NL
<i>Dryandra plumosa denticulata</i>	3	66.67	SW	WL, Mon SL	300	NL
<i>Grevillea synapheae minyulo</i>	3	0.00	W	He	300	NL
<i>Persoonia flexifolia</i>	3	0.00	SW	He	100	NL
<i>Conospermum densiflorum</i>	30	30.00	SW		1300	NL
<i>Dryandra conferta conferta</i>	30	3.33	SW	WL, He	1900	NL
<i>Dryandra nobilis fragrans</i>	30	66.67			1100	NL
<i>Grevillea nana</i>	30	10.00			2100	NL
<i>Grevillea patentiloba</i>	30	13.33	SW		1700	NL
<i>Grevillea stenostachya</i>	30	30.00	W	Sc, Mal	2400	NL
<i>Hakea archaeoides</i>	30	40.00	E	For, RF	1400	VU
<i>Hakea baxteri</i>	30	40.00	SW	He Sc	2500	NL
				SaP He,		
<i>Isopogon inconspicuus</i>	30	30.00	SW	SL	1400	NL
<i>Adenanthos pungens</i>	4	25.00			400	NL
<i>Conospermum caeruleum debile</i>	4	25.00	SW	Wet	500	NL

<i>Conospermum filifolium australe</i>	4	25.00			400	NL
<i>Grevillea curviloba</i>	4	25.00			300	NL
<i>Hakea petiolaris petiolaris</i>	4	25.00	SW	For	300	NL
<i>Petrophile pilostyla</i>	4	0.00	SW		200	NL
<i>Dryandra fraseri oxycedra</i>	5	0.00	W	Sc	400	NL
<i>Grevillea pyramidalis longiloba</i>	5	80.00	CN	WL	300	NL
<i>Grevillea williamsonii</i>	5	40.00	SE	WL	100	EN
<i>Banksia rosserae</i>	6	0.00	W		100	NL
				Mal SL,		
<i>Grevillea dissecta</i>	6	0.00	SW	He	500	NL
<i>Grevillea synapheae latiloba</i>	6	0.00	W	WL, SL	200	NL
<i>Lambertia echinata echinata</i>	6	83.33	SW	Co	500	EN
<i>Persoonia juniperina juniperina</i>	6	33.33			700	NL
				Sandy		
<i>Petrophile trifurcata</i>	6	0.00	SW	soil	400	NL
<i>Dryandra fraseri ashbyi</i>	7	14.29	W	SL, He	700	NL
<i>Grevillea dryandroides dryandroides</i>	7	0.00	SW	He, WL	300	EN
<i>Grevillea miqueliana cincta</i>	7	0.00			200	NL
<i>Hakea acuminata</i>	7	57.14	SW	Mal, He	400	NL
<i>Hakea epiglottis milliganii</i>	7	57.14	TAS	He	600	NL
<i>Petrophile nivea</i>	7	0.00	SW		100	NL
				Kwonga		
<i>Synaphea tamminensis</i>	7	85.71	SW	n	300	NL
<i>Banksia croajingolensis</i>	8	87.50			200	NL
<i>Dryandra borealis elatior</i>	8	0.00	W	Sc, WL	600	NL
<i>Dryandra drummondii hiemalis</i>	8	37.50	SW	For, WL	400	NL
<i>Grevillea crowleyae</i>	8	0.00	SW	For	200	NL
<i>Grevillea juniperina trinervis</i>	8	37.50	E		600	NL
<i>Grevillea manglesii ornithopoda</i>	8	37.50	SW	WL, For	800	NL
<i>Lambertia echinata occidentalis</i>	8	25.00			300	EN
				Sandy		
<i>Persoonia papillosa</i>	8	87.50	W	soil	400	NL
<i>Persoonia spathulata</i>	8	25.00	SW	He	400	NL
<i>Petrophile misturata</i>	8	25.00			500	NL
<i>Synaphea petiolaris triloba</i>	8	0.00	SW	SL	600	NL
<i>Adenanthos sericeus sphalma</i>	9	77.78	SW		700	NL
<i>Dryandra serratuloides</i>	9	11.11			700	NL
<i>Grevillea christinae</i>	9	0.00	SW	WL, SL	500	NL
<i>Grevillea cravenii</i>	9	100.00	NW	WL	100	NL
<i>Persoonia brachystylis</i>	9	55.56	W	He	400	NL

Removal of extinct and poorly recorded species leaves 217581 records in ANHAT for 971 species (and subspecies). The mean number of records per species for species with greater than 30 records was 224.1, with a mean of 37.3 for the percent of records in the NRS.

Two hundred and ninety-six species of Proteaceae had 45% or greater of individual site records located within PAs (**Table 24**). Of these, 22 are classified as threatened, including one species classified as critically endangered. A larger proportion of these well-conserved species are from eastern Australia, which contrasts with the species with 30 or fewer record sites. Again, there were almost no species on this list from more inland parts of Australia. This family has few representatives in inland areas. These species come from a very wide range of vegetation associations and there are no clear patterns evident amongst them.

Table 24 Proteaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Grevillea diminuta</i>	131	131	100.00	E	SuA WL	1200	NL
<i>Lomatia tasmanica</i>	40	40	100.00	TAS		500	CE
<i>Persoonia fastigiata</i>	14	31	45.16	E	WL, For	2400 2430	NL
<i>Stenocarpus salignus</i>	150	332	45.18	NE,E,SE	RF, For Sand,	0 3070	NL
<i>Hakea dactyloides</i>	165	365	45.21	SW,E,SE	For	0	NL
<i>Telopea oreades</i>	480	1060	45.28	E,SE	RF, For	6400 1270	NL
<i>Persoonia lanceolata</i>	70	154	45.45	E,SE	He, For	0	NL
<i>Synaphea flexuosa</i>	15	33	45.45	SW	SL	900 1620	NL
<i>Hakea cycloptera</i>	205	448	45.76	CS	Mal Sc	0	NL
<i>Grevillea pterosperma</i>	372	813	45.76	SW,W,CI ,CS,WI		4620 0	NL
<i>Grevillea annulifera</i>	53	115	46.09	W	He, SL, Mal	4200	NL
<i>Grevillea kennedyana</i>	24	52	46.15	CI		2300	VU
<i>Banksia spinulosa cunninghamii</i>	592	1282	46.18	E,SE	For, WL	2300 0	NL
<i>Banksia spinulosa spinulosa</i>	586	1268	46.21	NE,E,,SE	For, WL	3360 0	NL
<i>Grevillea reptans</i>	55	119	46.22	E	WL	2800	NL

<i>Synaphea reticulata</i>	19	41	46.34	SW		2700	NL
					For, Sc	1160	
<i>Hakea carinata</i>	544	1171	46.46	CS	He	0	NL
					He, Mal	4500	
<i>Banksia ornata</i>	860	1843	46.66	SE,CS	SL, WL	0	NL
<i>Persoonia oxycoccoides</i>	35	75	46.67	E,SE	He, For	4100	NL
<i>Petrophile phyllicoides</i>	43	92	46.74	SW	SL, He, Mal	5400	NL
<i>Hakea oleifolia</i>	58	124	46.77	SW	For	6900	NL
<i>Hakea clavata</i>	39	83	46.99	SW	Granite	3800	NL
<i>Hakea teretifolia hirsuta</i>	71	151	47.02	SE,TAS	He	1170 0	NL
<i>Conospermum toddii</i>	16	34	47.06	SW,WI		2100	EN
<i>Grevillea lavandulacea rogersii</i>	24	51	47.06	CS	For, WL	2400	NL
<i>Symphionema montanum</i>	42	89	47.19	E	He, For, Sand	2200	NL
<i>Hakea lasiantha</i>	34	72	47.22	SW	Mal Sc	4100	NL
					Mal	1080	
<i>Hakea nitida</i>	77	163	47.24	SW	WL, He	0	NL
<i>Conospermum ericifolium</i>	19	40	47.50	E		4000	NL
<i>Isopogon dawsonii</i>	50	105	47.62	E	For	5100	NL
<i>Austromuellera trinervia</i>	61	128	47.66	NE	RF	1500	NL
<i>Isopogon prostratus</i>	61	128	47.66	E,SE	He, For	4200	NL
<i>Banksia integrifolia monticola</i>	62	130	47.69	E,SE	For	8700	NL
<i>Persoonia oleoides</i>	62	130	47.69	E	For	7800	NL
<i>Grevillea tripartita</i>	21	44	47.73			3400	NL
<i>Hakea laevipes graniticola</i>	58	121	47.93	E	RH, For	3700 1380	NL
<i>Banksia gardneri</i>	251	523	47.99	SW	SL, WL	0	NL
<i>Dryandra speciosa speciosa</i>	15	31	48.39	W	He	1100	NL
<i>Grevillea zygaloba</i>	16	33	48.48	SW	SL, WL	1300	NL
					SuA		
<i>Hakea microcarpa</i>	415	854	48.59	E,SE,TAS	Bogs, WL	4010 0	NL
<i>Petrophile divaricata</i>	89	183	48.63	SW	For, WL, He	7100	NL
					Kwong		
<i>Synaphea tripartita</i>	20	41	48.78	SW	an	1700	NL
<i>Persoonia hexagona</i>	21	43	48.84	SW,W	WL	2400	NL
<i>Dryandra erythrocephala</i>	22	45	48.89	SW		2400	NL

<i>Grevillea decurrens</i>	732	1496	48.93	NW,CN	WL	4010	NL
					He,	0	
<i>Persoonia cuspidifera</i>	25	51	49.02	E	Sand	6600	NL
<i>Hakea drupacea</i>	51	104	49.04	SW	He, SL	5400	NL
<i>Dryandra formosa</i>	73	148	49.32	SW	He, For	6000	NL
					WL,		
<i>Grevillea macleayana</i>	41	83	49.40	E	He, For	1400	NL
					Kwong		
					an, WL,		
<i>Lambertia uniflora</i>	57	115	49.57	SW	SL	4100	NL
<i>Stenocarpus</i>						2330	
<i>acacioides</i>	252	507	49.70	NW,CN	WL	0	NL
						5060	
<i>Banksia integrifolia</i>	380	762	49.87	E,SE		0	NL
<i>Petrophile shirleyae</i>	108	216	50.00	E	He, For	5700	NL
<i>Conospermum</i>							
<i>ellipticum</i>	20	40	50.00	E		2300	NL
<i>Grevillea rivularis</i>	23	46	50.00	E	Sand	300	EN
<i>Hakea constablei</i>	25	50	50.00	E	For, RH	1200	NL
					WL,		
					For, Sc,		
<i>Hakea propinqua</i>	27	54	50.00	E	SL	3600	NL
<i>Grevillea georgeana</i>	28	56	50.00	SW,W	SL	2400	NL
<i>Grevillea parviflora</i>	30	60	50.00	E		3900	NL
<i>Grevillea rubicunda</i>	33	66	50.00	CN		1600	NL
<i>Grevillea irrasa</i>	38	76	50.00			1300	NL
<i>Grevillea myosodes</i>	40	80	50.00	NW,CN	WL, SL	2500	NL
					He, For,		
<i>Isopogon anethifolius</i>	77	153	50.33	E,SE	WL	8600	NL
<i>Helicia</i>							
<i>lamingtoniana</i>	58	115	50.43	NE	RF	2000	NL
<i>Dryandra</i>							
<i>xylothemelia</i>	43	85	50.59	SW		4500	NL
						2220	
<i>Hakea teretifolia</i>	78	154	50.65	E,SE,TAS		0	NL
<i>Grevillea acerata</i>	23	45	51.11	E	For, He	900	NL
					For,		
<i>Grevillea evansiana</i>	65	127	51.18	E	WL	3200	VU
<i>Banksia praemorsa</i>	19	37	51.35	SW		2000	NL
<i>Grevillea parvula</i>	75	146	51.37	E,SE	For	3300	NL
<i>Petrophile prostrata</i>	17	33	51.52	SW		1500	NL
<i>Synaphea grandis</i>	17	33	51.52	SW	WL	1000	NL
					Rip Sc,		
					WL,	2390	
<i>Grevillea lanigera</i>	387	751	51.53	E,SE	For	0	NL

<i>Grevillea rogersoniana</i>	16	31	51.61	W	WL, Sc, D	2000	NL
<i>Grevillea subtiliflora</i>	16	31	51.61	W	SL	900	NL
<i>Dryandra stricta</i>	46	89	51.69	SW,W	He	3700	NL
<i>Grevillea monslacana</i>	27	52	51.92	SE	For, WL	500	NL
<i>Grevillea beadleana</i>	25	48	52.08	E		2000	EN
<i>Grevillea wittweri</i>	23	44	52.27	SW	Mal SL, SL	2100	NL
<i>Dryandra serra</i>	54	103	52.43	SW	WL, For, Mal He	3600	NL
<i>Dryandra subulata</i>	32	61	52.46	SW	He	1400	NL
<i>Persoonia media</i>	211	400	52.75	NE,E	For, RF He, Sc	0 1100	NL
<i>Grevillea aspera</i>	254	481	52.81	E,CS	WL	0	NL
<i>Grevillea sarissa umbellifera</i>	18	34	52.94	CS	SL	1900	NL
<i>Adenanthos macropodianus</i>	92	173	53.18	CS	Sandy Soil	4400	NL
<i>Dryandra falcata</i>	41	77	53.25	SW	He Sandy	4000	NL
<i>Petrophile multisecta</i>	177	331	53.47	CS	soil	4500	NL
<i>Grevillea pauciflora pauciflora</i>	70	130	53.85	CS,Kanga roo Is		8600	NL
<i>Banksia conferta conferta</i>	33	61	54.10	E	Sc	1200	NL
<i>Adenanthos pungens pungens</i>	25	46	54.35	SW	D	2300	VU
<i>Banksia micrantha</i>	74	136	54.41	SW,W		3200	NL
<i>Hakea mitchellii</i>	843	1544	54.60	SE,CS	Mal, Mal He	5380 0	NL
<i>Banksia lindleyana</i>	29	53	54.72	W	SL	2900	NL
<i>Hakea brachyptera</i>	29	53	54.72	SW	Sandy soil	2200	NL
<i>Strangea stenocarpoides</i>	23	42	54.76	SW	For, WL	3000	NL
<i>Persoonia rigida</i>	208	379	54.88	E,SE	WL, For	1870 0	NL
<i>Hakea florida</i>	45	82	54.88	SW	WL	4300	NL
<i>Dryandra kippistiana paenepeccata</i>	28	51	54.90			2500	NL
<i>Dryandra tortifolia</i>	33	60	55.00	SW,W	He	1800	NL
<i>Darlingia darlingiana</i>	132	239	55.23	NE,E		6900	NL
<i>Hakea rostrata</i>	1186	2146	55.27	SE,CS	WL, For	3360 0	NL
<i>Grevillea baueri</i>	82	148	55.41	E		3600	NL

<i>Adenanthos cuneatus</i>	147	265	55.47	SW,W	Deep sand	1170	NL
<i>Grevillea costata</i>	30	54	55.56	W		2000	NL
<i>Hakea maconochieana</i>	35	63	55.56	EI	Stony clay soil	1200	VU
<i>Persoonia oblongata</i>	35	63	55.56	E	WL, For, Sand	4400	NL
<i>Grevillea alpina</i>	925	1664	55.59	E,SE	For, WL, He, Mal	2840	NL
<i>Conospermum petiolare</i>	29	52	55.77	SW		3100	NL
<i>Grevillea miqueliana</i>	29	52	55.77	SE		2200	NL
<i>Persoonia chamaepeuce</i>	381	679	56.11	E,SE	WL, For	2580	NL
<i>Lomatia fraxinifolia</i>	99	176	56.25	NE	RF	4100	NL
<i>Dryandra platycarpa</i>	53	94	56.38	SW,W	He Mal Kwong an	3600	NL
<i>Synaphea cervifolia</i>	22	39	56.41	SW		2000	NL
<i>Hakea epiglottis</i>	158	280	56.43	TAS		1800	NL
<i>Grevillea miniata</i>	56	99	56.57	NW,CN	SL, WL	3800	NL
<i>Banksia meisneri ascendens</i>	49	86	56.98	SW	Sc, WL	1400	NL
<i>Grevillea brachystylis australis</i>	28	49	57.14	SW	He	700	VU
<i>Petrophile crispata</i>	40	70	57.14	SW	SL, WL	4900	NL
<i>Banksia ericifolia</i>	418	730	57.26	E		1970	NL
<i>Persoonia curvifolia</i>	35	61	57.38	E	For, WL, Sand	7300	NL
<i>Helicia nortoniana</i>	230	399	57.64	NE,E	RF	8400	NL
<i>Synaphea oligantha</i>	22	38	57.89	SW	Kwong an, Mal	2800	NL
<i>Grevillea patulifolia</i>	73	126	57.94	E,SE	He, WL	3000	NL
<i>Cardwellia sublimis</i>	153	264	57.95	NE,E	RF	6900	NL
<i>Grevillea thyrsoides pustulata</i>	36	62	58.06	W	He, Mal	1700	NL
<i>Persoonia juniperina</i>	1020	1756	58.09	SE,CS,T AS	He, For	7060	NL
<i>Buckinghamia celsissima</i>	117	201	58.21	NE,E	RF	5100	NL
<i>Alloxylon pinnatum</i>	62	106	58.49	E	RF, For	3200	NL
<i>Triunia youngiana</i>	124	212	58.49	E	RF	4500	NL

<i>Grevillea christineae</i>	31	53	58.49	SW		1800	EN
					WL,	1030	
<i>Persoonia silvatica</i>	370	629	58.82	E,SE	For	0	NL
<i>Banksia quercifolia</i>	154	261	59.00	SW	SL, WL	8400	NL
<i>Grevillea stenomera</i>	36	61	59.02	W	SL, He	2100	NL
<i>Isopogon alcicornis</i>	29	49	59.18	SW	SL	1800	NL
<i>Isopogon</i>				SW,SE,C	For,	5090	
<i>ceratophyllus</i>	1309	2205	59.37	S	Wl, He	0	NL
						1060	
<i>Grevillea pauciflora</i>	97	161	60.25	SW,CS		0	NL
					WL,		
<i>Banksia aquilonia</i>	162	268	60.45	NE,E	For	6700	NL
<i>Dryandra</i>							
<i>serratuloides perissa</i>	23	38	60.53	W	Mal He	1500	VU
<i>Banksia lemanniana</i>	79	130	60.77	SW	SL, WL	3400	NL
						1110	
<i>Banksia paludosa</i>	335	547	61.24	E,SE		0	NL
<i>Grevillea juniperina</i>							
<i>fortis</i>	19	31	61.29			700	NL
					For,		
					Sand,		
<i>Grevillea johnsonii</i>	43	70	61.43	E,SE	RH	1900	NL
<i>Opisthiolepis</i>							
<i>heterophylla</i>	126	205	61.46	NE	RF	4100	NL
					Al,		
					SuA,		
					He,		
<i>Orites lancifolius</i>	420	679	61.86	SE	GrL	6600	NL
<i>Musgravea</i>							
<i>heterophylla</i>	88	142	61.97	NE		3200	NL
					He,		
<i>Symphionema</i>					WL,		
<i>paludosum</i>	72	116	62.07	E,SE	For	5000	NL
<i>Dryandra pteridifolia</i>							
<i>vernalis</i>	23	37	62.16	W	WL	1600	NL
<i>Athertonia</i>							
<i>diversifolia</i>	79	127	62.20	NE,E	RF	2200	NL
<i>Banksia canei</i>	198	317	62.46	SW,SE	WL, He	7200	NL
<i>Grevillea banyabba</i>	20	32	62.50	E	For	1000	VU
<i>Dryandra rufistylis</i>	22	35	62.86	SW	He, WL	1800	NL
<i>Grevillea brevifolia</i>	44	70	62.86	SE		2000	NL
<i>Persoonia muelleri</i>					Al He,		
<i>muelleri</i>	53	84	63.10	TAS	For	4100	NL
<i>Gevuina bleasdalei</i>	126	199	63.32	NE	RF	4100	NL
<i>Banksia spinulosa</i>							
<i>neoanglica</i>	38	60	63.33	E	He, WL	2300	NL
					Sand,		
<i>Grevillea formosa</i>	63	98	64.29	CN	RH	2800	NL

<i>Alloxylon wickhamii</i>	92	143	64.34	NE	RF	2700	NL
<i>Banksia aculeata</i>	24	37	64.86	SW	SL	900	NL
<i>Synaphea divaricata</i>	24	37	64.86	SW	Kwong an He, WL, Hrb	2200 1940 0	NL
<i>Grevillea australis</i>	725	1115	65.02	SE,TAS			NL
<i>Dryandra lindleyana pollostata</i>	43	66	65.15	W	WL, SL	4400	NL
<i>Telopea mongaensis</i>	66	101	65.35	E	RF, For	2200	NL
<i>Grevillea quinquenervis</i>	194	296	65.54	CS	WL He, Sand	2800	NL
<i>Hakea longiflora</i>	21	32	65.63	W	He	2100	NL
<i>Hakea neurophylla</i>	21	32	65.63	SW	He	1600	NL
<i>Grevillea viridiflava</i>	44	67	65.67	E	For	1200	NL
<i>Persoonia asperula</i>	67	102	65.69	E,SE	He, For	2900	NL
<i>Conospermum hookeri</i>	23	35	65.71			2400	NL
<i>Macadamia whelanii</i>	71	107	66.36	NE	RF	2400	NL
<i>Lambertia orbifolia</i>	24	36	66.67	SW	For	900	EN
<i>Stenocarpus reticulatus</i>	79	118	66.95	NE	RF	2000 1510 0	NL
<i>Orites excelsus</i>	298	444	67.12	NE,E	RF		NL
<i>Dryandra sclerophylla</i>	50	74	67.57	SW	He	2800	NL
<i>Banksia laevigata laevigata</i>	84	124	67.74	SW	SL, WL	3900	NL
<i>Hollandaea sayeriana</i>	77	113	68.14	NE		1900	NL
<i>Hakea aenigma</i>	75	110	68.18	CS	Mal He	1600	NL
<i>Hakea tuberculata</i>	54	79	68.35	SW	Wet	3500	NL
<i>Conospermum coerulescens dorrieni</i>	26	38	68.42			1500	NL
<i>Hakea macraeana</i>	126	184	68.48	E,SE	For Mon, SuA,	6500 1930 0	NL
<i>Telopea truncata</i>	187	273	68.50	TAS	For, He For,	1230 0	NL
<i>Hakea repullulans</i>	264	385	68.57	SE,CS	Mal He	0	NL
<i>Grevillea victoriae</i>	120	174	68.97	E,SE		5500	NL
<i>Banksia conferta penicillata</i>	60	87	68.97	E	For	2600	NL
<i>Conospermum sphacelatum</i>	72	104	69.23	E	Sand	2600	NL
<i>Lomatia arborescens</i>	115	166	69.28	E	RF	6300	NL
<i>Hakea ambigua</i>	70	101	69.31	SW	WL He	2900	NL

<i>Lomatia polymorpha</i>	156	225	69.33	TAS		1400	
						0	NL
<i>Agastachys odorata</i>	122	175	69.71	TAS	RF,	1260	
					Wet	0	NL
<i>Grevillea dunlopii</i>	37	53	69.81	CN	Sand	900	NL
<i>Grevillea longicuspis</i>	225	321	70.09	CN	SW	1600	NL
<i>Grevillea rhyolitica</i>	33	47	70.21	E	Mon	800	NL
<i>Grevillea</i>							
<i>gariwerdensis</i>	26	37	70.27	SE	He	1100	NL
<i>Adenanthos</i>							
<i>cacomorphus</i>	38	54	70.37	SW		1400	NL
<i>Lambertia multiflora</i>							
<i>darlingensis</i>	31	44	70.45	SW	Kwong an, WL	900	NL
<i>Conospermum</i>							
<i>burgessiorum</i>	98	139	70.50	E		1500	NL
						1020	
<i>Grevillea aquifolium</i>	481	682	70.53	SE,CS	He, Mal	0	NL
<i>Carnarvonia</i>							
<i>araliifolia</i>	113	160	70.63			5200	NL
<i>Musgravea</i>							
<i>stenostachya</i>	141	199	70.85	NE		3200	NL
						2340	
<i>Cenarrhenes nitida</i>	190	268	70.90	TAS	Sc, RF	0	NL
<i>Adenanthos forrestii</i>	49	69	71.01	SW	D	3200	NL
<i>Synaphea odocoileops</i>	32	45	71.11	SW	Kwong an	1200	NL
<i>Grevillea byrnesii</i>	84	118	71.19	CN	SL, WL, D	3300	NL
						1950	
<i>Hakea lissosperma</i>	213	298	71.48	E,SE,TAS	SuA	0	NL
<i>Grevillea infecunda</i>	33	46	71.74	SE	Sc	900	VU
<i>Persoonia iogyne</i>	51	71	71.83	E,W	For	1300	NL
<i>Adenanthos</i>							
<i>glabrescens</i>	23	32	71.88			1100	NL
<i>Isopogon baxteri</i>	46	64	71.88	SW	SL, Mal He	2400	NL
<i>Adenanthos</i>							
<i>oreophilus</i>	101	139	72.66	SW		2100	NL
<i>Grevillea olivacea</i>	24	33	72.73	SW,W	SL	1400	NL
<i>Macadamia</i>							
<i>claudiensis</i>	32	44	72.73	NE	RF	700	VU
<i>Grevillea scabra</i>	48	65	73.85	SW	For, WL	2900	NL
<i>Grevillea polyacida</i>	51	69	73.91	CN	WL, Sand	1800	NL
<i>Helicia blakei</i>	40	54	74.07	NE	RF	800	NL
<i>Placospermum</i>							
<i>coriaceum</i>	122	164	74.39	NE	RF	3100	NL

<i>Hakea</i>					Slopes		
<i>grammatophylla</i>	143	192	74.48	CI	& hillside	3000	NL
<i>Grevillea dimorpha</i>	104	138	75.36	SE	s WL, For	2200	NL
<i>Hakea megadenia</i>	43	57	75.44	TAS	Sc, For	3100	NL
<i>Banksia tricuspis</i>	31	41	75.61	SW	SL He, Mal	700	NL
<i>Petrophile anceps</i>	25	33	75.76	SW	Sc	1600	NL
<i>Neorites kevedianus</i>	88	116	75.86	NE	Vfor	2000	NL
<i>Carnarvonia</i>							
<i>araliifolia montana</i>	92	121	76.03	NE	RF WL, For	3000	NL
<i>Persoonia subvelutina</i>	106	139	76.26	E,SE	For	3500	NL
<i>Synaphea decumbens</i>	29	38	76.32	SW	For	1300	NL
<i>Banksia verticillata</i>	71	93	76.34	SW	SL	2200	VU
<i>Helicia recurva</i>	30	39	76.92	NE	For	700	NL
<i>Hicksbeachia pilosa</i>	47	61	77.05	NE	RF	1200	NL
<i>Triunia erythrocarpa</i>	140	181	77.35	NE	RF	2300	NL
<i>Orites diversifolius</i>	124	160	77.50	TAS	RF	9700	NL
<i>Dryandra columnaris</i>	53	68	77.94	SW	WL, He	2500	NL
<i>Grevillea aurea</i>	69	88	78.41	CN	He, SL	1200	NL
<i>Persoonia mollis</i>					For,		
<i>maxima</i>	26	33	78.79	E	Sand	300	EN
<i>Synaphea</i>							
<i>boyaginensis</i>	26	33	78.79	SW	WL	1200	NL
<i>Grevillea tetrapleura</i>	49	62	79.03	SW	SL	2100	NL
<i>Grevillea willisii</i>	67	84	79.76	SE	SL He, WL, For	1270 0	NL
<i>Orites revolutus</i>	219	274	79.93	TAS	Deep sand	1900	NL
<i>Adenanthos dobsonii</i>	36	45	80.00	SW	Sc He	1400	NL
<i>Hakea victoria</i>	37	46	80.43	SW	Al He, Sal He, For, Al		
<i>Bellenden montana</i>	236	293	80.55	TAS	Hrb	9900	NL
<i>Macadamia jansenii</i>	30	37	81.08			600	EN
<i>Persoonia volcanica</i>	99	122	81.15	E	For, RF Kwong	2000	NL
<i>Lambertia ericifolia</i>	82	101	81.19	SW,W	an Cliff	2200	NL
<i>Hakea standleyensis</i>	74	91	81.32	CI	faces	1400	NL
<i>Persoonia acuminata</i>	35	42	83.33	E	He, For	2100	NL

<i>Conospermum mitchellii</i>	276	331	83.38	SE		5400	NL
<i>Persoonia brevifolia</i>	44	52	84.62	E,SE	For	1200	NL
<i>Catalepidia heyana</i>	149	176	84.66	NE	RF	2000	NL
<i>Grevillea victoriae nivalis</i>	83	98	84.69	SE	Mon For, WL	5600	NL
<i>Dryandra foliolata</i>	28	33	84.85	SW	SL	900	NL
<i>Sphalmium racemosum</i>	141	166	84.94	NE	RF	1300	NL
<i>Grevillea dryandri dasycarpa</i>	395	462	85.50	CN	WL	8200	NL
<i>Banksia oreophila</i>	77	90	85.56	SW	SL	1900	NL
<i>Adenanthos dobagii</i>	41	47	87.23	SW		1400	EN
<i>Conospermum quadripetalum</i>	42	48	87.50	SW		500	NL
<i>Grevillea oxyantha</i>	184	210	87.62	SE		3400	NL
<i>Hakea decurrens platytaenia</i>	29	33	87.88		He	1500	NL
<i>Orites milliganii</i>	58	66	87.88	TAS	He	3100	NL
<i>Dryandra ferruginea tutanningensis</i>	46	52	88.46	SW	Sc	3100	NL
<i>Grevillea confertifolia</i>	70	79	88.61	SE	WL	2000	NL
<i>Persoonia gunnii</i>	143	161	88.82	TAS	Al He, SuA For, RF	1020 0	NL
<i>Grevillea muelleri</i>	33	37	89.19	SW	For, SL	1400	NL
<i>Buckinghamia ferruginiflora</i>	59	66	89.39	NE	RF, For	800	NL
<i>Stenocarpus davallioides</i>	95	106	89.62	NE	RF	1000	NL
<i>Adenanthos filifolius</i>	84	93	90.32	SW	RH, Sc Sc, WL,	3100	NL
<i>Grevillea microstegia</i>	29	32	90.63	SE	Sand	400	NL
<i>Grevillea papillosa</i>	252	277	90.97	SW	He	3600	NL
<i>Adenanthos ellipticus</i>	94	103	91.26	SW	RH	1100	VU
<i>Grevillea jephcottii</i>	85	93	91.40	E,SE	For	1100	NL
<i>Dryandra sessilis cordata</i>	76	83	91.57	SW	Co He	2200	NL
<i>Stenocarpus cryptocarpus</i>	76	83	91.57	NE	RF	1300	NL
<i>Grevillea glabrescens</i>	79	86	91.86	CN	SL	1600	NL
<i>Grevillea sparsiflora</i>	34	37	91.89	SW	WL	1900	NL
<i>Triunia montana</i>	176	191	92.15	NE	Mon RF	1400	NL
<i>Isopogon latifolius</i>	60	65	92.31	SW	SL, Mal WL	1100	NL

<i>Dryandra aurantia</i>	37	40	92.50	SW		900	EN
<i>Lambertia rariflora</i> <i>lutea</i>	37	40	92.50	SW		1500	NL
<i>Dryandra concinna</i>	50	54	92.59	SW	SL, He	1100	NL
<i>Grevillea fuscolutea</i>	38	41	92.68	SW	He	500	NL
<i>Helicia lewisensis</i>	40	43	93.02	NE	RF	800	NL
<i>Orites acicularis</i>	162	174	93.10	TAS	He, Hrb WL, Wet	6200	NL
<i>Synaphea intricata</i>	46	49	93.88	SW		1200	NL
<i>Megahertzia</i> <i>amplexicaulis</i>	32	34	94.12	NE	RF	600	NL
<i>Telopea aspera</i>	33	35	94.29	E	For	400	NL
<i>Grevillea treueriana</i>	37	39	94.87	CS	RH	500	VU
<i>Orites megacarpus</i>	37	39	94.87	NE	Vfor	300	NL
<i>Conospermum</i> <i>spectabile</i>	41	43	95.35	SW		1400	NL
<i>Banksia plagiocarpa</i>	62	65	95.38	E	SL	1000	NL
<i>Helicia grayi</i>	86	90	95.56	NE	RF	600	NL
<i>Banksia saxicola</i>	215	223	96.41	SE	Sc, WL, For RH, Sandy soil	2100	NL
<i>Adenanthos venosus</i>	111	115	96.52	SW		1200	NL
<i>Persoonia muelleri</i> <i>densifolia</i>	31	32	96.88	TAS	He, Sc	2400	NL
<i>Grevillea brevis</i>	104	107	97.20	CN	He, SL	1900	NL
<i>Adenanthos</i> <i>labillardierei</i>	104	106	98.11	SW		2900	NL
<i>Eidothea</i> <i>zoxylocarya</i>	52	53	98.11	NE	RF	500	NL
<i>Hakea yalgorup</i> (b keighery and n gibson 897)	53	54	98.15			3800	NL
<i>Banksia solandri</i>	100	101	99.01	SW	WL	1300	NL
<i>Dryandra longifolia</i> <i>longifolia</i>	216	217	99.54	SW	Sc	4900	NL

Sixty-three species had less than 10% of their ANHAT records located within PAs (**Table 25**). Twelve of the 63 species are classified as threatened, including three endangered species. These species come from around coastal Australia, but there are relatively more species from Western Australia, and particularly south-west Western Australia, than anywhere else. There may also be a slight trend for species of Proteaceae in this category to be found in woodlands, although many different vegetation types are represented.

Table 25 Proteaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Grevillea benthamiana</i>	0	127	0.00	CN	WL	1900	NL
<i>Grevillea glossadenia</i>	0	180	0.00	NE	WL, For	2000	VU
<i>Grevillea scapigera</i>	0	34	0.00	SW	He	1700	EN
<i>Grevillea calliantha</i>	0	40	0.00	SW	He	600	EN
<i>Grevillea scortechinii</i> <i>scortechinii</i>	0	41	0.00	E	WL	600	VU
<i>Synaphea stenoloba</i>	0	44	0.00	SW	He Sedge SL, Mal	700	NL
<i>Grevillea fulgens</i>	0	45	0.00	SW	He	800	NL
<i>Grevillea versicolor</i>	0	575	0.00	CN	For	400	NL
<i>Hakea purpurea</i>	2	246	0.81	E,EI	WL, He	6900	NL
<i>Conospermum undulatum</i>	1	80	1.25	SW		600	VU
<i>Grevillea velutinella</i>	1	64	1.56	NW	SL,WL	3100	NL
<i>Conospermum huegelii</i>	9	90	10.00	SW	Wet	3400	NL
<i>Hakea trineura</i>	2	99	2.02	E	WL	2300	VU
<i>Grevillea celata</i>	2	93	2.15	SE	For	900	VU
<i>Grevillea tetragonoloba</i>	1	46	2.17	SW NW,CN,	WL,SL	2600	NL
<i>Hakea macrocarpa</i>	14	519	2.70	W,CI	SaP, WL	24000	NL
<i>Synaphea recurva</i>	1	33	3.03	W	Kwongan	1200	NL
<i>Dryandra acanthopoda</i>	1	32	3.13	SW		1200	NL
<i>Dryandra fraseri fraseri</i>	2	59	3.39	W	He, WL	5300	NL
<i>Grevillea parviflora parviflora</i>	3	77	3.90	E	He, WL	3400	VU
<i>Grevillea wilkinsonii</i>	2	51	3.92	E	For	600	EN
<i>Stenocarpus angustifolius</i>	3	71	4.23	E	WL, Rip	1600	NL
<i>Grevillea parallelinervis</i>	5	113	4.42	CS	SL, RH	2100	NL
<i>Persoonia stricta</i>	3	67	4.48	SW,W	WL	3700	NL
<i>Grevillea iaspicula</i>	2	43	4.65	E		600	EN
<i>Petrophile wonganensis</i>	2	42	4.76	SW	SL, He, Sandy Soil	1700	NL
<i>Grevillea insignis</i>	3	63	4.76	SW		3000	NL
<i>Dryandra hewardiana</i>	4	84	4.76	SW	WL, He	3500	NL
<i>Persoonia bargoensis</i>	2	41	4.88	E	WL For	600	VU

<i>Grevillea florida</i>	2	40	5.00	SW	He, SL, WL	1700	NL
<i>Grevillea obtusifolia</i>	2	40	5.00	SW		1700	NL
<i>Petrophile incurvata</i>	3	60	5.00	SW,W	SL	2900	NL
<i>Synaphea otio stigma</i>	2	38	5.26	SW	For	1300	NL
<i>Franklandia triaristata</i>	2	36	5.56	SW	WL	1800	NL
<i>Adenanthos drummondii</i>	5	89	5.62	SW,W	Kwongan	4100	NL
<i>Grevillea inconspicua</i>	3	53	5.66	W	SL	2700	NL
<i>Grevillea deflexa</i>	10	169	5.92	W,WI	Mul	11000	NL
<i>Grevillea triloba</i>	5	78	6.41	W	He, WL	1700	NL
<i>Grevillea candelabroides</i>	5	77	6.49	W	He, SL	4400	NL
<i>Dryandra polycephala</i>	6	92	6.52	SW	WL	3500	NL
<i>Grevillea yorkkrakinensis</i>	7	99	7.07	SW,W	SL, Mal Sc	5700	NL
<i>Grevillea muricata</i>	13	182	7.14	CS	WL, SL	2400	NL
<i>Grevillea eriobotrya</i>	4	55	7.27	SW	SL	2400	NL
<i>Hakea chordophylla</i>	34	454	7.49	NW,CN,E ,EI,CI	GrL, SL, WL	22100	NL
<i>Grevillea cunninghamii</i>	7	92	7.61	NW		3100	NL
<i>Grevillea extorris</i>	6	78	7.69	W	WL, SL, RH	5700	NL
<i>Dryandra merriden</i>	3	37	8.11			3100	NL
<i>Hakea preissii</i>	35	417	8.39	SW,W,WI	SL	28200	NL
<i>Banksia benthamiana</i>	7	83	8.43	SW,W	SL	2700	NL
<i>Grevillea juniperina</i>	9	106	8.49	E,SE		4100	NL
<i>Grevillea oligomera</i>	3	35	8.57	WI	SL	1600	NL
<i>Grevillea granulosa</i>	6	70	8.57	W	SL, WL, Mal Sc	4000	NL
<i>Grevillea dielsiana</i>	10	115	8.70	W	He, SL	5100	NL
<i>Grevillea parviflora supplicans</i>	3	34	8.82	E	WL, Sand	600	NL
<i>Grevillea petrophiloides</i>	8	90	8.89	SW		6100	NL
<i>Banksia goodii</i>	4	44	9.09	SW	For, WL	1200	VU
<i>Petrophile aspera</i>	4	44	9.09	SW	WL, He, SL	2400	NL
<i>Hakea verrucosa</i>	5	55	9.09	SW	Mal Sc, He	2700	NL
<i>Grevillea hockingsii</i>	7	77	9.09	E	WL, For	1000	NL
<i>Banksia meisneri</i>	6	64	9.38	SW		3100	NL
<i>Grevillea drummondii</i>	5	53	9.43	SW	WL, SL	1700	NL
<i>Grevillea armigera</i>	9	95	9.47	SW	He, SL	2800	NL

A total of 11 Proteaceae species had record sites in more than 100 separate PAs (**Table 26**). Most species in this list had over 1000 records, with a mean of 2474.4 records per species. No species are classified as threatened.

Table 26 Proteaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Hakea sericea</i>	1680	101	68	NL
<i>Banksia integrifolia</i>	762	107	81	NL
<i>Banksia serrata</i>	2932	107	81	NL
<i>Grevillea ilicifolia</i>	952	111	57	NL
<i>Grevillea huegelii</i>	1438	113	75	NL
<i>Hakea mitchellii</i>	1544	129	68	NL
<i>Banksia ornata</i>	1843	134	46	NL
<i>Hakea rostrata</i>	2146	142	42	NL
<i>Persoonia juniperina</i>	1756	145	89	NL
<i>Isopogon ceratophyllus</i>	2205	174	69	NL
<i>Banksia marginata</i>	9960	471	209	NL

A total of 368 species had records in five or fewer PAs (

Table 27). Fifty-two species are listed as threatened, including one species classified as critically endangered and 22 classified as endangered. The majority of species in this list have fewer than 100 individual site records, and no species had more than 200 site records.

Table 27 Proteaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Grevillea scapigera</i>	34	0	EN
<i>Grevillea calliantha</i>	40	0	EN
<i>Grevillea scortechinii</i>	41	0	VU
<i>Synaphea stenoloba</i>	44	0	NL
<i>Grevillea fulgens</i>	45	0	NL
<i>Grevillea benthamiana</i>	127	0	NL
<i>Grevillea glossadenia</i>	180	0	VU
<i>Grevillea versicolor</i>	575	0	NL
<i>Dryandra lepidorhiza</i>	31	1	NL
<i>Dryandra acanthopoda</i>	32	1	NL
<i>Adenanthos linearis</i>	33	1	NL

<i>Dryandra foliolata</i>	33	1	NL
<i>Synaphea recurva</i>	33	1	NL
<i>Grevillea obtusiflora</i>	33	1	EN
<i>Grevillea parviflora</i>			
<i>supplicans</i>	34	1	NL
<i>Grevillea oligomera</i>	35	1	NL
<i>Grevillea wiradjuri</i>	35	1	NL
<i>Lambertia orbifolia</i>	36	1	EN
<i>Grevillea intricata</i>	37	1	NL
<i>Macadamia janseni</i>	37	1	EN
<i>Synaphea otio stigma</i>	38	1	NL
<i>Conospermum coerulescens</i>			
<i>dorrienii</i>	38	1	NL
<i>Grevillea montis-cole montis-cole</i>	40	1	NL
<i>Grevillea flexuosa</i>	40	1	VU
<i>Grevillea florida</i>	40	1	NL
<i>Grevillea bronwenae</i>	40	1	NL
<i>Grevillea fuscolutea</i>	41	1	NL
<i>Petrophile wonganensis</i>	42	1	NL
<i>Grevillea leptopoda</i>	42	1	NL
<i>Grevillea iaspicula</i>	43	1	EN
<i>Conospermum spectabile</i>	43	1	NL
<i>Lambertia multiflora</i>			
<i>darlingensis</i>	44	1	NL
<i>Conospermum polycephalum</i>	45	1	NL
<i>Grevillea rivularis</i>	46	1	EN
<i>Hakea victoria</i>	46	1	NL
<i>Grevillea tetragonoloba</i>	46	1	NL
<i>Grevillea rhyolitica</i>	47	1	NL
<i>Grevillea commutata</i>	50	1	NL
<i>Grevillea wilkinsonii</i>	51	1	EN
<i>Grevillea monslacana</i>	52	1	NL
<i>Grevillea kennedyana</i>	52	1	VU
<i>Grevillea inconspicua</i>	53	1	NL
<i>Grevillea dunlopii</i>	53	1	NL
<i>Hakea obtusa</i>	53	1	NL
<i>Grevillea costata</i>	54	1	NL
<i>Dryandra fraseri fraseri</i>	59	1	NL
<i>Persoonia tropica</i>	60	1	NL
<i>Grevillea velutinella</i>	64	1	NL
<i>Isopogon latifolius</i>	65	1	NL
<i>Grevillea rubicunda</i>	66	1	NL
<i>Grevillea polyacida</i>	69	1	NL
<i>Stenocarpus angustifolius</i>	71	1	NL
<i>Grevillea hockingsii</i>	77	1	NL
<i>Conospermum undulatum</i>	80	1	VU
<i>Grevillea willisii</i>	84	1	NL
<i>Grevillea aurea</i>	88	1	NL
<i>Grevillea cunninghamii</i>	92	1	NL

<i>Grevillea celata</i>	93	1	VU
<i>Grevillea formosa</i>	98	1	NL
<i>Banksia solandri</i>	101	1	NL
<i>Adenanthos labillardierei</i>	106	1	NL
<i>Grevillea parallelinervis</i>	113	1	NL
<i>Grevillea pluricaulis</i>	178	1	NL
<i>Grevillea subtiliflora</i>	31	2	NL
<i>Grevillea microstegia</i>	32	2	NL
<i>Grevillea phillipsiana</i>	33	2	NL
<i>Petrophile prostrata</i>	33	2	NL
<i>Dryandra proteoides</i>	33	2	NL
<i>Synaphea grandis</i>	33	2	NL
<i>Persoonia mollis maxima</i>	33	2	EN
<i>Grevillea brachystachya</i>	34	2	NL
<i>Megahertzia amplexicaulis</i>	34	2	NL
<i>Conospermum toddii</i>	34	2	EN
<i>Telopea aspera</i>	35	2	NL
<i>Dryandra pulchella</i>	35	2	NL
<i>Franklandia triaristata</i>	36	2	NL
<i>Dryandra comosa</i>	37	2	NL
<i>Grevillea ripicola</i>	37	2	NL
<i>Banksia aculeata</i>	37	2	NL
<i>Petrophile imbricata</i>	37	2	NL
<i>Dryandra merriden</i>	37	2	NL
<i>Grevillea sparsiflora</i>	37	2	NL
<i>Grevillea erinacea</i>	37	2	NL
<i>Adenanthos gracilipes</i>	37	2	NL
<i>Synaphea decumbens</i>	38	2	NL
<i>Grevillea trachythea</i>	38	2	NL
<i>Grevillea treueriana</i>	39	2	VU
<i>Lomatia tasmanica</i>	40	2	CE
<i>Grevillea renwickiana</i>	40	2	NL
<i>Grevillea obtusifolia</i>	40	2	NL
<i>Persoonia bargoensis</i>	41	2	VU
<i>Grevillea kenneallyi</i>	42	2	NL
<i>Macadamia claudiensis</i>	44	2	VU
<i>Grevillea acerata</i>	45	2	NL
<i>Synaphea platyphylla</i>	45	2	NL
<i>Synaphea odocoileops</i>	45	2	NL
<i>Adenanthos dobsonii</i>	45	2	NL
<i>Grevillea infecunda</i>	46	2	VU
<i>Conospermum quadripetalum</i>	48	2	NL
<i>Grevillea newbeyi</i>	49	2	NL
<i>Hakea constablei</i>	50	2	NL
<i>Eidothea zoexylocarya</i>	53	2	NL
<i>Hakea brachyptera</i>	53	2	NL
<i>Grevillea christineae</i>	53	2	EN
<i>Dryandra concinna</i>	54	2	NL
<i>Hakea adnata</i>	54	2	NL
<i>Grevillea thyrsooides</i>	54	2	NL

<i>thyrsoides</i>			
<i>Grevillea caleyi</i>	54	2	EN
<i>Hakea verrucosa</i>	55	2	NL
<i>Dryandra stuposa</i>	58	2	NL
<i>Petrophile incurvata</i>	60	2	NL
<i>Grevillea venusta</i>	62	2	VU
<i>Grevillea insignis</i>	63	2	NL
<i>Isopogon baxteri</i>	64	2	NL
<i>Isopogon cuneatus</i>	64	2	NL
<i>Persoonia stricta</i>	67	2	NL
<i>Grevillea viridiflava</i>	67	2	NL
<i>Dryandra nivea uliginosa</i>	70	2	EN
<i>Grevillea acanthifolia</i>	71	2	NL
<i>Banksia cuneata</i>	71	2	EN
<i>Grevillea hirtella</i>	76	2	NL
<i>Grevillea bracteosa</i>	78	2	NL
<i>Banksia laricina</i>	78	2	NL
<i>Grevillea steiglitiana</i>	84	2	NL
<i>Grevillea floribunda tenella</i>	84	2	NL
<i>Grevillea glabrescens</i>	86	2	NL
<i>Banksia oreophila</i>	90	2	NL
<i>Hakea standleyensis</i>	91	2	NL
<i>Hakea trineura</i>	99	2	VU
<i>Persoonia acerosa</i>	99	2	VU
<i>Lambertia ericifolia</i>	101	2	NL
<i>Grevillea floripendula</i>	102	2	VU
<i>Adenanthos venosus</i>	115	2	NL
<i>Banksia laevigata laevigata</i>	124	2	NL
<i>Grevillea bedgoodiana</i>	127	2	VU
<i>Banksia lemanniana</i>	130	2	NL
<i>Adenanthos oreophilus</i>	139	2	NL
<i>Grevillea obtecta</i>	151	2	NL
<i>Hakea purpurea</i>	246	2	NL
<i>Persoonia fastigiata</i>	31	3	NL
<i>Dryandra wonganensis</i>	32	3	NL
<i>Petrophile chrysantha</i>	32	3	NL
<i>Grevillea banyabba</i>	32	3	VU
<i>Grevillea uniformis</i>	32	3	NL
<i>Persoonia muelleri densifolia</i>	32	3	NL
<i>Dryandra catoglypta</i>	33	3	NL
<i>Grevillea scabrida</i>	33	3	NL
<i>Petrophile anceps</i>	33	3	NL
<i>Grevillea juniperina villosa</i>	34	3	NL
<i>Dryandra lindleyana agricola</i>	34	3	NL
<i>Conospermum wycherleyi</i>	35	3	NL
<i>Grevillea guthrieana</i>	35	3	EN
<i>Grevillea roycei</i>	35	3	NL
<i>Persoonia glaucescens</i>	36	3	VU
<i>Persoonia pungens</i>	36	3	NL
<i>Grevillea gariwerdensis</i>	37	3	NL

<i>Dryandra pteridifolia vernalis</i>	37	3	NL
<i>Dryandra squarrosa</i>			
<i>argillacea</i>	37	3	VU
<i>Grevillea amplexans</i>	37	3	NL
<i>Hakea pachyphylla</i>	37	3	NL
<i>Grevillea longifolia</i>	37	3	NL
<i>Grevillea crithmifolia</i>	38	3	NL
<i>Orites megacarpus</i>	39	3	NL
<i>Dryandra aurantia</i>	40	3	EN
<i>Banksia tricuspis</i>	41	3	NL
<i>Grevillea tripartita</i>	44	3	NL
<i>Petrophile aspera</i>	44	3	NL
<i>Banksia goodii</i>	44	3	VU
<i>Adenanthos ileticos</i>	45	3	NL
<i>Grevillea pimeleoides</i>	45	3	NL
<i>Hakea gibbosa</i>	45	3	NL
<i>Adenanthos stictus</i>	46	3	NL
<i>Grevillea beadleana</i>	48	3	EN
<i>Persoonia cymbifolia</i>	49	3	NL
<i>Synaphea intricata</i>	49	3	NL
<i>Grevillea brachystylis</i>			
<i>australis</i>	49	3	VU
<i>Dryandra nervosa</i>	52	3	NL
<i>Banksia victoriae</i>	54	3	NL
<i>Grevillea eriobotrya</i>	55	3	NL
<i>Grevillea georgeana</i>	56	3	NL
<i>Grevillea juniperina</i>			
<i>amphitricha</i>	60	3	NL
<i>Hakea fraseri</i>	60	3	VU
<i>Grevillea coccinea</i>	60	3	NL
<i>Grevillea stenomera</i>	61	3	NL
<i>Hakea maconochieana</i>	63	3	VU
<i>Banksia audax</i>	65	3	NL
<i>Banksia plagiocarpa</i>	65	3	NL
<i>Dryandra cypholoba</i>	68	3	NL
<i>Grevillea johnsonii</i>	70	3	NL
<i>Grevillea cyranostigma</i>	70	3	NL
<i>Synaphea whicherensis</i>	73	3	NL
<i>Persoonia chamaepitys</i>	74	3	NL
<i>Grevillea irrasa</i>	76	3	NL
<i>Grevillea candelabroides</i>	77	3	NL
<i>Grevillea parviflora</i>			
<i>parviflora</i>	77	3	VU
<i>Grevillea quadricauda</i>	81	3	VU
<i>Grevillea saccata</i>	82	3	NL
<i>Dryandra quercifolia</i>	83	3	NL
<i>Symphionema montanum</i>	89	3	NL
<i>Grevillea armigera</i>	95	3	NL
<i>Banksia scabrella</i>	96	3	NL
<i>Grevillea brevis</i>	107	3	NL

<i>Adenanthos detmoldii</i>	112	3	NL
<i>Hollandaea sayeriana</i>	113	3	NL
<i>Grevillea annulifera</i>	115	3	NL
<i>Grevillea dielsiana</i>	115	3	NL
<i>Grevillea whiteana</i>	129	3	NL
<i>Grevillea longicuspis</i>	321	3	NL
<i>Grevillea prasina</i>	384	3	NL
<i>Grevillea rogersoniana</i>	31	4	NL
<i>Grevillea juniperina fortis</i>	31	4	NL
<i>Hakea lasiocarpa</i>	31	4	NL
<i>Persoonia inconspicua</i>	31	4	NL
<i>Dryandra speciosa speciosa</i>	31	4	NL
<i>Synaphea aephyrsa</i>	31	4	NL
<i>Adenanthos glabrescens</i>	32	4	NL
<i>Grevillea olivacea</i>	33	4	NL
<i>Synaphea flexuosa</i>	33	4	NL
<i>Grevillea globosa</i>	35	4	NL
<i>Grevillea eremophila</i>	36	4	NL
<i>Grevillea muelleri</i>	37	4	NL
<i>Persoonia procumbens</i>	37	4	NL
<i>Adenanthos cygnorum</i>			
<i>chamaephyton</i>	38	4	NL
<i>Dryandra blechnifolia</i>	38	4	NL
<i>Hakea stenophylla</i>	39	4	NL
<i>Petrophile arcuata</i>	40	4	NL
<i>Synaphea tripartita</i>	41	4	NL
<i>Grevillea ceratocarpa</i>	42	4	NL
<i>Persoonia hexagona</i>	43	4	NL
<i>Persoonia microphylla</i>	44	4	NL
<i>Grevillea preissii</i>	44	4	NL
<i>Dryandra meganotia</i>	47	4	NL
<i>Persoonia rudis</i>	47	4	NL
<i>Adenanthos dobagii</i>	47	4	EN
<i>Dryandra speciosa</i>	48	4	NL
<i>Grevillea asparagoides</i>	49	4	NL
<i>Synaphea cuneata</i>	51	4	NL
<i>Persoonia cuspidifera</i>	51	4	NL
<i>Dryandra octotriginta</i>	51	4	NL
<i>Grevillea brachystylis</i>			
<i>brachystylis</i>	51	4	NL
<i>Dryandra brownii</i>	51	4	NL
<i>Grevillea curviloba incurva</i>	51	4	EN
<i>Dryandra kippistiana</i>			
<i>paenepeccata</i>	51	4	NL
<i>Grevillea drummondii</i>	53	4	NL
<i>Hakea bakeriana</i>	54	4	NL
<i>Dryandra arborea</i>	56	4	NL
<i>Banksia laevigata fuscolutea</i>	58	4	NL
<i>Conospermum scaposum</i>	59	4	NL
<i>Dryandra tortifolia</i>	60	4	NL

<i>Grevillea thyrsoides pustulata</i>	62	4	NL
<i>Buckinghamia ferruginiflora</i>	66	4	NL
<i>Grevillea concinna</i>	68	4	NL
<i>Dryandra praemorsa</i>	69	4	NL
<i>Adenanthos forrestii</i>	69	4	NL
<i>Grevillea triloba</i>	78	4	NL
<i>Grevillea myosodes</i>	80	4	NL
<i>Hakea collina</i>	81	4	NL
<i>Lambertia ilicifolia</i>	83	4	NL
<i>Stenocarpus cryptocarpus</i>	83	4	NL
<i>Banksia benthamiana</i>	83	4	NL
<i>Dryandra hewardiana</i>	84	4	NL
<i>Banksia meisneri ascendens</i>	86	4	NL
<i>Grevillea albiflora</i>	86	4	NL
<i>Banksia conferta penicillata</i>	87	4	NL
<i>Adenanthos drummondii</i>	89	4	NL
<i>Banksia blechnifolia</i>	89	4	NL
<i>Grevillea petrophiloides</i>	90	4	NL
<i>Helicia grayi</i>	90	4	NL
<i>Dryandra polycephala</i>	92	4	NL
<i>Grevillea erythroclada</i>	95	4	NL
<i>Isopogon formosus dasylepis</i>	96	4	NL
<i>Xylomelum occidentale</i>	99	4	NL
<i>Grevillea incrassata</i>	101	4	NL
<i>Persoonia terminalis</i>	102	4	NL
<i>Adenanthos ellipticus</i>	103	4	VU
<i>Isopogon dawsonii</i>	105	4	NL
<i>Grevillea juniperina</i>	106	4	NL
<i>Macadamia whelanii</i>	107	4	NL
<i>Grevillea barklyana</i>	108	4	NL
<i>Grevillea laurifolia</i>	109	4	NL
<i>Hakea aenigma</i>	110	4	NL
<i>Grevillea singuliflora</i>	126	4	NL
<i>Darlingia ferruginea</i>	126	4	NL
<i>Grevillea evansiana</i>	127	4	VU
<i>Grevillea dimorpha</i>	138	4	NL
<i>Conospermum burgessiorum</i>	139	4	NL
<i>Grevillea repens</i>	177	4	NL
<i>Persoonia amaliae</i>	222	4	NL
<i>Grevillea nudiflora</i>	232	4	NL
<i>Grevillea papillosa</i>	277	4	NL
<i>Grevillea dryandri dasycarpa</i>	462	4	NL
<i>Synaphea boyaginensis</i>	33	5	NL
<i>Grevillea zygoloba</i>	33	5	NL
<i>Hakea decurrens platytaenia</i>	33	5	NL
<i>Adenanthos sericeus</i>	33	5	NL
<i>Grevillea involucrata</i>	34	5	EN
<i>Grevillea sarissa umbellifera</i>	34	5	NL
<i>Conospermum paniculatum</i>	36	5	NL
<i>Grevillea candolleana</i>	37	5	NL

<i>Banksia praemorsa</i>	37	5	NL
<i>Dryandra serratuloides</i>			
<i>perissa</i>	38	5	VU
<i>Dryandra ferruginea</i>			
<i>flavescens</i>	38	5	NL
<i>Grevillea spinosissima</i>	39	5	NL
<i>Conospermum amoenum</i>	40	5	NL
<i>Conospermum ellipticum</i>	40	5	NL
<i>Hakea megalosperma</i>	41	5	VU
<i>Conospermum microflorum</i>	41	5	NL
<i>Grevillea elongata</i>	42	5	VU
<i>Grevillea haplantha</i>	42	5	NL
<i>Grevillea diversifolia</i>	42	5	NL
<i>Helicia lewisensis</i>	43	5	NL
<i>Strangea cynanchicarpa</i>	43	5	NL
<i>Dryandra mimica</i>	45	5	EN
<i>Isopogon tridens</i>	45	5	NL
<i>Petrophile helicophylla</i>	45	5	NL
<i>Hakea cristata</i>	46	5	NL
<i>Isopogon</i> sp. <i>watheroo</i>	47	5	NL
<i>Grevillea disjuncta</i>	48	5	NL
<i>Hakea pandanicarpa</i>			
<i>crassifolia</i>	49	5	NL
<i>Synaphea hians</i>	50	5	NL
<i>Grevillea lavandulacea</i>			
<i>rogersii</i>	51	5	NL
<i>Persoonia brevifolia</i>	52	5	NL
<i>Banksia lindleyana</i>	53	5	NL
<i>Grevillea plurijuga</i>	54	5	NL
<i>Helicia blakei</i>	54	5	NL
<i>Adenanthos cacomorphus</i>	54	5	NL
<i>Grevillea humilis</i>	56	5	NL
<i>Isopogon gardneri</i>	56	5	NL
<i>Grevillea granulifera</i>	59	5	NL
<i>Grevillea monticola</i>	61	5	NL
<i>Banksia conferta conferta</i>	61	5	NL
<i>Hicksbeachia pilosa</i>	61	5	NL
<i>Dryandra subulata</i>	61	5	NL
<i>Hakea smilacifolia</i>	63	5	NL
<i>Banksia meisneri</i>	64	5	NL
<i>Grevillea centristigma</i>	68	5	NL
<i>Dryandra columnaris</i>	68	5	NL
<i>Xylomelum benthamii</i>	69	5	NL
<i>Grevillea granulosa</i>	70	5	NL
<i>Persoonia iogyna</i>	71	5	NL
<i>Dryandra arctotidis</i>	72	5	NL
<i>Grevillea aneura</i>	74	5	NL
<i>Hakea ivoryi</i>	77	5	NL
<i>Dryandra falcata</i>	77	5	NL
<i>Grevillea extorris</i>	78	5	NL

<i>Grevillea phyllicoides</i>	79	5	NL
<i>Petrophile semifurcata</i>	79	5	NL
<i>Grevillea beardiana</i>	81	5	NL
<i>Isopogon adenanthoides</i>	82	5	NL
<i>Grevillea macleayana</i>	83	5	NL
<i>Hakea denticulata</i>	86	5	NL
<i>Petrophile longifolia</i>	86	5	NL
<i>Grevillea montana</i>	87	5	NL
<i>Grevillea jephcottii</i>	93	5	NL
<i>Banksia petiolaris</i>	96	5	NL
<i>Hakea cinerea</i>	98	5	NL
<i>Grevillea miniata</i>	99	5	NL
<i>Persoonia helix</i>	100	5	NL
<i>Grevillea pityophylla</i>	100	5	NL
<i>Telopea mongaensis</i>	101	5	NL
<i>Hakea ambigua</i>	101	5	NL
<i>Grevillea reptans</i>	119	5	NL
<i>Austromuelleria trinervia</i>	128	5	NL
<i>Hakea rhombales</i>	138	5	NL
<i>Triunia robusta</i>	149	5	EN
<i>Hakea grammatophylla</i>	192	5	NL
<i>Hakea ednieana</i>	209	5	NL
<i>Hakea macrocarpa</i>	519	5	NL

Four hundred and thirty-nine species of Proteaceae had records in five or fewer PAs greater than 1000 hectares, including 54 species classified as threatened of which one species is critically endangered (

Table 28).

Table 28 Proteaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Grevillea obtusiflora</i>	33	1	EN
<i>Lambertia orbifolia</i>	36	1	EN
<i>Macadamia jansenii</i>	37	1	EN
<i>Banksia goodii</i>	44	1	VU
<i>Grevillea rivularis</i>	46	1	EN
<i>Grevillea curviloba incurva</i>	51	1	EN
<i>Grevillea wilkinsonii</i>	51	1	EN
<i>Grevillea kennedyana</i>	52	1	VU
<i>Grevillea christineae</i>	53	1	EN
<i>Conospermum undulatum</i>	80	1	VU
<i>Grevillea celata</i>	93	1	VU

<i>Hakea trineura</i>	99	1	VU
<i>Grevillea floripendula</i>	102	1	VU
<i>Grevillea bedgoodiana</i>	127	1	VU
<i>Persoonia mollis maxima</i>	33	2	EN
<i>Conospermum toddii</i>	34	2	EN
<i>Persoonia glaucescens</i>	36	2	VU
<i>Grevillea treueriana</i>	39	2	VU
<i>Lomatia tasmanica</i>	40	2	CE
<i>Persoonia bargoensis</i>	41	2	VU
<i>Macadamia claudiensis</i>	44	2	VU
<i>Grevillea infecunda</i>	46	2	VU
<i>Grevillea caleyi</i>	54	2	EN
<i>Grevillea venusta</i>	62	2	VU
<i>Dryandra nivea uliginosa</i>	70	2	EN
<i>Persoonia acerosa</i>	99	2	VU
<i>Floydia praealta</i>	116	2	VU
<i>Triunia robusta</i>	149	2	EN
<i>Macadamia integrifolia</i>	206	2	VU
<i>Grevillea banyabba</i>	32	3	VU
<i>Dryandra serratuloides</i>			
<i>serratuloides</i>	33	3	VU
<i>Grevillea guthrieana</i>	35	3	EN
<i>Dryandra squarrosa</i>			
<i>argillacea</i>	37	3	VU
<i>Dryandra aurantia</i>	40	3	EN
<i>Dryandra mimica</i>	45	3	EN
<i>Grevillea beadleana</i>	48	3	EN
<i>Grevillea brachystylis</i>			
<i>australis</i>	49	3	VU
<i>Hakea fraseri</i>	60	3	VU
<i>Hakea maconochieana</i>	63	3	VU
<i>Grevillea parviflora</i>			
<i>parviflora</i>	77	3	VU
<i>Grevillea quadricauda</i>	81	3	VU
<i>Adenanthos pungens</i>			
<i>pungens</i>	46	4	VU
<i>Adenanthos dobagii</i>	47	4	EN
<i>Banksia brownii</i>	73	4	EN
<i>Adenanthos ellipticus</i>	103	4	VU
<i>Alloxylon flammeum</i>	106	4	VU
<i>Grevillea evansiana</i>	127	4	VU
<i>Macadamia tetraphylla</i>	151	4	VU
<i>Grevillea involucrata</i>	34	5	EN
<i>Dryandra serratuloides</i>			
<i>perissa</i>	38	5	VU
<i>Hakea megalosperma</i>	41	5	VU
<i>Persoonia hirsuta</i>	81	5	EN
<i>Persoonia nutans</i>	82	5	EN
<i>Hicksbeachia pinnatifolia</i>	110	5	VU

Orchidaceae

The ANHAT database has 159594 records for 1203 species and subspecies of Orchidaceae. Three species of Orchidaceae are considered extinct and therefore excluded from analysis. These species are presented in **Table 29**.

Table 29 Orchidaceae species considered extinct

Species	Common name	No. of records
<i>Acianthus ledwardii</i>		3
<i>Arachnorchis brachyscapa</i>		11
<i>Oberonia attenuata</i>		5

One hundred and twenty-three species account for approximately 50% of the total species records in ANHAT (

Table 30). These species have over 300 records each.

Table 30 Orchidaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Arachnorchis cardiochila</i>	315	0.18
<i>Arachnorchis capillata</i>	315	0.18
<i>Cryptostylis leptochila</i>	316	0.18
<i>Diuris maculata</i>	323	0.19
<i>Thelymitra crinita</i>	324	0.19
<i>Diuris behrii</i>	326	0.19
<i>Diuris punctata</i>	327	0.19
<i>Thelymitra aristata</i>	333	0.19
<i>Jonesiopsis roei</i>	334	0.19
<i>Diplodium robustum</i>	335	0.19
<i>Glossodia minor</i>	337	0.19
<i>Diplodium truncatum</i>	340	0.20
<i>Pterostylis alpina</i>	342	0.20
<i>Arachnorchis phaeoclavia</i>	343	0.20
<i>Dockrillia teretifolia</i>	345	0.20
<i>Thelymitra benthamiana</i>	348	0.20
<i>Diuris laxiflora</i>	351	0.20
<i>Taurantha ophioglossa</i>	351	0.20
<i>Thelychiton kingianus</i>	352	0.20
<i>Oligochaetochilus spathulatus</i>	352	0.20
<i>Thelymitra luteocilium</i>	353	0.20
<i>Cymbidium suave</i>	356	0.21
<i>Microtidium atratum</i>	361	0.21
<i>Elythranthera brunonis</i>	369	0.21

<i>Thelymitra carnea</i>	379	0.22
<i>Simpliglottis cornuta</i>	379	0.22
<i>Thelychiton gracilicaulis</i>	379	0.22
<i>Stegostyla alpina</i>	384	0.22
<i>Tropilis aemula</i>	385	0.22
<i>Arachnorchis longicauda</i>	388	0.22
<i>Thelymitra arenaria</i>	390	0.22
<i>Eriochilus dilatatus</i>	392	0.23
<i>Microtis rara</i>	394	0.23
<i>Calochilus paludosus</i>	397	0.23
<i>Thelychiton speciosus</i>	404	0.23
<i>Thelymitra cyanea</i>	417	0.24
<i>Corunastylis rufa</i>	417	0.24
<i>Diuris punctata punctata</i>	418	0.24
<i>Diplodium obtusum</i>	425	0.25
<i>Stamnorchis recurva</i>	425	0.25
<i>Corybas aconitiflorus</i>	429	0.25
<i>Pterostylis baptistii</i>	433	0.25
<i>Corysanthes incurva</i>	436	0.25
<i>Taurantha concinna</i>	440	0.25
<i>Thelymitra megalyptra</i>	445	0.26
<i>Oligochaetochilus bisetus</i>	450	0.26
<i>Vappodes dicupha</i>	452	0.26
<i>Sarcochilus falcatus</i>	452	0.26
<i>Diplodium revolutum</i>	456	0.26
<i>Oligochaetochilus rufus</i>	459	0.26
<i>Calochilus campestris</i>	459	0.26
<i>Lyperanthus suaveolens</i>	462	0.27
<i>Dockrillia linguiformis</i>	466	0.27
<i>Thelymitra flexuosa</i>	469	0.27
<i>Plectorrhiza tridentata</i>	474	0.27
<i>Stegostyla cucullata</i>	483	0.28
<i>Bunochilus melagrammus</i>	489	0.28
<i>Plumatichilos plumosum</i>	491	0.28
<i>Hymenochilus cycnocephalus</i>	492	0.28
<i>Leporella fimbriata</i>	497	0.29
<i>Caladenia flava flava</i>	501	0.29
<i>Prasophyllum gracile</i>	503	0.29
<i>Diplodium decurvum</i>	510	0.29
<i>Dipodium variegatum</i>	535	0.31
<i>Prasophyllum brevilabre</i>	537	0.31
<i>Nemacianthus caudatus</i>	541	0.31
<i>Leptoceras menziesii</i>	551	0.32
<i>Diuris orientis</i>	555	0.32
<i>Urochilus vittatus</i>	567	0.33
<i>Orthoceras strictum</i>	579	0.33
<i>Diuris corymbosa</i>	584	0.34
<i>Chiloglottis reflexa</i>	586	0.34
<i>Prasophyllum elatum</i>	588	0.34
<i>Thelymitra peniculata</i>	588	0.34

<i>Cyrtostylis robusta</i>	604	0.35
<i>Caleana major</i>	629	0.36
<i>Diuris lanceolata</i>	655	0.38
<i>Gastrodia sesamoides</i>	699	0.40
<i>Cryptostylis subulata</i>	729	0.42
<i>Prasophyllum odoratum</i>	735	0.42
<i>Thelymitra juncifolia</i>	736	0.42
<i>Dipodium roseum</i>	782	0.45
<i>Cyanicula caerulea</i>	794	0.46
<i>Acianthus pusillus</i>	797	0.46
<i>Spiranthes australis</i>	803	0.46
<i>Acianthus fornicatus</i>	804	0.46
<i>Cymbidium canaliculatum</i>	822	0.47
<i>Simpliglottis valida</i>	823	0.47
<i>Geodorum terrestre</i>	839	0.48
<i>Arachnorchis dilatata</i>	853	0.49
<i>Pterostylis curta</i>	857	0.49
<i>Cyrtostylis reniformis</i>	874	0.50
<i>Microtis arenaria</i>	885	0.51
<i>Urochilus sanguineus</i>	916	0.53
<i>Petalochilus catenatus</i>	917	0.53
<i>Acianthus exsertus</i>	923	0.53
<i>Thelymitra nuda</i>	956	0.55
<i>Petalochilus fuscatus</i>	976	0.56
<i>Thelymitra rubra</i>	983	0.57
<i>Caladenia latifolia</i>	987	0.57
<i>Pheladenia deformis</i>	995	0.57
<i>Arachnorchis tentaculata</i>	1003	0.58
<i>Pyrorchis nigricans</i>	1005	0.58
<i>Diuris pardina</i>	1133	0.65
<i>Dipodium punctatum</i>	1135	0.65
<i>Speculantha parviflora</i>	1144	0.66
<i>Pterostylis pedunculata</i>	1164	0.67
<i>Hymenochilus muticus</i>	1172	0.68
<i>Thelymitra ixioides</i>	1180	0.68
<i>Stegostyla gracilis</i>	1268	0.73
<i>Thelymitra antennifera</i>	1316	0.76
<i>Simpliglottis gunnii</i>	1333	0.77
<i>Eriochilus cucullatus</i>	1335	0.77
<i>Diuris sulphurea</i>	1336	0.77
<i>Calochilus robertsonii</i>	1392	0.80
<i>Bunochilus longifolius</i>	1565	0.90
<i>Microtis parviflora</i>	1780	1.03
<i>Thelymitra pauciflora</i>	2171	1.25
<i>Petalochilus carneus</i>	2285	1.32
<i>Pterostylis nutans</i>	2288	1.32
<i>Linguella nana</i>	2372	1.37
<i>Microtis unifolia</i>	2474	1.43
<i>Glossodia major</i>	2599	1.50
Total	88303	50.87

Four hundred and sixty-eight species of the Orchidaceae are represented by 30 or fewer record sites in the ANHAT database (**Table 31**). Of those species, 101 are categorised as threatened, including 12 species classified as critically endangered and 60 listed as endangered. There are indications that a relatively large number of the species on this list come from north-east Australia and, to a lesser degree, the south-west of Western Australia, and there are few inland species on the list. However, there are species on the list from all over Australia. There are no obvious patterns in the types of vegetation types with which these species of Orchidaceae are associated, but the very large numbers of species in the table may be masking some relationships. These species have been excluded from analysis but are included here for reference. Exclusion of these poorly recorded species eliminates 6195 records.

Table 31 Orchidaceae species with 30 or fewer individual record sites in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Arachnorchis</i>						
<i>aerochila</i>	1	0.00			100	NL
<i>Arachnorchis</i> aff. <i>venusta</i> (kilsyth south)	1	0.00			100	EN
<i>Arachnorchis bryceana cracens</i>	1	0.00	W	SL	200	VU
<i>Arachnorchis hirta</i>						
<i>rosea</i>	1	100.00	W,SW	For,SL	100	NL
<i>Arthrochilus huntianus</i>	1	100.00			100	NL
<i>Arthrochilus huntianus nothofagicola</i>	1	0.00			100	CE
<i>Caladenia</i> (dadswells bridge)	1	100.00			100	NL
<i>Caladenia uliginosa</i>	1	100.00			100	NL
<i>Cymbidium madidum leroyi</i>	1	100.00			100	NL
<i>Diuris</i> aff. <i>lanceolata</i>	1	100.00			100	NL
<i>Diuris</i> aff. <i>ochroma</i>	1	0.00			300	NL
<i>Drakodenia ornata</i>	1	0.00			100	NL
			NE ISLAND			
<i>Habenaria vatia</i>	1	0.00	S	WL	100	NL
<i>Jonesiopsis caesarea transiens</i>	1	100.00	SW	Cas	100	NL
<i>Jonesiopsis meridionalis</i>	1	100.00	SW	Co He	100	NL
<i>Prasophyllum murfettii</i>	1	0.00	CS	Sw	100	NL
<i>Prasophyllum</i> sp. aff.	1	0.00			100	NL

<i>pyriforme d</i>						
<i>Pterostylis sp. slender snail orchid</i>	1	0.00			100	NL
<i>Pterostylis sp. small stature</i>	1	0.00			100	NL
<i>Simpliglottis aff. pluricallata</i>	1	100.00			200	NL
			LORD			
<i>Thelychiton howeanus</i>	1	0.00	HOWE IS	For	200	NL
<i>Vrydagzynea paludosa</i>	1	0.00			100	EN
<i>Arachnorchis lodgeana</i>	2	0.00	SW	Sc	100	NL
<i>Arachnorchis pholcoidea</i>						
<i>angustaensis</i>	2	100.00	SW	Pap	100	NL
<i>Arthrochilus apectus</i>	2	100.00	NE	For	100	NL
<i>Arthrochilus aquilus</i>	2	100.00	NE	For	100	NL
<i>Arthrochilus corinnae</i>	2	0.00	NE	Sw	100	NL
<i>Arthrochilus radicalis</i>	2	0.00			100	NL
<i>Bunochilus aff. longifolius 2</i>	2	0.00			100	NL
<i>Bunochilus aff. longifolius 3</i>	2	100.00			100	NL
				For,He,		
<i>Caladenia dilatata</i>	2	0.00	SE,TAS	Sc	1300	NL
<i>Caladenia lurata</i>	2	100.00			100	NL
<i>Caladenia similis</i>	2	50.00			200	NL
<i>Caladenia superba</i>	2	0.00			100	NL
<i>Calochilus cleistanthus</i>	2	100.00	NE	WL	100	NL
<i>Calochilus glauciphyllum</i>	2	100.00			100	NL
<i>Calochilus imperiosus</i>	2	100.00	CN,NE	WL	100	NL
<i>Corunastylis littoralis</i>	2	0.00			100	NL
<i>Crepidium flavovirens</i>	2	0.00	NE	RF	100	NL
<i>Cyrtostylis aff. huegelii</i>	2	0.00			100	NL
<i>Davejonesia aurantiacopurpureum</i>	2	50.00	NE	RF	100	NL
<i>Diplodium aff. alatum 1</i>	2	0.00			200	NL
<i>Diuris aurantiaca</i>	2	0.00			100	NL
<i>Eucosia umbrosa</i>	2	100.00	NE	HRF	100	NL
<i>Hymenochilus aff. cycnocephalus 2</i>	2	100.00			200	NL
<i>Jonesiopsis caesarea maritima</i>	2	0.00	SW	He,For	100	NL
<i>Jonesiopsis porphyrea</i>	2	0.00			100	NL
<i>Jonesiopsis remota</i>	2	0.00			200	NL
<i>Jonesiopsis ultima</i>	2	100.00	SW	Wet	100	NL
<i>Linguella aff. nana 1</i>	2	100.00			200	NL
<i>Linguella aff. nana 11</i>	2	0.00			100	NL
<i>Linguella aff. nana 14</i>	2	0.00			100	NL

<i>Linguella aff. nana</i> 19	2	0.00			100	NL
<i>Linguella aff. nana</i> 22	2	100.00			100	NL
<i>Linguella aff. nana</i> 6	2	0.00			100	NL
<i>Linguella aff. nana</i> 8	2	0.00			100	NL
<i>Linguella aff. nana</i> 9	2	0.00			200	NL
<i>Liparis collinsii</i>	2	100.00			100	NL
<i>Microtis pauciflora</i>	2	0.00			100	NL
<i>Microtis riparia</i>	2	0.00			100	NL
<i>Microtis similis</i>	2	0.00			100	NL
<i>Nematoceras dienema</i>	2	100.00			300	NL
<i>Prasophyllum lanceolatum</i>	2	0.00			100	NL
<i>Prasophyllum perangustum</i>	2	0.00	TAS	For	200	CE
			NE			
			ISLAND			
<i>Sarcanthopsis warocqueana</i>	2	0.00	S	RF,Sw	100	NL
<i>Tainia trinervis</i>	2	100.00	NE	RF	100	NL
<i>Thelychiton capricornicus</i>	2	50.00	NE	RH	200	NL
<i>Thelychiton jonesii bancroftianus</i>	2	100.00	NE	RH	100	NL
<i>Thelychiton jonesii blackburnii</i>	2	100.00			100	NL
<i>Thelymitra pulchella</i>	2	0.00			400	NL
<i>Univiscidiatus amplexicaulis</i>	2	100.00			200	NL
<i>Vrydagzynea grayi</i>	2	0.00	NE	RF	100	NL
<i>Arachnorchis aurulenta</i>	3	33.33	CS		200	NL
<i>Arachnorchis granitora</i>	3	0.00	SW	He	300	NL
<i>Arachnorchis interanea</i>	3	33.33	CS	RH	200	NL
<i>Corunastylis firthii</i>	3	0.00	TAS	Sc,He	500	EN
<i>Diplodium hians</i>	3	66.67	SE	For	100	NL
<i>Diuris aff. chryseopsis</i> 2	3	0.00			300	NL
<i>Hymenochilus aff. muticus</i>	3	66.67			200	NL
<i>Jonesiopsis erythrochila</i>	3	66.67	SW	For	200	NL
<i>Jonesiopsis pendens talbotii</i>	3	33.33	W	WL,For	300	NL
<i>Oligochaetochilus aff. bisetus</i>	3	0.00			100	NL
<i>Petalochilus sylvicola</i>	3	0.00	TAS	For	100	EN
<i>Rhizanthella omissa</i>	3	100.00	E	For	100	NL
<i>Thynninorchis nothofagicola</i>	3	0.00	TAS	For	100	NL

<i>Arachnorchis bryceana</i>	4	0.00			200	NL
<i>Arachnorchis magnifica</i>	4	50.00	SE	For	400	NL
<i>Arachnorchis pallida</i>	4	50.00	TAS	He,For	700	EN
<i>Arachnorchis villosissima</i>	4	25.00	SE	WL,Mal	300	NL
<i>Calochilus ammobius</i>	4	0.00	NE	For	100	NL
<i>Corunastylis aff. plumosa</i>	4	0.00	SE		100	NL
<i>Corunastylis alticola</i>	4	0.00	NE	For	200	NL
<i>Corunastylis bishopii</i>	4	50.00	E	For,Sw	200	NL
<i>Corunastylis insignis</i>	4	0.00	E	He,For	400	NL
<i>Diuris aff. corymbosa</i>	4	25.00			200	NL
<i>Diuris aff. longifolia</i>	4	25.00			400	NL
<i>Drakaea isolata</i>	4	25.00	SW	SL	100	NL
<i>Durabaculum undulatum</i>			NE,WHI TSUNDA			
<i>broomfieldii</i>	4	100.00	Y	Co Sc	200	NL
<i>Linguella aff. nana 13</i>	4	50.00			200	NL
<i>Linguella aff. nana 15</i>	4	0.00			200	NL
<i>Linguella aff. nana 16</i>	4	0.00			100	NL
<i>Oligochaetochilus aff. excelsus</i>	4	50.00			200	NL
<i>Specularantha vernalis</i>	4	50.00			100	NL
<i>Spilorchis weinthalii striata</i>	4	100.00	E	for For,He, Co Sc	100	NL
<i>Sullivania nigrita</i>	4	50.00	W,SW	Expose d situatio ns	200	NL
<i>Thelychiton pulcherrimus</i>	4	50.00	E		200	NL
<i>Arachnorchis applanata erubescens</i>	5	40.00	SW	Sc	300	NL
<i>Arachnorchis busselliana</i>	5	0.00	SW	Sw,For	300	NL
<i>Australorchis eungellensis</i>	5	0.00	NE	For,RF	300	NL
			TORRES STRAIG			
<i>Dichopus insignis</i>	5	0.00	HT	Man	200	NL
<i>Diuris aff. corymbosa</i>	5	20.00			500	NL
<i>Diuris byronensis</i>	5	40.00	E	He	700	NL
<i>Grastidium cancroides</i>	5	80.00	NE	RF	100	NL
<i>Habenaria divaricata</i>	5	100.00			100	NL
<i>Jonesiopsis caesarea</i>	5	20.00			200	NL
<i>Petalochilus gracillimus</i>	5	40.00	E	For	200	NL

<i>Petalochilus minor</i>	5	60.00			800	NL
<i>Prasophyllum</i>						
<i>milfordense</i>	5	0.00	TAS	WL	200	CE
<i>Prasophyllum wallum</i>	5	60.00			200	VU
<i>Taeniophyllum</i>						
<i>confertum</i>	5	80.00	NE	RF	300	NL
<i>Thelymitra adorata</i>	5	0.00	E	WL	100	NL
<i>Thelymitra reflexa</i>	5	0.00	SE	WL	100	NL
<i>Arachnorchis intuta</i>	6	0.00	CS	WL	200	NL
<i>Arachnorchis</i>						
<i>longicauda crassa</i>	6	50.00	SW	Sw,Mal	600	NL
<i>Arachnorchis</i>						
<i>saggicola</i>	6	0.00	TAS	WL	400	EN
<i>Arachnorchis</i>						
<i>thysanochila</i>	6	0.00			100	EN
<i>Arachnorchis uliginosa</i>						
<i>patulens</i>	6	50.00	SW	For	500	NL
<i>Arachnorchis</i>						
<i>williamsiae</i>	6	83.33	SW	WL	300	NL
<i>Calochilus aff.</i>			E,SE,TA			
<i>robertsonii</i>	6	50.00	S	For,He	500	NL
			E,SE,TA			
<i>Chiloglottis aff. reflexa</i>	6	50.00	S	For,He	300	NL
<i>Corunastylis ectopa</i>	6	100.00	SE	For	200	CE
<i>Diuris filifolia</i>	6	16.67	SW		200	NL
<i>Flickingeria clementsii</i>	6	50.00	NE	RF	400	NL
<i>Petalochilus maritimus</i>	6	83.33	SE	For	200	NL
<i>Prasophyllum</i>						
<i>brachystachyum</i>	6	0.00			300	EN
<i>Schoenorchis</i>						
<i>sarcophylla</i>	6	33.33	NE		200	NL
<i>Thelymitra decora</i>	6	100.00			500	NL
				Man,For,RF,He		
<i>Abaxianthus convexus</i>	7	57.14	NE		300	NL
<i>Arachnorchis</i>						
<i>leptoclavia</i>	7	0.00	E	For	400	NL
<i>Arachnorchis subtilis</i>	7	0.00	E	For	400	NL
<i>Arachnorchis</i>						
<i>winfieldii</i>	7	14.29	SW	WL	500	NL
<i>Bryobium intermedium</i>	7	0.00	NE	RF	300	NL
<i>Calochilus psednus</i>	7	71.43	NE	WL	300	EN
<i>Calochilus</i>						
<i>stramenicola</i>	7	28.57	W,SW	WL	400	NL
<i>Diuris brevissima</i>	7	0.00			700	NL
<i>Diuris flavescens</i>	7	14.29	E	For	200	NL
<i>Eulophia zollingeri</i>	7	0.00	NE	RF	300	NL
<i>Gastrodia crebriflora</i>	7	100.00	E	For	200	NL
<i>Hymenochilus aff.</i>						
<i>cycnocephalus 1</i>	7	57.14			800	NL
<i>Jonesiopsis exilis</i>	7	0.00	W	Wet,RH	500	NL

<i>vanleeuwenii</i>						
<i>Jonesiopsis</i>						
<i>fuscolutescens</i>	7	28.57		For,WL	300	NL
<i>Oligochaetochilus</i>				GrL,W		
<i>commutatus</i>	7	0.00	TAS	L	500	EN
<i>Oxysepala</i>						
<i>lamingtonensis</i>	7	42.86	E	RF	200	NL
<i>Phaius amboinensis</i>	7	28.57	CN	For	400	NL
<i>Sarcochilus aequalis</i>	7	85.71	E	RH	900	NL
<i>Sarcochilus roseus</i>	7	28.57	NE	SF,RH	600	VU
<i>Trachoma speciosum</i>	7	0.00	NE	RF	300	NL
<i>Trachoma stellatum</i>	7	0.00	NE	RF	200	NL
<i>Adelopetalum boonjee</i>	8	75.00	NE	RF	400	NL
<i>Arachnorchis amnicola</i>	8	0.00	E	For	400	NL
<i>Arachnorchis</i>						
<i>applanata</i>	8	25.00	SW	Sc	700	NL
<i>Arachnorchis nivalis</i>	8	100.00	SW	He	300	NL
<i>Cirrhopetalum</i>						
<i>gracillimum</i>	8	100.00	NE	RF	200	VU
<i>Demorchis</i>						
<i>queenslandica</i>	8	25.00			200	NL
<i>Diuris conspicillata</i>	8	0.00	SW	SL	300	NL
<i>Drakonorchis</i>						
<i>barbarella</i>	8	62.50	W	SL	500	VU
<i>Jonesiopsis melanema</i>	8	62.50	SW	Mal,SL	300	NL
<i>Jonesiopsis postea</i>	8	25.00	W	WL	200	NL
<i>Linguella aff. nana 4</i>	8	0.00			400	NL
<i>Petalochilus aff.</i>						
<i>carneus</i>	8	25.00			600	NL
<i>Petalochilus aff.</i>						
<i>pusillus</i>	8	0.00			400	NL
<i>Prasophyllum</i>						
<i>robustum</i>	8	0.00	TAS	For	600	CE
<i>Sarcochilus borealis</i>	8	62.50	NE	RF	300	NL
<i>Arachnorchis attingens</i>				He,For,		
<i>atingens</i>	9	55.56	SW	WL	800	NL
<i>Arachnorchis</i>						
<i>longicauda clivicola</i>	9	22.22	SW		600	NL
<i>Arachnorchis</i>						
<i>robinsonii</i>	9	0.00	SE	WL	600	EN
<i>Arachnorchis</i>						
<i>viridescens</i>	9	33.33	SW	WL	300	EN
<i>Cirrhopetalum</i>						
<i>clavigerum</i>	9	33.33	NE	RF	500	VU
<i>Corunastylis</i>						
<i>brachystachya</i>	9	55.56	TAS	He,For	1200	EN
<i>Corunastylis systema</i>	9	88.89			300	NL
<i>Diuris arenaria</i>	9	0.00	E	For	500	NL
<i>Gastrodia vescula</i>	9	33.33	CS	For	600	NL
<i>Liparis condylobulbon</i>	9	66.67			400	NL

<i>Oxysepala grandimesensis</i>	9	100.00	NE	RF	200	NL
<i>Petalochilus cleistanthus</i>	9	22.22	SE	He	700	NL
<i>Petalochilus curtisepalus</i>	9	33.33	SE	He	400	NL
<i>Rhipidorchis micrantha</i>	9	33.33	NE	RF	300	NL
<i>Serpenticaulis wolfei</i>	9	77.78	NE	RF	300	NL
<i>Thelymitra jacksonii</i>	9	88.89	SW		400	NL
<i>Vappodes lithocola</i>	9	22.22	NE	RH	900	EN
<i>Cooktownia robertsii</i>	10	100.00	NE	For	200	NL
<i>Diuris aff. corymbosa</i>	3	10	30.00		500	NL
<i>Diuris disposita</i>	10	0.00	E	For	600	NL
<i>Drakaea confluens</i>	10	40.00	SW	For,W	600	EN
<i>Eriochilus aff. cucullatus 1</i>	10	100.00		L	400	NL
<i>Eriochilus aff. cucullatus 3</i>	10	90.00			600	NL
<i>Eriochilus valens</i>	10	60.00	SW	For	800	NL
<i>Oeceoclades pulchra</i>	10	40.00			400	NL
<i>Petalochilus aff. catenatus</i>	10	40.00			500	NL
<i>Prasophyllum pallens</i>	10	40.00	E	He	300	NL
<i>Spilorchis weinthalii</i>	10	60.00			500	NL
<i>Arachnorchis attingens</i>				He,WL,		
<i>gracillima</i>	11	27.27	SW	For	900	NL
<i>Arachnorchis exstans</i>	11	63.64	SW	WL	500	NL
<i>Arachnorchis longicauda albella</i>	11	9.09	W	WL,He, Sedge	600	NL
<i>Arthrochilus stenophyllum</i>	11	54.55	NE	WL	400	NL
<i>Cadetia collinsii</i>	11	0.00	NE		600	NL
<i>Ceratobium antennatum</i>	11	0.00			600	EN
<i>Corunastylis formosa</i>	11	45.45	SE		400	NL
<i>Corunastylis pedersonii</i>	11	63.64			600	NL
<i>Diuris exitela</i>	11	100.00	Cl,E	WL	400	NL
<i>Durabaculum mirbelianum</i>	11	54.55	NE	Man,C o Sw	600	EN
<i>Eleutheroglossum fellowsii</i>	11	0.00	NE	For	300	NL
<i>Jonesiopsis dundasiae</i>	11	9.09	W	WL	600	NL
<i>Paracaleana lyonsii</i>	11	27.27	W	Sar,SP	700	NL
<i>Petalochilus campbellii</i>	11	9.09	TAS	He,Sc,F or	500	EN
<i>Prasophyllum</i>	11	63.64	TAS	Sc	600	EN

<i>amoenum</i>							
<i>Prasophyllum</i>							
<i>favonium</i>	11	81.82	TAS	He	700	CE	
<i>Thelychiton</i>							
<i>pedunculatus</i>	11	18.18	NE	RH	600	NL	
<i>Thelymitra</i>							
<i>dedmaniarum</i>	11	45.45	W	WL	500	NL	
				Co			
<i>Thelymitra jonesii</i>	11	18.18	TAS	He,For	1100	CE	
<i>Adelopetalum</i>							
<i>argyropum</i>	12	41.67	E	RF	700	NL	
<i>Arachnorchis amoena</i>	12	0.00	SE	For	500	EN	
<i>Arachnorchis</i>							
<i>anthracina</i>	12	8.33	TAS	WL	700	EN	
<i>Arachnorchis</i>							
<i>callitrophila</i>	12	0.00	SE	WL	400	NL	
<i>Arachnorchis</i>							
<i>orientalis</i>	12	0.00	SE	He,For	500	EN	
			NW,CN,	Sw,Wet			
<i>Cepobaculum foelschei</i>	12	16.67	NE	,For, Sc	600	NL	
<i>Corybas dowlingii</i>	12	0.00	E	For	500	NL	
<i>Diuris aff. corymbosa</i>							
5	12	25.00			900	NL	
<i>Dockrillia brevicauda</i>	12	100.00	NE	RF	400	NL	
<i>Hymenochilus</i>				For,W			
<i>wapstrarum</i>	12	0.00	TAS	L	700	EN	
<i>Linguella aff. nana</i> 12	12	41.67			700	NL	
<i>Oxysepala lewisensis</i>	12	100.00	NE	RF	500	NL	
<i>Prasophyllum olidum</i>	12	25.00	TAS	GrL	300	CE	
<i>Prasophyllum paulinae</i>	12	0.00	SW	Sw	400	NL	
<i>Prasophyllum</i>							
<i>secutum</i>	12	8.33	TAS	Co Sc	2400	EN	
<i>Thelymitra hiemalis</i>	12	41.67	SE	He	800	NL	
<i>Arachnorchis</i>							
<i>pholcoidea</i>	13	15.38			1400	NL	
<i>Arachnorchis rileyi</i>	13	0.00	SE	WL	500	NL	
<i>Caladenia flava</i>							
<i>sylvestris</i>	13	30.77	SW	For	1100	NL	
<i>Corunastylis ostrina</i>	13	15.38			400	NL	
				SA,Sw,			
<i>Corunastylis turfosa</i>	13	92.31	SE	HF	600	NL	
<i>Corysanthes dentata</i>	13	15.38	CS	For	700	VU	
<i>Diuris pauciflora</i>	13	15.38	SW	Sw	800	NL	
<i>Gastrodia urceolata</i>	13	38.46	NE	For	300	NL	
<i>Prasophyllum</i>							
<i>pulchellum</i>	13	38.46	TAS	He	1800	CE	
<i>Rhizanthella gardneri</i>	13	0.00	W,SW	Mal	700	EN	
<i>Saccolabiopsis</i>							
<i>rectifolia</i>	13	69.23	NE		200	NL	
<i>Arachnorchis actensis</i>	14	57.14	SE	For	200	CE	

<i>Arachnorchis</i>						
<i>bryceana bryceana</i>	14	42.86	SW	WL,SL	500	EN
<i>Corunastylis laminata</i>	14	14.29			400	NL
<i>Corunastylis nublingii</i>	14	35.71			500	NL
<i>Corunastylis</i>						
<i>rhyolitica</i>	14	71.43	SE		200	EN
<i>Corunastylis tecta</i>	14	57.14	NE	WL	300	EN
<i>Dendrobium</i>						
<i>pedunculatus</i>	14	42.86	NE		500	NL
<i>Drymoanthus minutus</i>	14	35.71	NE	RF	700	NL
<i>Jonesiopsis exilis</i>	14	21.43			1200	NL
<i>Microtis globula</i>	14	28.57	SW	Sw	800	VU
<i>Oligochaetochilus</i>						
<i>petrosus</i>	14	7.14	SE	For	600	NL
<i>Petalochilus tonellii</i>	14	21.43	TAS	For	800	EN
<i>Prasophyllum</i>						
<i>tunbridgense</i>	14	7.14	TAS	GrL	600	EN
<i>Thelymitra basaltica</i>	14	0.00	SE	GrL	200	NL
<i>Trachoma papuanum</i>	14	92.86	NE	RF	500	NL
				For,W		
<i>Arachnorchis audasii</i>	15	53.33	SE	L	500	EN
<i>Calochilus richiae</i>	15	40.00	SE	For	200	EN
<i>Chiloglottis trullata</i>	15	80.00	E	For	300	NL
				Mon,S		
<i>Corunastylis morina</i>	15	86.67	SE	w	700	NL
<i>Corunastylis</i>						
<i>parvicalla</i>	15	73.33			600	NL
<i>Corunastylis trifida</i>	15	26.67			900	NL
				For,W		
<i>Crepidium lawleri</i>	15	73.33	NE	L	500	EN
<i>Cyanicula ashbyae</i>	15	46.67	SW,W		800	NL
<i>Diuris punctata minor</i>	15	13.33			1300	NL
<i>Dockrillia striolata</i>						
<i>chrysantha</i>	15	66.67	TAS	For	1100	NL
			NE			
<i>Ephippium</i>						
<i>masdevalliaceum</i>	15	73.33	ISLAND	S	RF,For	900
<i>Jonesiopsis voigtii</i>	15	20.00	SW	He,RH	1100	NL
<i>Prasophyllum</i>						
<i>solstitium</i>	15	0.00	E	GrL	300	NL
<i>Prasophyllum</i>						
<i>stellatum</i>	15	13.33	TAS	For	600	CE
<i>Prasophyllum</i>						
<i>subbisectum</i>	15	66.67	SE	WL	500	EN
				Mon,Sc,		
<i>Thelymitra sparsa</i>	15	73.33	TAS	For	500	NL
<i>Urochilus aff.</i>						
<i>sanguineus</i>	15	0.00			1200	NL
<i>Adelopetalum</i>						
<i>wilkianum</i>	16	81.25			900	NL

<i>Arachnorchis hoffmanii graniticola</i>	16	25.00			1000	NL
<i>Arachnorchis rigens</i>	16	0.00			500	NL
<i>Arthrochilus sabulosus</i>	16	18.75	NE	Sc	900	NL
<i>Caladenia flava maculata</i>	16	43.75	W	SP	1500	NL
<i>Corunastylis conferta</i>	16	56.25	E	He	600	NL
<i>Diplodium metcalfei</i>	16	0.00	E	For	600	NL
<i>Jonesiopsis wanosa</i>	16	75.00	W	Mal,SL	700	VU
<i>Oligochaetochilus basalticus</i>	16	0.00	SE	GrL	300	EN
<i>Phaius bernaysii</i>	16	0.00			600	EN
<i>Phaius pictus</i>	16	93.75	NE	RF	800	VU
<i>Prasophyllum bagoensis</i>	16	0.00	SE	For,GrL TAS,CI,N Co	500	NL
<i>Sullivania minor</i>	16	75.00	E,E,SE	Sc,For	900	NL
<i>Thelychiton finniganensis</i>	16	100.00	NE	RH	400	NL
<i>Thelymitra xanthotricha</i>	16	0.00			800	NL
<i>Acriopsis liliifolia</i>	17	35.29	NE	RF,Sw For	1000	VU
<i>Arachnorchis ovata</i>	17	29.41			1500	VU
<i>Arachnorchis pilotensis</i>	17	100.00	SE	WL	400	NL
<i>Corysanthes limpida</i>	17	11.76	SW	Sc	1100	VU
<i>Crepidium fimbriatum</i>	17	0.00	NE	RF	700	NL
<i>Diuris aff. dendrobioides</i>	17	11.76			700	NL
<i>Diuris aff. magnifica l</i>	17	41.18			1300	NL
<i>Dockrillia racemosa</i>	17	47.06	NE	RF	800	NL
<i>Habenaria harroldii</i>	17	58.82	E	WL	400	NL
<i>Habenaria praecox</i>	17	29.41	NE	WL	500	NL
<i>Jonesiopsis abbreviata</i>	17	70.59	SW	He,WL	1000	NL
<i>Jonesiopsis occidentalis</i>	17	29.41	W,SW	For	1100	NL
<i>Microtis angusii</i>	17	41.18	E	WL	1300	EN
<i>Microtis fragrans</i>	17	11.76			1200	NL
<i>Microtis postremus</i>	17	11.76			1300	NL
<i>Nervilia uniflora</i>	17	52.94	CN,NE	For,WL ,RF	900	NL
<i>Paracaleana triens</i>	17	17.65	W,SW	SL	1600	NL
<i>Phaius tankervilleae</i>	17	58.82			1600	EN
<i>Phalaenopsis rosenstromii</i>	17	29.41	NE	RF	1200	EN
<i>Prasophyllum castaneum</i>	17	64.71	TAS	Co Sc,He	800	CE
<i>Prasophyllum hygrophilum</i>	17	52.94	SE	WL	500	NL

<i>Prasophyllum wilkinsoniorum</i>	17	64.71	SE	WL,Sw,GrL	400	NL
<i>Salacistis ochroleuca</i>	17	41.18			500	NL
<i>Thelymitra pallidiflora</i>	17	64.71	SE	For,WL	500	NL
<i>Caladenia unita</i>	18	33.33	SW	He,Sw	900	NL
<i>Ceratobium dalbertsii</i>	18	0.00	NE	RF	800	EN
<i>Corunastylis citriodora</i>	18	38.89	E		300	NL
<i>Dipodium pandanum</i>	18	22.22	NE	RF	400	NL
<i>Habenaria macraithii</i>	18	38.89	NE	Levee banks	200	EN
<i>Hymenochilus rubenachii</i>	18	83.33	TAS	SD,He	500	EN
<i>Oligochaetochilus saxicola</i>	18	11.11	SE	For	700	EN
<i>Prasophyllum affine</i>	18	22.22	SE	He	1500	EN
<i>Rhinerrhizopsis moorei</i>	18	11.11			1000	VU
<i>Anzybas montanus</i>	19	89.47	E	For	300	VU
<i>Arachnorchis atroclavia</i>	19	47.37	E	For	400	EN
<i>Arachnorchis cruscula</i>	19	42.11	SW	Mal,SL	1400	NL
<i>Bryobium irukandjianum</i>	19	57.89	NE	For	500	NL
<i>Corunastylis eriochila</i>	19	42.11	E	For	400	NL
<i>Diuris aff. behrii</i>	19	0.00	E,SE,CS	GrL,For	600	NL
<i>Oligochaetochilus planulatus</i>	19	52.63	SE	For	900	NL
<i>Peristylus papuanus</i>	19	36.84			700	NL
<i>Petalochilus chamaephyllus</i>	19	47.37	NE	For	300	NL
<i>Prasophyllum macrotys</i>	19	5.26	W,CI	SL,Mal	1300	NL
<i>Prasophyllum odoratissimum</i>	19	26.32	SW	He,Co	1800	NL
<i>Pterostylis sp. inland</i>	19	57.89		Sc	1900	NL
<i>Arachnorchis aestiva</i>	20	30.00	SE	Mon,For	1100	NL
<i>Bunochilus aff. melagrammus</i>	20	45.00			1200	NL
<i>Corunastylis aff. cranei</i>	20	70.00	E		200	NL
<i>Corysanthes expansa</i>	20	20.00	CS	SL,For, Mal	1500	NL
<i>Cyanicula fragrans</i>	20	20.00	SW,W	SL	1000	NL
<i>Eriochilus aff. cucullatus 2</i>	20	100.00			700	NL
<i>Jonesiopsis cristata</i>	20	30.00	W	SL	1100	NL
<i>Jonesiopsis elegans</i>	20	0.00	W	SL	600	EN
<i>Oberonia carnosa</i>	20	35.00	NE	Sc	700	NL

<i>Papulipetalum nematopodum</i>	20	85.00	NE	RF	600	NL
<i>Prasophyllum apoxychilum</i>	20	40.00	TAS	For	2100	EN
<i>Prasophyllum caricetum</i>	20	30.00	SE	Mon,S w	600	NL
<i>Rhizanthella slateri</i>	20	55.00	E	For	800	EN
<i>Thelymitra lucida</i>	20	40.00	SE,TAS	Sw	1400	NL
<i>Tropilis callitrophilis</i>	20	95.00	NE	RF	700	VU
<i>Adelopetalum weinthalii</i>	21	71.43			1300	NL
<i>Diuris aff. magnifica 2</i>	21	33.33			1300	NL
<i>Durabaculum nindii</i>	21	33.33	NE	Sw,RF, Man	1100	EN
<i>Goodyera polygonoides</i>	21	85.71			700	VU
<i>Pachystoma pubescens</i>	21	42.86	CN,NE	WL	800	NL
<i>Peristylus candidus</i>	21	85.71	NE	For,WL	400	NL
<i>Prasophyllum caudiculum</i>	21	0.00	E	GrL	500	NL
<i>Prasophyllum morganii</i>	21	61.90	SE		1200	VU
<i>Rhynchophreatia micrantha</i>	21	33.33			800	NL
<i>Taeniophyllum lobatum</i>	21	66.67	NE	RF	800	NL
<i>Aphyllorchis anomala</i>	22	40.91	NE	RF	900	NL
<i>Arachnorchis lorea</i>	22	9.09	W	SL,WL	1100	NL
<i>Australorchis carrii</i>	22	72.73	NE	RF	900	NL
<i>Corunastylis ruppii</i>	22	9.09	E	Sw,For	1300	NL
<i>Diuris micrantha</i>	22	36.36	SW	Sw	1100	VU
<i>Hymenochilus ziegeleri</i>	22	22.73	TAS	Co D,GrL	2500	EN
<i>Liparis fleckeri</i>	22	95.45			800	NL
<i>Microtis densiflora</i>	22	9.09	W,SW	Co Sc,For, WL	1900	NL
<i>Plumatichilos aff. turfosum</i>	22	31.82			1200	NL
<i>Pomatocalpa marsupiale</i>	22	54.55	NE	RF	500	VU
<i>Thelasis carinata</i>	22	0.00	NE	humid environ ments	600	NL
<i>Thelymitra imbricata</i>	22	18.18	TAS	GrL,For	800	NL
<i>Thelymitra improcera</i>	22	18.18	SE,TAS	He,For	900	NL
<i>Thelymitra latiloba</i>	22	27.27	W,SW	WL	1200	NL
<i>Thelymitra psammophila</i>	22	4.55	SE	For,He	1200	VU
<i>Acianthus exiguus</i>	23	30.43	E	RF,For	900	NL

<i>Arachnorchis hastata</i>	23	17.39	SE	He,For	1000	EN
<i>Calochilus aff.</i>						
<i>Saprophyticus</i>	23	100.00	SE	For	1000	NL
<i>Corunastylis cranei</i>	23	86.96			300	NL
<i>Cyanicula gertrudiae</i>	23	47.83	SW	For,Sc	1400	NL
<i>Drakaea gracilis</i>	23	26.09	SW	For	2000	NL
<i>Drakaea micrantha</i>	23	39.13	SW	For,WL	1500	NL
Drakonorchis						
drakeoides	23	8.70	W	SL	1700	EN
<i>Eriochilus tenuis</i>	23	43.48	W	Sw	1400	NL
Jonesiopsis dorrienii	23	26.09	SW	WL	1200	EN
<i>Spathoglottis paulinae</i>	23	34.78	CN,NE	For	900	NL
Corunastylis vernalis	24	58.33	SE	For	600	VU
<i>Corybas abellianus</i>	24	50.00	NE	HRF	900	NL
<i>Oligochaetochilus calceolus</i>	24	50.00	SE	For	800	NL
<i>Oligochaetochilus macrocalymmus</i>	24	4.17	W	WL	1000	NL
<i>Paracaleana disjuncta</i>	24	29.17	SE,CS	For,He	1700	NL
Sarcochilus						
hirticalcar	24	0.00	NE	RF	800	VU
<i>Taeniophyllum malianum</i>	24	0.00	NE	Sc,RF	700	NL
<i>Tetrabaculum melaleucaphilum</i>	24	37.50	E	RF,Sw	1200	NL
<i>Anoectochilus yatesiae</i>	25	60.00	NE	HRF	1000	NL
Arachnorchis xanthochila	25	24.00			800	EN
<i>Arthrochilus rosulatus</i>	25	72.00	NE	For	700	NL
Grastidium tozerense	25	36.00	NE	RF	900	VU
Oligochaetochilus cheraphilus	25	32.00	SE	For	800	VU
<i>Oxysepala windsorensis</i>	25	100.00	NE	For	600	NL
<i>Plumatichilos aff. barbatum</i>	25	24.00			1300	NL
Prasophyllum correctum	25	4.00	SE	GrL,W	700	EN
<i>Prasophyllum fosteri</i>	25	0.00	SE	L	300	NL
<i>Thelymitra granitora</i>	25	36.00	W,SW	GrL	2000	NL
<i>Thrixspermum platystachys</i>	25	32.00	NE	Co RH	1100	NL
<i>Tropidia curculigoides</i>	25	12.00	CN	RF	800	NL
<i>Arachnorchis cruciformis</i>	26	53.85	SE	RF	200	NL
Arachnorchis insularis	26	73.08	SE	He,For	600	VU
<i>Arachnorchis rhomboidiformis</i>	26	23.08	SW	For	1300	NL
<i>Chiloglottis anaticeps</i>	26	88.46	E	For	800	NL

<i>Diuris aff. corymbosa</i>						
<i>l</i>	26	7.69			2600	NL
<i>Diuris daltonii</i>	26	26.92	SE	For	900	NL
<i>Diuris praecox</i>	26	26.92	E	For	1800	VU
<i>Eriochilus multiflorus</i>	26	30.77	SW	For,WL	1300	NL
<i>Prasophyllum</i>						
<i>dossenum</i>	26	7.69	E	GrL	1200	NL
<i>Arachnorchis</i>						
<i>dienema</i>	27	74.07	TAS	He	800	EN
<i>Blepharochilum</i>						
<i>sladeanum</i>	27	77.78	NE	RF	1300	NL
<i>Chiloglottis</i>						
<i>longiclavata</i>	27	11.11	NE	For,RF	900	NL
<i>Corunastylis</i>						
<i>sigmoidea</i>	27	70.37	E		600	NL
<i>Dipodium</i>						
<i>atropurpureum</i>	27	51.85	E	For,WL	1500	NL
<i>Diuris purdiei</i>	27	22.22	SW	Sw,SL	1000	EN
<i>Jonesiopsis paradoxa</i>	27	22.22	W,SW	SL	2200	NL
<i>Nervilia crociformis</i>	27	66.67	NE	RF	1200	NL
<i>Oligochaetochilus</i>						
<i>maximus</i>	27	25.93	SE	For,Mal	1500	NL
<i>Oncophyllum</i>						
<i>globuliforme</i>	27	74.07	NE,E	RF	1100	VU
<i>Spathoglottis plicata</i>	27	51.85	NE	Sw,Wet	1300	VU
				For,Sed		
<i>Thelymitra silena</i>	27	0.00	TAS	ge	1100	NL
<i>Trichoglottis</i>						
<i>australiensis</i>	27	22.22	NE	RF	1100	VU
<i>Acianthella sublestus</i>	28	32.14	NE	RF	1000	NL
<i>Arachnorchis attingens</i>	28	14.29			1700	NL
<i>Arachnorchis</i>						
<i>lowanensis</i>	28	42.86	SE	WL	1000	EN
<i>Cheirostylis notialis</i>	28	17.86	E	RF,For	1600	NL
<i>Drakaea elastica</i>	28	7.14	SW	For	2100	EN
<i>Gastrodia lacista</i>	28	21.43	SW	For,WL	2100	NL
<i>Habenaria rumphii</i>	28	35.71	NE	For,WL	1200	NL
				He,WL,		
<i>Petalochilus atrochilus</i>	28	60.71	TAS	Co Sc	600	NL
<i>Sarcochilus eriochilus</i>	28	28.57	E	RH	1000	NL
<i>Schistotylus</i>						
<i>purpuratus</i>	28	42.86	E	For,RF	2100	NL
<i>Simpliglottis turfosa</i>	28	100.00	SE		900	NL
<i>Thelychiton</i>						
<i>carnarvonensis</i>	28	71.43	E	Gor	1000	NL
			E,SE,TA			
<i>Thelymitra atronitida</i>	28	39.29	S	For	1400	NL
				GrL,W		
<i>Thelymitra planicola</i>	28	42.86	E,SE	L	1100	NL
<i>Thelymitra viridis</i>	28	60.71	TAS	Co	700	NL

				He,Sw		
<i>Urochilus aff. vittatus</i>	28	21.43			1500	NL
<i>Corunastylis oligantha</i>	29	24.14	SE	WL	900	NL
<i>Corunastylis psammophila</i>	29	58.62			1000	NL
<i>Corunastylis superba</i>	29	13.79			1000	NL
				Co		
<i>Durabaculum fuscum</i>	29	13.79	NE	Sc,Man	1000	NL
<i>Eulophia bicallosa</i>	29	13.79			1300	NL
<i>Jonesiopsis caesarea caesarea</i>	29	10.34	SW	WL	1400	NL
<i>Jonesiopsis hiemalis</i>	29	13.79	SW,W	WL	1800	NL
<i>Jonesiopsis incrassata</i>	29	31.03	W	SL	1700	NL
<i>Microtis nashii</i>	29	34.48			2300	NL
<i>Oligochaetochilus xerophilus</i>	29	58.62	SE,CS	For	1700	VU
<i>Phoringopsis byrnesii</i>	29	58.62	NW	RH,Sp	900	NL
<i>Prasophyllum canaliculatum</i>	29	48.28	SE	WL	700	NL
<i>Prasophyllum incurvum</i>	29	34.48	TAS	SA	1800	NL
				Co		
<i>Prasophyllum litorale</i>	29	44.83	SE,CS	Sc,He	900	NL
<i>Thelymitra aggericola</i>	29	82.76	TAS	RH,He	800	NL
<i>Arachnorchis citrina</i>	30	13.33	SW	For	1000	NL
<i>Arachnorchis rosella</i>	30	16.67	SE	For	900	EN
<i>Chiloglottis platyptera</i>	30	30.00	E	For,RF	1500	NL
<i>Dendrobium stuartii</i>	30	13.33	NE	RF	1600	NL
<i>Taurantha collina</i>	30	16.67	E	For,RF	1300	NL

Removal of extinct and poorly recorded species leaves 153380 records in ANHAT for 732 species (and subspecies). The mean number of records per species for species with greater than 30 records is 209.5, with a mean of 35.4 for the percent of records in the NRS.

One hundred and seventy-three species of Orchidaceae had 45% or greater of individual site records located within PAs (**Table 32**). Of those 173 species, 18 species are classified as threatened, including five species classified as endangered. The species in this list of “well reserved” taxa are predominantly from eastern Australia, including Tasmania. There are relatively few species from Western Australia or from more arid inland areas. The species are most typically found in taller forests, including rainforests.

Table 32 Orchidaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
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<i>Thelymitra azurea</i>	46	102	45.10			7400	NL
<i>Crangonorchis pedoglossa</i>	62	137	45.26	E,SE,TAS	SL,He	8300	NL
<i>Oligochaetochilus aciculiformis</i>	62	137	45.26	SE,E	For,Mal	6600	NL
<i>Corunastylis densa</i>	24	53	45.28	SE	For,WL	2300	NL
<i>Pterostylis hildae</i>	70	154	45.45	NE,E,SE	For,RF	4700	NL
<i>Burnettia cuneata</i>	62	136	45.59	SE,TAS	Sw	10700	NL
<i>Calochilus gracillimus</i>	47	103	45.63	E,SE	For	5600	NL
<i>Linguella aff. nana</i>	7	33	45.83			3800	NL
<i>Arachnorchis valida</i>	45	98	45.92	SE	For,Sc	4600	EN
<i>Diuris pedunculata</i>	45	98	45.92	E,SE	For	7500	EN
<i>Diuris ochroma</i>	23	50	46.00	SE	GrL	2500	VU
<i>Sarcochilus falcatus</i>	208	452	46.02	NE,E	Expose d moist habitats	19800	NL
<i>Diuris picta</i>	29	63	46.03	SW	RH	2500	NL
<i>Bunochilus tunstallii</i>	43	93	46.24	SE,TAS	For	3900	NL
<i>Australorchis monophylla</i>	120	259	46.33	E,NE	RF WL,For	11300	NL
<i>Cymbidium suave</i>	165	356	46.35	NE,E,SE	,Pad	36400	NL
<i>Erythrorchis cassythoides</i>	96	207	46.38	E	For	9500	NL
<i>Simpliglottis valida</i>	382	823	46.42	SE,TAS	For	29000	NL
<i>Chiloterus gibbosus</i>	26	56	46.43	SW	For	3100	NL
<i>Diplodium atrans</i>	76	163	46.63	E,SE,TAS	For,WL	8700	NL
<i>Pharochilum daintreanum</i>	86	184	46.74	E,SE		6500	NL
<i>Cymbidium madidum</i>	136	291	46.74	NE,E	RF	14400	NL
<i>Corysanthes despectans</i>	72	154	46.75	SE	For,Sc, Mal	8900	NL
<i>Oligochaetochilus vittatus</i>	24	51	47.06			2800	NL
<i>Pterostylis erecta</i>	75	159	47.17	E	For	6500	NL
<i>Calochilus aff. gracillimus</i>	17	36	47.22	E	For	1700	NL
<i>Corunastylis simulans</i>	36	76	47.37			1800	NL
<i>Plumatichilos plumosum</i>	233	491	47.45	E	For	27900	NL
<i>Bryobium</i>	19	40	47.50	NE		1600	NL

eriaeoides

<i>Thelymitra fragrans</i>	68	143	47.55	WCI		4700	NL
<i>Cheirostylis ovata</i>	31	65	47.69	NE	For	2300	NL
<i>Simpliglottis cornuta</i>	181	379	47.76	SE,TAS, CS	For,Co Sc	24200	NL
<i>Gastrodia sesamoides</i>	334	699	47.78	SW	For,Sc	40900	NL
<i>Tropilis aemula</i>	184	385	47.79	E,SE	For	21500	NL
<i>Thelymitra venosa</i>	33	69	47.83	E	For	4400	NL
<i>Adelopetalum exiguum</i>	114	237	48.10	E,SE	RF,For	14400	NL
<i>Diuris luteola</i>	46	95	48.42	NE	For RF,For, Sc,	1600	NL
<i>Oberonia palmicola</i>	17	35	48.57	E	Mon WL,Ma	2100	NL
<i>Prasophyllum fecundum</i>	20	41	48.78	CS	l,He	3000	NL
<i>Chiloglottis sphyrnoides</i>	25	51	49.02	E	For	4200	NL
<i>Apostasia styliodioides</i>	66	134	49.25	NE	RF,For RF,For, Sw	3400	NL
<i>Zeuxine oblonga</i>	108	219	49.32	CN,NE,E		8000	NL
<i>Adenochilus nortonii</i>	37	75	49.33	E	Ca,HRF	2400	NL
<i>Corymborkis veratrifolia</i>	63	127	49.61	NE	RF	4400	NL
<i>Thelychiton jonesii</i>	82	165	49.70			4500	NL
<i>Sarcochilus ceciliae</i>	129	259	49.81	NE	RH	10300	NL
<i>Hymeneria kingii</i>	16	32	50.00			1600	NL
<i>Cepobaculum carronii</i>	17	34	50.00	NE	For	1600	VU
<i>Thelychiton curvicaulis</i>	24	48	50.00	NE	RF	2400	NL
<i>Diplodium decurvum</i>	257	510	50.39	E,SE,TAS	Mon,S A	32200	NL
<i>Dockrillia striolata striolata</i>	53	105	50.48	E,SE,TAS	RH	11600	NL
<i>Acianthella amplexicaulis</i>	45	89	50.56	E	RF,Sc	5200	NL
<i>Chiloglottis trilabra</i>	105	207	50.72	E,SE	For	9400	NL
<i>Dockrillia striolata</i>	31	61	50.82			4500	NL
<i>Dockrillia pugioniformis</i>	135	264	51.14	E,SE	For	16900	NL
<i>Acianthus collinus</i>	45	88	51.14	E,SE	For	3900	NL
<i>Dipodium ensifolium</i>	63	123	51.22	NE	For,WL	2800	NL

<i>Arachnorchis thinicola</i>	21	41	51.22	SW	For	1500	NL
<i>Blepharochilum macphersonii</i>	57	111	51.35	NE	RF	4000	NL
<i>Prasophyllum concinnum</i>	54	105	51.43	TAS	He,For, Sedge	4300	NL
<i>Arachnorchis fitzgeraldii</i>	34	66	51.52	E	For	3700	NL
<i>Petalochilus coactilis</i>	16	31	51.61	CS	For	1700	NL
<i>Sarcochilus fitzgeraldii</i>	30	58	51.72	E	RF,RH	3100	VU
<i>Arachnorchis verrucosa</i>	98	188	52.13	SE	WL,Ma l	11500	NL
<i>Pterostylis scabrida</i>	60	115	52.17	TAS	For,RF	7400	NL
<i>Diplodium erythroconcha</i>	36	69	52.17			4300	NL
<i>Diplodium laxum</i>	71	136	52.21	E	For	5500	NL
<i>Thynninorchis huntianus</i>	110	210	52.38	E,SE,TAS	For,WL	9500	NL
<i>Arachnorchis calcicola</i>	21	40	52.50	SE	For	900	VU
<i>Prasophyllum validum</i>	89	169	52.66	CS	For	3400	VU
<i>Arachnorchis fulva</i>	29	55	52.73	SE	For	800	EN
<i>Petalochilus pictus</i>	76	144	52.78	E,SE	For,He	6400	NL
<i>Arthrochilus oreophilus</i>	17	32	53.13	NE	For,WL	700	NL
<i>Sarcochilus hartmannii</i>	25	47	53.19	E	RH	2900	VU
<i>Dienia montana</i>	55	103	53.40	NE	RF,For	3600	NL
<i>Octarrhena pusilla</i>	31	58	53.45	NE	HRF	1800	NL
<i>Diuris drummondii</i>	30	56	53.57	SW	Sw	4400	VU
<i>Speculantha nigricans</i>	30	56	53.57	E	For,Sc, He	2600	NL
<i>Diuris semilunulata</i>	59	108	54.63	SE	For	3200	NL
<i>Anzybas fordhamii</i>	42	76	55.26	E,SE,TAS ,CS	He,Sw Mon,R	3200	NL
<i>Schoenorchis micrantha</i>	26	47	55.32	NE	F	2000	NL
<i>Corunastylis nuda</i>	100	180	55.56			9900	NL
<i>Simpliglottis jeanesii</i>	24	43	55.81	SE	For	1600	NL
<i>Calanthe triplicata</i>	119	213	55.87			14900	NL
<i>Arachnorchis gardneri</i>	27	48	56.25	SW	Sc,He,S D	2400	NL
<i>Arachnorchis fragrantissima</i>	58	103	56.31	SE	He,For	4100	NL

<i>Plumatichilos tasmanicum</i>	69	122	56.56	SE,TAS	For,Co Sc,He, For	7200	NL
<i>Liparis reflexa</i>	47	83	56.63			8700	NL
<i>Corunastylis arrecta</i>	29	51	56.86	SE	SA,Mo n,GrL, For	2900	NL
<i>Dockrillia dolichophylla</i>	35	61	57.38	E	RF	2400	NL
<i>Oxysepala shepherdii</i>	55	95	57.89	E,SE	RF,For	6700	NL
<i>Liparis simmondsii</i>	18	31	58.06			1100	NL
<i>Arachnorchis interjacens</i>	21	36	58.33	SW	WL,He	1000	NL
<i>Simpliglottis chlorantha</i>	38	65	58.46	SE	For	2700	NL
<i>Conostalix paludicola</i>	64	109	58.72	CN,NE	Sw	2600	NL
<i>Thelychiton kingianus</i>	208	352	59.09	E	RH	13000	NL
<i>Diplodium coccinum</i>	136	229	59.39	E	For	7800	NL
<i>Liparis coelogynoides</i>	44	74	59.46			4500	NL
<i>Fruticicola radicans</i>	47	79	59.49	NE	RF	2900	NL
<i>Prasophyllum candidum</i>	25	42	59.52	SE	SA GrL	2000	NL
<i>Diplodium abruptum</i>	104	173	60.12	E	Mon	5100	NL
<i>Gastrodia procera</i>	85	141	60.28	E	For	8800	NL
<i>Chiloterus cucullatus</i>	26	43	60.47	SW	For,SL	3200	NL
<i>Oxysepala gadgarrensis</i>	42	69	60.87	NE	RF	2300	NL
<i>Oligochaetochilus arenicola</i>	88	144	61.11	CS	WL	1500	VU
<i>Papillilabium beckleri</i>	72	116	62.07	E		5400	NL
<i>Arthrochilus latipes</i>	48	77	62.34	CN	For Mon,Fo r	2200	NL
<i>Diplodium aestivum</i>	65	104	62.50	E,SE	Mon,Gr L,WL, SA	2800	NL
<i>Diuris monticola</i>	85	136	62.50	E,SE,TAS		8300	NL
<i>Stegostyla lyallii</i>	32	51	62.75			3600	NL
<i>Arachnorchis arrecta</i>	68	108	62.96	SW	WL,SL ,He	6500	VU
<i>Oligochaetochilus</i>	24	38	63.16			2400	NL

sargentii

Arachnorchis

<i>behrii</i>	196	310	63.23	CS	For	2100	EN
<i>Oxysepala wadsworthii</i>	32	49	65.31	NE	RF	2000	NL
<i>Crepidium acuminatum</i>	34	52	65.38			1200	NL
<i>Pterostylis monticola</i>	155	235	65.96	SE	Mon,S A,Sw	8300	NL
<i>Arachnorchis necrophylla</i>	37	56	66.07	CS	For,Sc	2000	NL
<i>Prasophyllum calcicola</i>	41	62	66.13	CS,SW	Co Sc	4400	NL
<i>Trachyrhizum agrostophyllum</i>	41	62	66.13	NE	RF,For	1600	NL
<i>Arachnorchis montana</i>	44	66	66.67	SE	Mon,SL WL,Mon, SA, For, GrL,	3700	NL
<i>Thelymitra simulata</i>	58	87	66.67	SE,TAS	HF	4200	NL
<i>Dockrillia fairfaxii</i>	43	64	67.19	E	RF	4300	NL
<i>Plexaure crassiuscula</i>	51	75	68.00	NE	HRF	2300	NL
<i>Pterostylis cucullate</i>	192	281	68.33			7900	VU
<i>Thelymitra matthewsii</i>	69	100	69.00	SE	For	3300	VU
<i>Thelychiton adae</i>	63	91	69.23	NE	RF,For	2400	NL
<i>Sarcochilus serrulatus</i>	25	36	69.44	NE	HRF Mon,S	1400	NL
<i>Thelymitra cyanea</i>	290	417	69.54	E,SE,TAS	A	25000	NL
<i>Chiloglottis palachila</i>	30	43	69.77	E,SE	For,RF	1100	NL
<i>Epiblema grandiflorum</i>	60	86	69.77			2500	NL
<i>Thelychiton falcorostrus</i>	37	53	69.81	E	HRF,For	3000	NL
<i>Tetrabaculum cacatua</i>	35	50	70.00	NE	RF WL,SA	2000	NL
<i>Stegostyla alpina</i>	269	384	70.05	SE,TAS	,HF	19100	NL
<i>Davejonesia prenticei</i>	41	58	70.69	NE	RF	2100	NL
<i>Eriochilus pulchellus</i>	56	79	70.89	SW	RH	4000	NL
<i>Serpenticaulis</i>	76	107	71.03	NE	RF,For	3300	NL

<i>johnsonii</i>							
<i>Prasophyllum montanum</i>	32	45	71.11	SE	WL	1600	NL
<i>Petrorchis bicornis</i>	35	49	71.43	E		600	VU
<i>Sarcochilus minutiflos</i>	38	53	71.70	NE,E		1700	NL
<i>Cadetia taylori</i>	89	124	71.77	NE	RF,Man ,For	3600	NL
<i>Prasophyllum rogersii</i>	28	39	71.79	E	GrL	1700	NL
<i>Microtis pulchella</i>	68	93	73.12	SW	Sw	2300	NL
<i>Simpliglottis pluricallata</i>	100	136	73.53	E	Mon,Fo r	3400	NL
<i>Corybas cerasinus</i>	31	41	75.61	NE	For	1100	NL
<i>Townsonia viridis</i>	28	37	75.68	TAS	For SA	8800	NL
<i>Prasophyllum sphacelatum</i>	159	203	78.33	SE,TAS	HF,GrL WL	6300	NL
<i>Goodyera viridiflora</i>	37	47	78.72			800	NL
<i>Davejonesia lichenastra</i>	28	35	80.00	NE	RF	1500	NL
<i>Stelbophyllum toressae</i>	32	40	80.00	NE		1400	NL
<i>Pterostylis dubia</i>	45	56	80.36	TAS	SL,For	3100	NL
<i>Adelopetalum lageniforme</i>	33	41	80.49	NE	HRF	1200	NL
<i>Prasophyllum alpinum</i>	157	195	80.51	TAS	SA,HF, GrL	10000	NL
<i>Bryobium queenslandicum</i>	30	37	81.08	NE	RF	1100	NL
<i>Adelopetalum newportii</i>	79	97	81.44	NE	RF,For Mon,S	3100	NL
<i>Pterostylis oreophila</i>	53	65	81.54	SE	A	2600	NL
<i>Kauorchis evasa</i>	53	64	82.81	NE	RF	1700	NL
<i>Prasophyllum alpestre</i>	250	299	83.61	SE	GrL,HF ,WL	7900	NL
<i>Prasophyllum suttonii</i>	109	130	83.85	SE		5600	NL
<i>Liparis angustilabris</i>	27	32	84.38			1100	NL
<i>Paracaleana dixonii</i>	29	34	85.29	W,SW	SL	1400	NL
<i>Diplodium bryophilum</i>	89	104	85.58	CS	WL	400	NL
<i>Diuris venosa</i>	42	49	85.71	E	WL,Gr L	1400	VU
<i>Arachnorchis</i>	73	84	86.90	CS	For,W	1400	EN

				L			
<i>gladiolata</i>							
<i>Prasophyllum retroflexum</i>	36	41	87.80	SE	SA HF	1300	NL
<i>Adelopetalum lilianiae</i>	62	69	89.86	NE	HRF	1600	NL
<i>Prasophyllum niphopedium</i>	39	43	90.70	SE	SA HF	800	NL
<i>Cyanicula ixiooides</i>	60	65	92.31			1800	NL
<i>Prasophyllum tadgellianum</i>	230	249	92.37	SE,TAS	SA HF,WL	6500	NL
<i>Thelychiton fleckeri</i>	64	68	94.12	NE	For	1700	NL
<i>Liparis bracteata</i>	37	39	94.87			1600	NL
<i>Liparis nugentiae</i>	37	39	94.87			1400	NL
<i>Diuris heberlei</i>	244	252	96.83	SW	SD	10500	NL
<i>Arachnorchis woolcockiorum</i>	119	121	98.35	C		600	NL

Thirty-two species have less than 10% of ANHAT records located within PAs (**Table 33**). Ten of the 32 species are classified as threatened, including eight endangered species. The species are distributed reasonably evenly between east and west Australia, with no inland species occurring on the list. The species are distributed widely through the available vegetation types with no obvious pattern.

Table 33 Orchidaceae species with 10% or less of their ANHAT record sites located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Corunastylis plumosa</i>	0	37	0.00	SE	For	500	EN
<i>Diuris aff. chryseopsis 1</i>	0	38	0.00			1700	EN
<i>Vanda hindsii</i>	0	41	0.00	NE	For	1700	VU
<i>Monanthos malbrowni</i>	0	42	0.00	NE	RF	900	NL
<i>Thelymitra gregaria</i>	0	50	0.00	SE	GrL	1300	NL
<i>Arachnorchis concinna</i>	2	96	2.08	SW	WL,For	4000	NL
<i>Diuris cuneata</i>	2	91	2.20			3700	NL
<i>Diuris fragrantissima</i>	1	44	2.27	SE	GrL	900	EN
<i>Prasophyllum suaveolens</i>	2	81	2.47	SE	GrL,W L	2600	EN
<i>Diuris goonooensis</i>	2	76	2.63	E	For	7100	NL
<i>Prasophyllum petilum</i>	2	52	3.85	SE	GrL,W L	2600	EN

<i>Prasophyllum diversiflorum</i>	2	49	4.08	SE	Sw,Gr L	1400	EN
<i>Arachnorchis uliginosa</i>	3	62	4.84			3300	NL
<i>Jonesiopsis xantha</i>	3	62	4.84	W,SW	WL	3400	NL
<i>Diuris tricolor</i>	7	126	5.56	E,SE	WL	6100	NL
<i>Jonesiopsis multiclavia</i>	3	53	5.66	W,SW	Cas,RH	3100	NL
<i>Diuris magnifica</i>	4	70	5.71	W	For	2700	NL
<i>Grastidium luteocilium</i>	2	33	6.06	NE	RF	1800	NL
<i>Jonesiopsis chapmanii</i>	8	118	6.78	W,SW	WL,Fo r	5300	NL
<i>Arachnorchis longicauda eminens</i>	3	43	6.98	W	WL	2900	NL
<i>Jonesiopsis filifera</i>	6	84	7.14	W	WL	4800	NL
<i>Arachnorchis huegelii</i>	7	94	7.45	SW	SL	4300	EN
<i>Arachnorchis macroclavia</i>	4	51	7.84	CS	Mal,S L	2000	EN
<i>Prasophyllum campestre</i>	8	102	7.84	SE	GrL,W L	5500	NL
<i>Diplodium asperum</i>	7	82	8.54	W	For,W L,SL	4600	NL
<i>Sarcochilus weinthalii</i>	5	58	8.62	E	Hill,M on	2600	VU
<i>Cepobaculum semifuscum</i>	3	34	8.82	NE	For,W L	2700	NL
<i>Diuris concinna</i>	6	63	9.52	SW	For,W L	2700	NL
<i>Oligochaetochilus leptochilus</i>	4	41	9.76	SW	Mal	2000	NL
<i>Arachnorchis speciosa</i>	8	82	9.76	SW	WL	3000	NL
<i>Stegostyla testacea</i>	10	102	9.80	E,SE	He,For	6400	NL
<i>Oligochaetochilus chaetophorus</i>	5	50	10.00	E	For	1800	NL

A total of 37 Orchidaceae species had records in more than 100 separate PAs (Table 34). Approximately half the species in this list had over 1000 records, with an average of 1274 records per species. No species were listed as threatened.

Table 34 Orchidaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Pterostylis curta</i>	857	104	80	NL
<i>Gastrodia sesamoides</i>	699	105	73	NL
<i>Petalochilus fuscatus</i>	976	105	80	NL
<i>Arachnorchis tentaculata</i>	1003	105	54	NL

<i>Diuris heberlei</i>	252	108	24	NL
<i>Cyrtostylis robusta</i>	604	109	75	NL
<i>Simpliglottis gunnii</i>	1333	113	75	NL
<i>Thelymitra rubra</i>	983	115	61	NL
<i>Hymenochilus muticus</i>	1172	115	80	NL
<i>Petalochilus catenatus</i>	917	118	80	NL
<i>Acianthus exsertus</i>	923	124	80	NL
<i>Cyrtostylis reniformis</i>	874	129	85	NL
<i>Microtis arenaria</i>	885	129	71	NL
<i>Urochilus sanguineus</i>	916	135	80	NL
<i>Dipodium punctatum</i>	1135	139	98	NL
<i>Caladenia latifolia</i>	987	140	85	NL
<i>Speculantha parviflora</i>	1144	143	95	NL
<i>Stegostyla gracilis</i>	1268	143	93	NL
<i>Pheladenia deformis</i>	995	144	86	NL
<i>Diuris pardina</i>	1133	144	75	NL
<i>Arachnorchis dilatata</i>	853	147	82	NL
<i>Thelymitra ixiooides</i>	1180	149	100	NL
<i>Pyrorchis nigricans</i>	1005	153	89	NL
<i>Diuris sulphurea</i>	1336	162	110	NL
<i>Calochilus robertsonii</i>	1392	163	96	NL
<i>Thelymitra nuda</i>	956	164	94	NL
<i>Pterostylis pedunculata</i>	1164	167	106	NL
<i>Thelymitra antennifera</i>	1316	169	93	NL
<i>Microtis parviflora</i>	1780	173	110	NL
<i>Bunochilus longifolius</i>	1565	180	109	NL
<i>Eriochilus cucullatus</i>	1335	198	123	NL
<i>Thelymitra pauciflora</i>	2171	234	113	NL
<i>Pterostylis nutans</i>	2288	239	145	NL
<i>Petalochilus carneus</i>	2285	250	175	NL
<i>Glossodia major</i>	2599	250	124	NL
<i>Linguella nana</i>	2372	293	169	NL
<i>Microtis unifolia</i>	2474	293	160	NL

A total of 143 species had records in five or fewer PAs (**Table 35**). Twenty-nine species were listed as threatened, including 15 species classified as endangered. The majority of species in this list had fewer than 100 individual record sites, and no species had more than 250 record sites.

Table 35 Orchidaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Corunastylis plumosa</i>	37	0	EN
<i>Diuris aff. chryseopsis 1</i>	38	0	EN
<i>Vanda hindsii</i>	41	0	VU
<i>Monanthos malbournii</i>	42	0	NL
<i>Thelymitra gregaria</i>	50	0	NL
<i>Thelymitra apiculata</i>	33	1	NL

<i>Grastidium luteocilium</i>	33	1	NL
<i>Arachnorchis excelsa</i>	33	1	EN
<i>Hymenochilus pratensis</i>	34	1	VU
<i>Diplocaulobium glabrum</i>	36	1	NL
<i>Dockrillia wassellii</i>	38	1	NL
<i>Diuris aequalis</i>	43	1	VU
<i>Diuris fragrantissima</i>	44	1	EN
<i>Diplodium angustum</i>	46	1	NL
<i>Oligochaetochilus linguus</i>	60	1	NL
<i>Diuris oporina</i>	62	1	NL
<i>Prasophyllum suaveolens</i>	81	1	EN
<i>Arachnorchis woolcockiorum</i>	121	1	NL
<i>Thrixspermum congestum</i>	31	2	NL
<i>Petalochilus coactilis</i>	31	2	NL
<i>Arthrochilus oreophilus</i>	32	2	NL
<i>Cepobaculum semifuscum</i>	34	2	NL
<i>Thelymitra polychroma</i>	35	2	NL
<i>Arachnorchis arenicola</i>	36	2	NL
<i>Cepobaculum tattonianum</i>	38	2	NL
<i>Chiloglottis truncata</i>	38	2	NL
<i>Oligochaetochilus ovatus</i>	40	2	NL
<i>Prasophyllum triangulare</i>	41	2	NL
<i>Leioanthum bifalce</i>	41	2	NL
<i>Prasophyllum candidum</i>	42	2	NL
<i>Prasophyllum niphopedium</i>	43	2	NL
<i>Sarcocadetia wariana</i>	49	2	NL
<i>Prasophyllum diversiflorum</i>	49	2	EN
<i>Robiquetia wassellii</i>	50	2	NL
<i>Prasophyllum petilum</i>	52	2	EN
<i>Diuris parvipetala</i>	53	2	NL
<i>Diuris goonooensis</i>	76	2	NL
<i>Diuris cuneata</i>	91	2	NL
<i>Arachnorchis concinna</i>	96	2	NL
<i>Diplodium bryophilum</i>	104	2	NL
<i>Liparis simmondsii</i>	31	3	NL
<i>Aphyllorchis queenslandica</i>	33	3	NL
<i>Arachnorchis graminifolia</i>	34	3	NL
<i>Micropera fasciculata</i>	35	3	NL
<i>Arachnorchis interjacens</i>	36	3	NL
<i>Thelymitra variegata</i>	37	3	NL
<i>Pterostylis procera</i>	37	3	NL
<i>Appendicula australiensis</i>	39	3	NL
<i>Prasophyllum exilis</i>	40	3	NL
<i>Prasophyllum retroflexum</i>	41	3	NL
<i>Nervilia peltata</i>	43	3	NL
<i>Arachnorchis longicauda</i>			
<i>eminens</i>	43	3	NL
<i>Arachnorchis versicolor</i>	47	3	VU
<i>Oligochaetochilus</i>			
<i>chaetophorus</i>	50	3	NL

<i>Serpenticaulis bowkettiae</i>	50	3	NL
<i>Jonesiopsis multiclavia</i>	53	3	NL
<i>Dipodium campanulatum</i>	54	3	NL
<i>Oligochaetochilus gibbosus</i>	54	3	EN
<i>Hymeneria fitzalanii</i>	55	3	NL
<i>Speculantha nigricans</i>	56	3	NL
<i>Petalochilus quadrifarius</i>	60	3	NL
<i>Jonesiopsis xantha</i>	62	3	NL
<i>Arachnorchis uliginosa</i>	62	3	NL
<i>Phoringopsis dockrillii</i>	62	3	NL
<i>Arachnorchis conferta</i>	65	3	NL
<i>Arachnorchis stellata</i>	68	3	NL
<i>Diuris magnifica</i>	70	3	NL
<i>Arthrochilus latipes</i>	77	3	NL
<i>Oligochaetochilus ciliatus</i>	79	3	NL
<i>Arachnorchis gladiolata</i>	84	3	EN
<i>Epiblema grandiflorum</i>	86	3	NL
<i>Prasophyllum campestre</i>	102	3	NL
<i>Diuris tricolor</i>	126	3	NL
<i>Oligochaetochilus mitchellii</i>	229	3	NL
<i>Habenaria xanthantha</i>	31	4	NL
<i>Arachnorchis decora</i>	35	4	NL
<i>Dipodium pulchellum</i>	37	4	NL
<i>Grastidium baileyi</i>	37	4	NL
<i>Vappodes phalaenopsis</i>	38	4	VU
<i>Hetaeria oblongifolia</i>	39	4	NL
<i>Bryobium eriaeoides</i>	40	4	NL
<i>Oligochaetochilus leptochilus</i>	41	4	NL
<i>Arachnorchis thinicola</i>	41	4	NL
<i>Diplodium pulchellum</i>	42	4	VU
<i>Prasophyllum parviflorum</i>	46	4	NL
<i>Taurantha taurus</i>	47	4	NL
<i>Prasophyllum pruinsum</i>	47	4	NL
<i>Diuris venosa</i>	49	4	VU
<i>Diplodium torquatum</i>	49	4	NL
<i>Petrorchis bicornis</i>	49	4	VU
<i>Oligochaetochilus</i>			
<i>praetermissus</i>	50	4	NL
<i>Dipodium elegantulum</i>	51	4	NL
<i>Arachnorchis macroclavia</i>	51	4	EN
<i>Crepidium acuminatum</i>	52	4	NL
<i>Habenaria elongata</i>	54	4	NL
<i>Arachnorchis plicata</i>	58	4	NL
<i>Oligochaetochilus insectifer</i>	59	4	NL
<i>Speculantha atriola</i>	61	4	EN
<i>Diuris concinna</i>	63	4	NL
<i>Habenaria ferdinandi</i>	67	4	NL
<i>Cepobaculum johannis</i>	67	4	VU
<i>Diplodium longipetalum</i>	72	4	NL
<i>Luisia teretifolia</i>	73	4	NL

<i>Corunastylis simulans</i>	76	4	NL
<i>Arachnorchis ferruginea</i>	77	4	NL
<i>Crepidium marsupichilum</i>	80	4	NL
<i>Bromheadia pulchra</i>	80	4	NL
<i>Jonesiopsis filifera</i>	84	4	NL
<i>Oligochaetochilus cobarensis</i>	97	4	VU
<i>Jonesiopsis chapmanii</i>	118	4	NL
<i>Cepobaculum carronii</i>	34	5	VU
<i>Bunochilus stenochilus</i>	35	5	NL
<i>Microtis graniticola</i>	35	5	NL
<i>Calochilus caeruleus</i>	35	5	NL
<i>Diuris carinata</i>	39	5	NL
<i>Australorchis schneiderae</i>	40	5	NL
<i>Linguella aff. nana 2</i>	40	5	NL
<i>Diuris amplissima</i>	41	5	NL
<i>Mobilabium hamatum</i>	42	5	NL
<i>Chiloglottis palachila</i>	43	5	NL
<i>Dipodium pardalinum</i>	46	5	NL
<i>Prasophyllum ovale</i>	47	5	NL
<i>Arachnorchis christineae</i>	48	5	VU
<i>Dockrillia nugentii</i>	48	5	NL
<i>Chiloglottis seminuda</i>	48	5	NL
<i>Corunastylis tasmanica</i>	50	5	NL
<i>Habenaria triplonema</i>	52	5	NL
<i>Arachnorchis fulva</i>	55	5	EN
<i>Diuris laevis</i>	56	5	NL
<i>Sarcochilus weinthalii</i>	58	5	VU
<i>Calochilus holtzei</i>	60	5	NL
<i>Thelymitra inflata</i>	60	5	NL
<i>Urochilus concavus</i>	62	5	NL
<i>Arachnorchis infundibularis</i>	66	5	NL
<i>Didymoplexis pallens</i>	67	5	NL
<i>Diplodium longicurvum</i>	68	5	NL
<i>Adenochilus nortonii</i>	75	5	NL
<i>Diplodium asperum</i>	82	5	NL
<i>Arachnorchis richardsiorum</i>	94	5	EN
<i>Arachnorchis huegelii</i>	94	5	EN
<i>Oligochaetochilus setifer</i>	109	5	NL
<i>Arachnorchis argocalla</i>	131	5	EN
<i>Diplodium tenuissimum</i>	144	5	VU

One hundred and ninety-five species of Orchidaceae had records in five or fewer PAs greater than 1000 hectares in area, including 43 threatened species (Table 36). Twenty of these species are listed as endangered.

Table 36 Orchidaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. Pas >1000ha	EPBC status
<i>Arachnorchis woolcockiorum</i>	121	1	NL
<i>Arachnorchis macroclavia</i>	51	1	EN
<i>Arachnorchis conferta</i>	65	1	NL
<i>Diuris tricolor</i>	126	1	NL
<i>Jonesiopsis multiclavia</i>	53	1	NL
<i>Prasophyllum suaveolens</i>	81	1	EN
<i>Diplodium bryophilum</i>	104	1	NL
<i>Oligochaetochilus linguus</i>	60	1	NL
<i>Arachnorchis gladiolata</i>	84	1	EN
<i>Arachnorchis brumalis</i>	189	1	VU
<i>Jonesiopsis xantha</i>	62	1	NL
<i>Dockrillia wassellii</i>	38	1	NL
<i>Arachnorchis uliginosa</i>	62	1	NL
<i>Grastidium luteocilium</i>	33	1	NL
<i>Diplocaulobium glabrum</i>	36	1	NL
<i>Arachnorchis versicolor</i>	47	1	VU
<i>Diplodium angustum</i>	46	1	NL
<i>Thelymitra albiflora</i>	47	1	NL
<i>Thelymitra apiculata</i>	33	1	NL
<i>Thelymitra inflata</i>	60	1	NL
<i>Prasophyllum pruinatum</i>	47	1	NL
<i>Arachnorchis excelsa</i>	33	1	EN
<i>Diuris cuneata</i>	91	1	NL
<i>Dipodium campanulatum</i>	54	1	NL
<i>Oligochaetochilus arenicola</i>	144	1	VU
<i>Diuris aequalis</i>	43	1	VU
<i>Diuris goonooensis</i>	76	1	NL
<i>Hymenochilus pratensis</i>	34	1	VU
<i>Diuris magnifica</i>	70	1	NL
<i>Arachnorchis graminifolia</i>	34	1	NL
<i>Jonesiopsis chapmanii</i>	118	2	NL
<i>Cyanicula ixioides</i>	65	2	NL
<i>Jonesiopsis filifera</i>	84	2	NL
<i>Arachnorchis stellata</i>	68	2	NL
<i>Cepobaculum tattonianum</i>	38	2	NL
<i>Diuris parvipetala</i>	53	2	NL
<i>Petalochilus coactilis</i>	31	2	NL
<i>Prasophyllum exilis</i>	40	2	NL
<i>Prasophyllum candidum</i>	42	2	NL
<i>Robiquetia wassellii</i>	50	2	NL
<i>Sarcocadetia waryana</i>	49	2	NL
<i>Taurantha taurus</i>	47	2	NL
<i>Oligochaetochilus gibbosus</i>	54	2	EN
<i>Dipodium pardalinum</i>	46	2	NL
<i>Arachnorchis formosa</i>	49	2	VU
<i>Thelymitra polychroma</i>	35	2	NL
<i>Oligochaetochilus ovatus</i>	40	2	NL
<i>Thrixspermum congestum</i>	31	2	NL

<i>Prasophyllum niphopedium</i>	43	2	NL
<i>Prasophyllum triangulare</i>	41	2	NL
<i>Arachnorchis concolor</i>	131	2	VU
<i>Arachnorchis integra</i>	82	2	NL
<i>Arachnorchis arenicola</i>	36	2	NL
<i>Leioanthum bifalce</i>	41	2	NL
<i>Diuris recurva</i>	75	2	NL
<i>Oligochaetochilus chaetophorus</i>	50	2	NL
<i>Prasophyllum petillum</i>	52	2	EN
<i>Chiloglottis truncata</i>	38	2	NL
<i>Cepobaculum semifuscum</i>	34	2	NL
<i>Arachnorchis argocalla</i>	131	2	EN
<i>Arthrochilus oreophilus</i>	32	2	NL
<i>Arachnorchis fulva</i>	55	2	EN
<i>Arachnorchis rigida</i>	225	2	EN
<i>Arachnorchis concinna</i>	96	2	NL
<i>Aphyllorchis queenslandica</i>	33	3	NL
<i>Corunastylis tasmanica</i>	50	3	NL
<i>Arachnorchis decora</i>	35	3	NL
<i>Arachnorchis behrii</i>	310	3	EN
<i>Arachnorchis interjacens</i>	36	3	NL
<i>Diuris carinata</i>	39	3	NL
<i>Oligochaetochilus insectifer</i>	59	3	NL
<i>Phoringopsis dockrillii</i>	62	3	NL
<i>Arachnorchis thinicola</i>	41	3	NL
<i>Appendicula australiensis</i>	39	3	NL
<i>Arachnorchis ferruginea</i>	77	3	NL
<i>Diuris brevifolia</i>	41	3	NL
<i>Arachnorchis necrophylla</i>	56	3	NL
<i>Arachnorchis drummondii</i>	78	3	NL
<i>Diuris dendrobioides</i>	178	3	NL
<i>Arthrochilus latipes</i>	77	3	NL
<i>Prasophyllum campestre</i>	102	3	NL
<i>Arachnorchis calcicola</i>	40	3	VU
<i>Hymeneria fitzalanii</i>	55	3	NL
<i>Epiblema grandiflorum</i>	86	3	NL
<i>Oligochaetochilus leptochilus</i>	41	3	NL
<i>Nervilia peltata</i>	43	3	NL
<i>Petalochilus quadrifarius</i>	60	3	NL
<i>Micropera fasciculata</i>	35	3	NL
<i>Thelymitra aff. pauciflora 1</i>	51	3	NL
<i>Microtis graniticola</i>	35	3	NL
<i>Oligochaetochilus ciliatus</i>	79	3	NL
<i>Vappodes phalaenopsis</i>	38	3	VU
<i>Prasophyllum pallidum</i>	107	3	VU
<i>Arachnorchis richardsiorum</i>	94	3	EN
<i>Bunochilus chlorogrammus</i>	50	3	VU
<i>Diplodium tenuissimum</i>	144	3	VU
<i>Oligochaetochilus cobarensis</i>	97	3	VU
<i>Liparis simmondsii</i>	31	3	NL

<i>Speculantha nigricans</i>	56	3	NL
<i>Speculantha atriola</i>	61	3	EN
<i>Thelymitra variegata</i>	37	3	NL
<i>Pterostylis procera</i>	37	3	NL
<i>Urochilus concavus</i>	62	3	NL
<i>Serpenticaulis bowkettiae</i>	50	3	NL
<i>Prasophyllum retroflexum</i>	41	3	NL
<i>Prasophyllum ovale</i>	47	3	NL
<i>Oligochaetochilus mitchellii</i>	229	3	NL
<i>Chiloglottis palachila</i>	43	4	NL
<i>Oligochaetochilus setifer</i>	109	4	NL
<i>Diuris venosa</i>	49	4	VU
<i>Cepobaculum johannis</i>	67	4	VU
<i>Oligochaetochilus praetermissus</i>	50	4	NL
<i>Arachnorchis christineae</i>	48	4	VU
<i>Thelymitra stellata</i>	38	4	EN
<i>Bunochilus williamsonii</i>	43	4	NL
<i>Diplodidium torquatum</i>	49	4	NL
<i>Bryobium eriaeoides</i>	40	4	NL
<i>Dipodium elegantulum</i>	51	4	NL
<i>Diplodidium elegans</i>	36	4	NL
<i>Petrorchis bicornis</i>	49	4	VU
<i>Dipodium pulchellum</i>	37	4	NL
<i>Diuris amplissima</i>	41	4	NL
<i>Diuris concinna</i>	63	4	NL
<i>Crepidium marsupichilum</i>	80	4	NL
<i>Diplodidium pulchellum</i>	42	4	VU
<i>Diuris brumalis</i>	59	4	NL
<i>Oligochaetochilus despectans</i>	298	4	EN
<i>Diplodidium longipetalum</i>	72	4	NL
<i>Habenaria elongata</i>	54	4	NL
<i>Prasophyllum occultans</i>	43	4	NL
<i>Habenaria xanthantha</i>	31	4	NL
<i>Jonesiopsis nobilis</i>	77	4	NL
<i>Jonesiopsis flaccida</i>	43	4	NL
<i>Hetaeria oblongifolia</i>	39	4	NL
<i>Habenaria ferdinandi</i>	67	4	NL
<i>Arachnorchis arenaria</i>	91	4	EN
<i>Grastidium baileyi</i>	37	4	NL
<i>Bromheadia pulchra</i>	80	4	NL
<i>Arachnorchis plicata</i>	58	4	NL
<i>Arachnorchis echidnachila</i>	57	4	NL
<i>Diuris platichila</i>	122	4	NL
<i>Corunastylis simulans</i>	76	4	NL
<i>Luisia teretifolia</i>	73	4	NL
<i>Calochilus imberbis</i>	34	4	NL
<i>Microtis eremaea</i>	35	4	NL
<i>Arachnorchis huegelii</i>	94	4	EN
<i>Prasophyllum parviflorum</i>	46	4	NL
<i>Crepidium acuminatum</i>	52	4	NL

<i>Bunochilus stenochilus</i>	35	4	NL
<i>Prasophyllum goldsackii</i>	37	4	EN
<i>Corunastylis woollsii</i>	107	5	NL
<i>Didymoplexis pallens</i>	67	5	NL
<i>Coelandria smillieae</i>	107	5	NL
<i>Arachnorchis colorata</i>	128	5	EN
<i>Diplodium asperum</i>	82	5	NL
<i>Chiloglottis seminuda</i>	48	5	NL
<i>Corybas cerasinus</i>	41	5	NL
<i>Adenochilus nortonii</i>	75	5	NL
<i>Phaius australis</i>	100	5	EN
<i>Diuris semilunulata</i>	108	5	NL
<i>Prasophyllum giganteum</i>	72	5	NL
<i>Pterostylis furcata</i>	38	5	NL
<i>Dockrillia nugentii</i>	48	5	NL
<i>Habenaria triplonema</i>	52	5	NL
<i>Habenaria hymenophylla</i>	63	5	NL
<i>Eremorchis allantoidea</i>	45	5	NL
<i>Stegostyla atrata</i>	59	5	NL
<i>Mobilabium hamatum</i>	42	5	NL
<i>Diuris porrifolia</i>	124	5	NL
<i>Linguella aff. nana 5</i>	98	5	NL
<i>Linguella aff. nana 2</i>	40	5	NL
<i>Cepobaculum carronii</i>	34	5	VU
<i>Diuris ochroma</i>	50	5	VU
<i>Sarcochilus weinthalii</i>	58	5	VU
<i>Caladenia ornata</i>	37	5	VU
<i>Prasophyllum spicatum</i>	71	5	VU
<i>Diuris pulchella</i>	57	5	NL
<i>Calochilus caeruleus</i>	35	5	NL
<i>Diplodium longicurvum</i>	68	5	NL
<i>Diuris laevis</i>	56	5	NL
<i>Arachnorchis infundibularis</i>	66	5	NL
<i>Arachnorchis gardneri</i>	48	5	NL
<i>Arachnorchis splendens</i>	58	5	NL
<i>Arachnorchis crebra</i>	40	5	NL
<i>Thelymitra purpurata</i>	65	5	NL
<i>Calochilus holtzei</i>	60	5	NL
<i>Diplodium hamiltonii</i>	106	5	NL
<i>Calochilus aff. gracillimus</i>	36	5	NL
<i>Arachnorchis radiata</i>	61	5	NL
<i>Arachnorchis lindleyana</i>	39	5	EN
<i>Prasophyllum fecundum</i>	41	5	NL
<i>Petalochilus hillmanii</i>	60	5	NL
<i>Oligochaetochilus vittatus</i>	51	5	NL
<i>Oligochaetochilus sargentii</i>	38	5	NL
<i>Australorchis schneiderae</i>	40	5	NL

Asteraceae – daisies

The ANHAT database has 390038 records for 1086 species and subspecies of Asteraceae. Two species of Asteraceae are considered extinct and therefore excluded from analysis. These species are presented in **Table 37**.

Table 37 Asteraceae species considered extinct

Species	Common name	No. of records
<i>Ozothamnus selaginoides</i>		2
<i>Senecio georgianus</i>		12

One hundred and eight species account for approximately 50% of the total species records in ANHAT. These species have over 900 records each.

Table 38 Asteraceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Brachyscome aculeate</i>	937	0.21
<i>Leiocarpa semicalva</i>	939	0.21
<i>Gnephosis arachnoidea</i>	945	0.21
<i>Streptoglossa adscendens</i>	958	0.21
<i>Vittadinia dissecta hirta</i>	976	0.22
<i>Argentipallium obtusifolium</i>	980	0.22
<i>Calotis lappulacea</i>	987	0.22
<i>Hyalosperma semisterile</i>	992	0.22
<i>Cassinia trinerva</i>	993	0.22
<i>Ozothamnus diosmifolius</i>	993	0.22
<i>Trichanthodium skirrophorum</i>	1006	0.22
<i>Senecio prenanthoides</i>	1010	0.22
<i>Podolepis jaceoides</i>	1036	0.23
<i>Minuria denticulata</i>	1052	0.23
<i>Senecio gunnii</i>	1067	0.24
<i>Epaltes australis</i>	1068	0.24
<i>Calotis plumulifera</i>	1085	0.24
<i>Senecio velleioides</i>	1101	0.24
<i>Ozothamnus cuneifolius</i>	1101	0.24
<i>Leiocarpa websteri</i>	1120	0.25
<i>Senecio magnificus</i>	1123	0.25
<i>Rutidosia multiflora</i>	1127	0.25
<i>Angianthus tomentosus</i>	1128	0.25
<i>Brachyscome perpusilla</i>	1134	0.25
<i>Millotia Muelleri</i>	1136	0.25
<i>Minuria integerrima</i>	1153	0.26
<i>Schoenia cassiniana</i>	1166	0.26
<i>Blumea saxatilis</i>	1196	0.26

<i>Centipeda minima</i>	1218	0.27
<i>Pycnosorus pleiocephalus</i>	1230	0.27
<i>Senecio pterophorus</i>	1276	0.28
<i>Senecio gregorii</i>	1287	0.29
<i>Calotis cuneifolia</i>	1289	0.29
<i>Minuria cunninghamii</i>	1307	0.29
<i>Gnephosis tenuissima</i>	1310	0.29
<i>Helichrysum rutidolepis</i>	1314	0.29
<i>Brachyscome spathulata</i>	1335	0.30
<i>Blennospora drummondii</i>	1339	0.30
<i>Hyalosperma demissum</i>	1348	0.30
<i>Rutidosia helichrysoides</i>	1367	0.30
<i>Xerochrysum viscosum</i>	1391	0.31
<i>Pterocaulon serrulatum</i>	1415	0.31
<i>Microseris lanceolata</i>	1416	0.31
<i>Solenogyne dominii</i>	1424	0.32
<i>Pogonolepis muelleriana</i>	1435	0.32
<i>Millotia myosotidifolia</i>	1443	0.32
<i>Waitzia acuminata acuminata</i>	1445	0.32
<i>Calotis erinacei</i>	1451	0.32
<i>Stuartina Muelleri</i>	1456	0.32
<i>Cassinia laevis</i>	1481	0.33
<i>Rhodanthe corymbiflora</i>	1508	0.33
<i>Olearia pimeleoides</i>	1529	0.34
<i>Rhodanthe stricta</i>	1582	0.35
<i>Lagenophora huegelii</i>	1586	0.35
<i>Olearia Muelleri</i>	1636	0.36
<i>Calocephalus citreus</i>	1645	0.36
<i>Lagenophora gracilis</i>	1663	0.37
<i>Podolepis canescens</i>	1675	0.37
<i>Olearia erubescens</i>	1688	0.37
<i>Cymbonotus preissianus</i>	1719	0.38
<i>Rhodanthe moschate</i>	1723	0.38
<i>Cotula australis</i>	1724	0.38
<i>Triptilodiscus pygmaeus</i>	1726	0.38
<i>Centipeda cunninghamii</i>	1732	0.38
<i>Leptinella filicula</i>	1764	0.39
<i>Isoetopsis graminifolia</i>	1775	0.39
<i>Ozothamnus obcordatus</i>	1830	0.41
<i>Olearia axillaris</i>	1914	0.42
<i>Sigesbeckia orientalis</i>	1995	0.44
<i>Podotrochea angustifolia</i>	2066	0.46
<i>Senecio glomeratus</i>	2176	0.48
<i>Millotia tenuifolia</i>	2221	0.49
<i>Rhodanthe pygmaea</i>	2292	0.51
<i>Minuria leptophylla</i>	2340	0.52
<i>Euchiton involucratus</i>	2395	0.53
<i>Myriocephalus stuartii</i>	2398	0.53
<i>Senecio glossanthus</i>	2472	0.55
<i>Senecio minimus</i>	2514	0.56

<i>Pterocaulon sphacelatum</i>	2541	0.56
<i>Vittadinia cuneata</i>	2578	0.57
<i>Cassinia arcuata</i>	2656	0.59
<i>Xerochrysum bracteatum</i>	2678	0.59
<i>Euchiton sphaericus</i>	2728	0.60
<i>Podolepis capillaries</i>	2770	0.61
<i>Vittadinia gracilis</i>	2890	0.64
<i>Rhodanthe floribunda</i>	2970	0.66
<i>Senecio linearifolius</i>	2973	0.66
<i>Olearia phlogopappa</i>	2985	0.66
<i>Olearia ramulose</i>	3030	0.67
<i>Brachyscome lineariloba</i>	3054	0.68
<i>Actinobole uliginosum</i>	3076	0.68
<i>Ozothamnus ferrugineus</i>	3216	0.71
<i>Pseudognaphalium luteoalbum</i>	3222	0.71
<i>Helichrysum leucopsideum</i>	3224	0.71
<i>Bedfordia arborescens</i>	3257	0.72
<i>Leptorhynchos squamatus</i>	3373	0.75
<i>Chrysocephalum semipapposum</i>	3400	0.75
<i>Olearia argophylla</i>	3689	0.82
<i>Brachyscome ciliaris</i>	3694	0.82
<i>Olearia lirata</i>	4018	0.89
<i>Calotis hispidula</i>	4282	0.95
<i>Senecio pinnatifolius</i>	4364	0.97
<i>Cassinia longifolia</i>	4519	1.00
<i>Senecio quadridentatus</i>	5149	1.14
<i>Helichrysum scorpioides</i>	5782	1.28
<i>Lagenophora stipitate</i>	6603	1.46
<i>Cassinia aculeate</i>	7368	1.63
<i>Chrysocephalum apiculatum</i>	7528	1.67
Total	226391	50.12

Two hundred and fifty-two species (nearly 25% of all species with records) are represented by 30 or fewer individual record sites in the ANHAT database (**Table 39**). Of those species, 10 species are threatened (including three species classified as endangered). These species are located from across Australia, including some species from more inland areas. Detailed information on the habitat associations is not available for most species and it is not possible to identify patterns in the associations of the species that have information. Exclusion of poorly recorded species eliminates 3356 records.

Table 39 Asteraceae species with 30 or fewer individual record sites in the ANHAT database.

<i>Species</i>	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Calotis glabrescens</i>	1	0.00	QLD		100	NL
<i>Camptacra gracilis</i>	1	0.00			100	NL

<i>arachnoidea</i>						
<i>Cassinia</i>						
<i>macrocephala storyi</i>	1	100.00	E	WL	100	NL
<i>Dithyrostegia</i>						
<i>gracilis</i>	1	0.00	W		100	NL
<i>Erymophyllum</i>						
<i>hemisphaericum</i>	1	0.00	W		100	NL
<i>Myriocephalus</i>						
<i>suffruticosus</i>	1	0.00	SW		100	NL
<i>Olearia conspicua</i>	1	0.00	SW		100	NL
<i>Olearia phlogopappa</i>						
<i>brevipes</i>	1	0.00			300	NL
<i>Olearia ramulosa</i>						
<i>rigida</i>	1	100.00			100	NL
<i>Olearia</i> sp. 1	1	0.00			100	NL
<i>Senecio productus</i>						
<i>magnus</i>	1	0.00			100	NL
<i>Vittadinia</i>						
<i>cervicularis oldfieldi</i>	1	100.00			100	NL
<i>Vittadinia spechtii</i>	1	0.00	CN		100	NL
<i>Blainvillea acmella</i>	2	0.00			100	NL
<i>Brachyscome sieberi</i>	2	50.00	TAS	For	200	NL
<i>Chrysocephalum</i>						
<i>gilesii</i>	2	0.00	WI		200	NL
<i>Craspedia</i>						
<i>adenophora</i>	2	0.00	SE	AI	100	NL
<i>Eriochlamys</i> sp. 1	2	0.00			200	NL
<i>Glossogyne</i>						
<i>retroflexa</i>	2	0.00			200	NL
<i>Helichrysum gunnii</i>	2	100.00			900	NL
<i>Millotia greevesii</i>						
<i>kempei</i>	2	0.00	WI,CI,CS		200	NL
<i>Myriocephalus</i>						
<i>biflorus</i>	2	100.00	SW	RH	200	NL
<i>Neotysonia</i>						
<i>phyllostegia</i>	2	0.00	W		200	NL
<i>Olearia dampieri</i>						
<i>eremicola</i>	2	50.00	W,SW		200	NL
<i>Olearia tubiflora</i>	2	50.00			200	NL
<i>Pithocarpa</i>						
<i>achilleoides</i>	2	50.00			200	NL
<i>Pluchea tetranthera</i>						
<i>cinerea</i>	2	50.00			200	NL
<i>Senecio howeanus</i>	2	0.00			200	NL
<i>Senecio lautus</i>	2	50.00	SW		300	NL
<i>Senecio orarius</i>	2	100.00			100	NL
<i>Senecio warrenensis</i>	2	100.00	SW		100	NL
<i>Xerochrysum</i>						
<i>macrantha</i>	2	50.00			100	NL
<i>Angianthus newbeyi</i>	3	100.00	SW	SaL	300	NL

<i>Camptacra</i>							
<i>brachycomoides</i>	3	0.00	NE	For	300	NL	
<i>Cassinia accipitrum</i>	3	0.00	E		200	NL	
<i>Cassinia</i>							
<i>wyberbensis</i>	3	0.00	E	For	100	NL	
<i>Gnaphalium</i>							
<i>delicatum</i>	3	0.00			200	NL	
<i>Leptorhynchus</i>							
<i>melanocarpus</i>	3	0.00	CS		100	NL	
<i>Milotia falcata</i>	3	0.00	E	Clay	100	NL	
<i>Olearia incana</i>	3	0.00	WI,SW	SaP,Sp	400	NL	
<i>Rutidosis acutiglumis</i>	3	0.00	EI		300	NL	
<i>Senecio laticostatus</i>	3	0.00			200	VU	
<i>Senecio psilophyllus</i>	3	66.67			300	NL	
<i>Vittadinia</i>							
<i>australasica</i>							
<i>subglabra</i>	3	33.33			500	NL	
<i>Vittadinia bicolor</i>	3	33.33			300	NL	
<i>Cassinia</i>							
<i>macrocephala</i>							
<i>petrapendula</i>	4	0.00	E	For	200	NL	
<i>Chrysocephalum</i>							
<i>monochaetum</i>	4	50.00	CS		200	NL	
<i>Cotula longipes</i>	4	25.00	SE	Wet	1200	NL	
<i>Helichrysum</i>							
<i>boormanii gillivrayi</i>	4	0.00	NE		200	NL	
<i>Helichrysum</i>							
<i>secundiflorum</i>	4	75.00	VIC		400	NL	
<i>Minuria</i>							
<i>macrocephala</i>	4	0.00	WI	SL	300	NL	
<i>Ozothamnus kingii</i>	4	100.00			200	NL	
<i>Rhodanthe</i>							
<i>fuscescens</i>	4	25.00	SW		400	NL	
<i>Senecio linearifolius</i>							
<i>graniticola</i>	4	0.00			300	NL	
<i>Sigesbeckia</i>							
<i>microcephala</i>	4	0.00			300	NL	
<i>Telfordia cordata</i>	4	75.00	SW		400	NL	
<i>Brachyscome</i>							
<i>xanthocarpa</i>	5	60.00	CS		600	NL	
<i>Calotis pubescens</i>	5	60.00	SE		700	NL	
<i>Chthonocephalus</i>							
<i>oldfieldianus</i>	5	0.00	W,WI	D	100	NL	
<i>Glossogyne</i>							
<i>tenuifolia</i>	5	0.00			1200	NL	
<i>Gnephosis pygmaea</i>	5	40.00	SW		300	NL	
<i>Olearia burgessii</i>	5	20.00	E	For	300	NL	
<i>Pluchea squarrosa</i>	5	20.00			500	NL	
<i>Pluchea tetranthera</i>							
<i>tetranthera</i>	5	60.00			400	NL	

<i>Podolepis</i> sp. aff. <i>robusta</i> (n.e. alps)	5	40.00			200	NL
<i>Actinobole</i> <i>condensata</i>	6	33.33	W		400	NL
<i>Camptacra gracilis</i> <i>lanata</i>	6	50.00			600	NL
<i>Cassinia</i> <i>macrocephala tenuis</i>	6	16.67	EI	For	200	NL
<i>Craspedia globosa</i>	6	0.00	SE,CS		1000	NL
<i>Haeckeria pholidota</i>	6	0.00	CS		400	NL
<i>Helichrysum</i> <i>calvertianum</i>	6	33.33	E	For	400	NL
<i>Millotia pilosa</i>	6	50.00	SW	RH	400	NL
<i>Schoenia filifolia</i> <i>arenicola</i>	6	0.00			500	NL
<i>Senecio multicaulis</i> <i>stirlingensis</i>	6	83.33			200	NL
<i>Vittadinia cuneata</i> <i>murrayensis</i>	6	0.00			500	NL
<i>Vittadinia hispidula</i>	6	0.00			1600	NL
<i>Angianthus uniflorus</i>	7	0.00	W	Sa	200	NL
<i>Asteridea morawana</i>	7	0.00	W		100	NL
<i>Brachyscome</i> <i>diversifolia maritima</i>	7	14.29	TAS		1900	NL
<i>Brachyscome</i> <i>radicata</i>	7	14.29	TAS	Mon, For	800	NL
<i>Cassinia lepschii</i>	7	0.00	E	For,WL	300	NL
<i>Cassinia theodori</i>	7	100.00	E	For	400	NL
<i>Craspedia</i> sp. 2	7	0.00			300	NL
<i>Glossocardia</i> <i>orthochaeta</i>	7	0.00	NE		200	NL
<i>Helichrysum</i> <i>gracilescens</i>	7	28.57	NE		500	NL
<i>Millotia newbeyi</i>	7	0.00	SW	P	200	NL
<i>Myriocephalus</i> <i>walcottii</i>	7	28.57	W	Sc	400	NL
<i>Schoenia filifolia</i> <i>subulifolia</i>	7	0.00			400	NL
<i>Senecio spathulatus</i> <i>attenuatus</i>	7	28.57			600	NL
<i>Trichocline</i> sp. <i>treeton</i>	7	28.57			700	NL
<i>Vittadinia decora</i>	7	0.00			200	NL
<i>Asteridea ragged</i> <i>archer1509903</i>	8	100.00			700	NL
<i>Brachyscome rara</i>	8	100.00	CI		600	NL
<i>Helichrysum</i> <i>oligochaetum</i>	8	12.50	W	P	700	NL
<i>Helichrysum</i> <i>rufescens</i>	8	75.00	E	RF	600	NL

<i>Olearia aglossa</i>	8	25.00	SE	Mon For	500	NL
<i>Senecio niveoplanus</i>	8	100.00			500	NL
<i>Senecio serratiformis</i>	8	75.00			800	NL
<i>Senecio</i> sp.						
<i>hamersley range</i>	8	50.00			800	NL
<i>Vittadinia triloba</i>	8	12.50			1500	NL
<i>Angianthus</i>						
<i>prostratus</i>	9	11.11	W,SW	Sa	800	NL
<i>Calocephalus</i>						
<i>aeroides</i>	9	77.78	SW,W		600	NL
<i>Chthonocephalus</i>						
<i>multiceps</i>	9	22.22	SW		500	NL
<i>Glossogyne filifolia</i>	9	11.11			500	NL
<i>Hyalosperma stoveae</i>	9	55.56	SW,W	WL	700	NL
Ozothamnus						
reflexifolius	9	88.89			200	VU
<i>Senecio glabrescens</i>	9	66.67			500	NL
<i>Taraxacum</i> sp. 1	9	11.11			500	NL
<i>Vittadinia sericea</i>	9	11.11	NE		800	NL
<i>Bedfordia linearis</i>						
<i>oblongifolia</i>	10	40.00	For		2300	NL
Brachyscome						
muelleri	10	0.00	CS		300	EN
<i>Cassinia</i>						
<i>macrocephala</i>	10	40.00	E	WL	300	NL
<i>Helichrysum</i>						
<i>reticulatum</i>	10	50.00	TAS		2100	NL
<i>Ixodia angusta</i>	10	40.00	TAS		700	NL
<i>Olearia allenderae</i>	10	50.00	SE		900	NL
<i>Olearia phlogopappa</i>						
<i>salicifolia</i>	10	30.00			1400	NL
<i>Rhodanthe rufescens</i>	10	0.00			500	NL
<i>Senecio brevitubulus</i>	10	30.00			400	NL
<i>Senecio productus</i>	10	30.00			1000	NL
<i>Brachyscome</i>						
<i>breviscapis</i>	11	9.09	CS		1100	NL
<i>Calotis suffruticosa</i>	11	0.00	EI		400	NL
<i>Leiocarpa semicalva</i>			EI,CS,CI,			
<i>tenuifolia</i>	11	9.09	WI,SW		1000	NL
<i>Olearia lasiophylla</i>	11	100.00	SE	For	200	NL
<i>Olearia</i> sp. 2	11	81.82			700	NL
<i>Podolepis nutans</i>	11	18.18	SW		1100	NL
<i>Vittadinia scabra</i>	11	9.09			1200	NL
<i>Acmella grandiflora</i>			NW,CN,			
<i>discooides</i>	12	0.00	NE,E		600	NL
<i>Pluchea tetranthera</i>						
<i>tomentosa</i>	12	16.67			1200	NL
<i>Senecio linearifolius</i>						
<i>dangarensis</i>	12	58.33			300	NL
<i>Calocephalus</i>	13	0.00			1200	NL

<i>pilbara-desert</i>						
<i>Cassinia adunca</i>	13	0.00	E,CS	Mal	2800	NL
<i>Euryops</i>						
<i>chrysanthemoides</i>	13	30.77	SE	WEED	1000	NL
<i>Leptinella</i>						
<i>drummondii</i>	13	46.15	SW	Riv	1000	NL
<i>Millotia tenuifolia</i>			SW,W,C			
<i>laevis</i>	13	38.46	S,SE,TAS		1000	NL
<i>Asteridea gracilis</i>	14	21.43	SW		1000	NL
<i>Chthonocephalus</i>						
<i>spathulatus</i>	14	0.00	W	P	500	NL
<i>Gnephosis multiflora</i>	14	7.14	SE,SW	SaL	900	NL
<i>Millotia dimorpha</i>	14	42.86	W		700	NL
<i>Olearia stilwelliae</i>	14	28.57			1700	NL
<i>Ozothamnus</i>						
<i>tesselatus</i>	14	50.00			1000	VU
<i>Senecio gilbertii</i>	14	28.57			1200	NL
<i>Thiseltonia</i>						
<i>gracillima</i>	14	21.43	W,WI		1100	NL
<i>Brachyscome</i>						
<i>dissectifolia</i>	15	20.00	E	Wet	1700	NL
<i>Cassinia theresae</i>	15	26.67	E,EI	WL, Mal	700	NL
<i>Gnephosis</i>						
<i>eriocephala</i>	15	20.00	W,WI,S	Sa	1400	NL
<i>Gnephosis setifera</i>	15	26.67	W,SW	SaL	600	NL
<i>Senecio</i>						
<i>primulaefolius</i>	15	100.00			600	NL
<i>Angianthus</i>						
<i>microcephalus</i>	16	6.25	W	Wet	1100	NL
<i>Millotia depauperata</i>	16	0.00	W	RH	1100	NL
<i>Millotia steetziana</i>	16	37.50	SW	Mel	500	NL
<i>Minuria scoparia</i>	16	0.00	E	WL	800	NL
<i>Myriocephalus nudus</i>	16	6.25	W	RH	1300	NL
<i>Vittadinia cuneata</i>						
<i>minor</i>	16	50.00			5900	NL
<i>Epitriche demissus</i>	17	5.88	W,SW		600	NL
<i>Olearia fluvialis</i>	17	70.59	W		1100	NL
<i>Ozothamnus</i>						
<i>cassiope</i>	17	5.88	SW		900	NL
<i>Podolepis</i> sp. 1	17	5.88			700	NL
<i>Rhodanthe</i>						
<i>chlorocephala</i>	17	35.29	SW,W		1500	NL
<i>Rhodanthe</i>						
<i>nullarborensis</i>	17	5.88	SW		1200	NL
<i>Schoenia macivorii</i>	17	11.76	W		1000	NL
<i>Senecio crassiflorus</i>	17	5.88			700	NL
<i>Senecio longipilus</i>	17	88.24			1200	NL
<i>Senecio spathulatus</i>						
<i>latifructus</i>	17	41.18			1300	NL
<i>Sondottia glabrata</i>	17	23.53	W		1200	NL

<i>Microseris</i> sp. 1	18	5.56			1000	NL
			CI,WI,S			
<i>Olearia arida</i>	18	61.11	W		1400	NL
<i>Olearia montana</i>	18	38.89			300	NL
<i>Rhodanthe frenchii</i>	18	44.44	W		1400	NL
<i>Senecio scabrellus</i>	18	83.33			500	NL
<i>Angianthus drummondii</i>	19	21.05	SW	Wet	1100	NL
<i>Craspedia glabrata</i>	19	42.11	TAS	Al, SuA	1100	NL
<i>Euchiton litticola</i>	19	89.47	TAS		2600	NL
<i>Helichrysum boormanii tryonii</i>	19	26.32	NE		2500	NL
<i>Leucochrysum graminifolium</i>	19	52.63	E		900	NL
<i>Myriocephalus gascoynensis</i>	19	0.00	W	Clay,P	1300	NL
<i>Podotrochea pritzelii</i>	19	57.89	SW		900	NL
<i>Senecio gypsicola</i>	19	0.00			1100	NL
<i>Taraxacum cygnorum</i>	19	36.84			1300	VU
<i>Vittadinia hispidula setosa</i>	19	15.79			1800	NL
<i>Millotia eichleri</i>	20	65.00	SW	RH	800	NL
<i>Rhodanthe pollackii</i>	20	15.00	SW,W		1700	NL
<i>Senecio lageniformis</i>	20	85.00			1600	NL
<i>Senecio papillosus</i>	20	90.00			900	NL
<i>Cassinia decipiens</i>	21	47.62	E	For,WL	900	NL
<i>Ixodia achillaeoides arenicola</i>	21	28.57	SE,CS		1100	VU
				Dis For,		
<i>Olearia flocktoniae</i>	21	23.81	E	RF	1400	EN
<i>Olearia hookeri</i>	21	28.57	TAS		1200	NL
<i>Olearia plucheacea</i>	21	38.10	W		1000	NL
<i>Olearia revoluta</i>	21	28.57	W		1700	NL
<i>Ozothamnus blackallii</i>	21	14.29	SW		1100	NL
<i>Anemocarpa calcicola</i>	22	90.91	SW	Cl	900	NL
<i>Angianthus pygmaeus</i>	22	9.09	SW	Sa	1500	NL
<i>Brachyscome ascendens</i>	22	54.55	E	Mon	600	NL
<i>Chthonocephalus muellerianus</i>	22	18.18	W,WI		1800	NL
<i>Cratystylis microphylla</i>	22	0.00	SW, WI	P,D,Sa	1500	NL
<i>Senecio linearifolius gariwerdensis</i>	22	81.82			1200	NL
<i>Wedelia hamersley(8444)</i>	22	50.00			1600	NL

<i>Xerochrysum papillosum</i>	22	45.45			3100	NL
<i>Actinobole drummondiana</i>	23	0.00	W		1700	NL
<i>Gnephosis macrocephala</i>	23	21.74	W, WI, S	Clay, SaL	1400	NL
<i>Leiocarpa semicalva vinacea</i>	23	8.70	EI, CS, CI, WI, SW		900	NL
<i>Olearia chrysophylla</i>	23	82.61	E, SE	Hg For	1900	NL
<i>Olearia cordata</i>	23	56.52	E	For, SL	1700	VU
<i>Olearia quercifolia</i>	23	26.09			900	NL
<i>Senecio cunninghamii</i>	23	0.00			4000	NL
<i>Sigesbeckia fugax</i>	23	0.00			700	NL
<i>Brachyscome tenuiscapa</i>	24	75.00	E, SE, TA		3600	NL
<i>Craspedia richea alpina</i>	24	83.33	S		2500	NL
<i>Erodiophyllum acanthocephalum</i>	24	12.50	WI, W		1700	NL
<i>Gnephosis cassiniana</i>	24	4.17	W	Sa, Wet	1000	NL
<i>Olearia laciniifolia</i>	24	4.17	SW		1600	NL
<i>Podolepis gardneri</i>	24	8.33	W		1800	NL
<i>Brachyscome parvula lissocarpa</i>	25	40.00	CS		1900	NL
<i>Celmisia latifolia</i>	25	76.00	SE	SuA	1000	NL
<i>Celmisia pulchella</i>	25	84.00	SE		1700	NL
<i>Myriocephalus appendiculatus</i>	25	32.00	SW, W, W	Wet, Clay	1900	NL
<i>Rhodanthe cremea</i>	25	4.00	I		1000	NL
<i>Senecio hamersleyensis</i>	25	24.00	W		1400	NL
<i>Senecio pectinatus</i>	25	92.00			5600	NL
<i>Tetramolopium vagans</i>	25	100.00			300	NL
<i>Vittadinia australasica oricola</i>	25	28.00			1600	NL
<i>Vittadinia hispidula hispidula</i>	25	16.00			3000	NL
<i>Angianthus cornutus</i>	26	7.69	W	SaL	1400	NL
<i>Erigeron conyzoides</i>	26	88.46	SE	SuA WL	1400	NL
<i>Helichrysum rosmarinifolium</i>	26	46.15	SE, E, TAS	For	2300	NL
<i>Minuria gardneri</i>	26	19.23	SW, W	SaL	1500	NL
<i>Podolepis auriculata</i>	26	11.54	SW, W		2200	NL
<i>Senecio condylus</i>	26	3.85	SW		1100	NL
<i>Cassinia tegulata</i>	27	11.11	CS	Rd	1400	NL
<i>Gnephosis gynotricha</i>	27	0.00	W, SW	SaP	1900	NL

<i>Hyalosperma simplex</i>	27	40.74	SW	Wet	2800	NL
<i>Olearia astroloba</i>	27	100.00	SE	SL	200	VU
<i>Trioncinia retroflexa</i>	27	11.11			1100	NL
<i>Brachyscome tatei</i>	28	96.43	CS	Co	2000	NL
<i>Craspedia leucantha</i>	28	100.00	SE	Wet	400	NL
<i>Gnephosis trifida</i>	28	10.71	W,SW	SaL	1700	NL
<i>Vittadinia constricta</i>	28	14.29	EI		900	NL
<i>Blumea pungens</i>	29	75.86			800	NL
<i>Brachyscome halophila</i>	29	17.24	SW,W	SaL	1400	NL
<i>Calotis moorei</i>	29	3.45	EI	Hrb	500	EN
<i>Cymbonotus maidenii</i>	29	0.00	EI	GrL,Rd	1600	NL
<i>Myriocephalus helichrysoides</i>	29	24.14	SW	Wet	1800	NL
<i>Olearia lanceolata</i>	29	51.72	TAS		1000	NL
<i>Ozothamnus occidentalis</i>	29	10.34	SW		1200	NL
<i>Senecio murrayanus</i>	29	3.45			3400	NL
<i>Trichanthodium scarlettianum</i>	29	34.48	W		2100	NL
<i>Cassinia copensis</i>	30	16.67	E	For	700	NL
<i>Decazesia hecatocephala</i>	30	26.67	W		2300	NL
<i>Olearia arguta lanata</i>	30	53.33	CN		1900	NL
<i>Rhodanthe condensata</i>	30	20.00	W		2200	NL
<i>Senecio multicaulis</i>	30	40.00			2700	NL
<i>Senecio pilocristus</i>	30	46.67			2300	NL

Removal of extinct and poorly recorded species leaves 386652 records in ANHAT for 832 species (and subspecies). The mean number of records per species for species with greater than 30 records was 464.7, with a mean of 34.8 % of the available records falling within the NRS.

Two hundred and eleven species of Asteraceae had 45% or greater of individual site records located within PAs (**Table 40**). Of those 211 species, six species are classified as threatened, all as vulnerable. The species in this category are located widely across Australia, which is not surprising given the large number of species on the list. There are no evident patterns in distributions, neither are there clear patterns in the vegetation types with which the species are associated. However, there are more alpine-based species than in the previous groups and so species found in montane areas may be more likely to be relatively well reserved.

Table 40 Asteraceae species with >45% of record sites within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Senecio vagus</i>	36	80	45.00			7900	NL
<i>Brachyscome procumbens</i>	14	31	45.16	E		1900	NL
<i>Olearia phlogopappa</i>	1350	2985	45.23			71600	NL
<i>Olearia rudis</i>	209	462	45.24	SW,W		28700	NL
<i>Senecio biserratus</i>	240	530	45.28			41800	NL
<i>Senecio pinnatifolius</i>	1983	4364	45.44			182500	NL
<i>Pithocarpa corymbulosa</i>	27	59	45.76	SW		900	NL
<i>Argentipallium blandowskianum</i>	174	380	45.79	SE, CS		18200	NL
<i>Cassinia scabrida</i>	35	76	46.05	SE	Mon For	1500	NL
<i>Olearia rugosa</i>	118	256	46.09			7300	NL
<i>Chrysocephalum</i> sp. 2	24	52	46.15	EI,E,CS		2900	NL
<i>Leptinella filicula</i>	819	1764	46.43	E,SE,TAS	Mon For	32600	NL
<i>Gnaphalium limosum</i>	29	62	46.77	SE		3700	NL
<i>Senecio eremicola</i>	58	124	46.77			6400	NL
<i>Senecio elegans</i>	179	382	46.86	SW		14300	NL
<i>Olearia passerinoides</i>	75	160	46.88	SW		12600	NL
<i>Ozothamnus scaber</i>	26	55	47.27			2300	NL
<i>Senecio hypoleucus</i>	133	281	47.33			3300	NL
<i>Olearia floribunda</i>	199	420	47.38	E,SE,TAS,CS	WL	37400	NL
<i>Cassinia compacta</i>	55	116	47.41	E,SE	For, WL	7000	NL
<i>Cassinia subtropica</i>	111	234	47.44	E,NE,SW,W,CS	For	6100	NL
<i>Brachyscome perpusilla</i>	539	1134	47.53	,CI,SE,EI,TAS,SW,W,CS	Mal, WL	62400	NL
<i>Millotia tenuifolia</i>	1060	2221	47.73	,SE,TAS	RH	109400	NL
<i>Craspedia coolaminica</i>	109	228	47.81	SE,TAS	SuA WL	6000	NL

<i>Ozothamnus</i>							
<i>obcordatus major</i>	22	46	47.83			6100	NL
<i>Ozothamnus</i>							
<i>adnatus</i>	33	69	47.83			4300	NL
<i>Craspedia glauca</i>	154	322	47.83	SE,CS		38300	NL
<i>Senecio</i>							
<i>bipinnatisectus</i>	67	140	47.86			11500	NL
<i>Senecio</i>							
<i>pinnatifolius</i>							
<i>serratus</i>	69	144	47.92			4300	NL
<i>Cratystylis</i>				CI,SE,CS,			
<i>conocephala</i>	327	682	47.95	WI,SW	P	43600	NL
<i>Leptorhynchos</i>				SE,CS,S	GrL,		
<i>scaber</i>	48	100	48.00	W,W	DF	7600	NL
<i>Brachyscome</i>							
<i>cuneifolia</i>	26	54	48.15	CS,SE,E		3300	NL
<i>Cotula vulgaris</i>	108	224	48.21			15200	NL
<i>Senecio</i>							
<i>distalilobatus</i>	42	87	48.28			5300	NL
<i>Minuria tridens</i>	43	89	48.31	CI,W	Rd	2100	VU
<i>Olearia minor</i>	96	198	48.48	SW		14200	NL
<i>Olearia teretifolia</i>	161	332	48.49			9300	NL
<i>Olearia stellulata</i>	118	243	48.56			21900	NL
<i>Millotia</i>							
<i>macrocarpa</i>	59	121	48.76	SE,CS	SAr	6000	NL
<i>Ozothamnus</i>							
<i>thyrsoideus</i>	371	760	48.82			32800	NL
					Mon		
<i>Olearia gravis</i>	45	92	48.91	E	For	2500	NL
<i>Acomis kakadu</i>	24	49	48.98	CN		1800	NL
<i>Brachyscome</i>							
<i>multifida dilatata</i>	24	49	48.98	E		2500	NL
<i>Brachyscome</i>				SW,CS,S			
<i>goniocarpa</i>	104	212	49.06	E,E	SB,Fp	23100	NL
<i>Microseris</i> sp. 3	113	229	49.34			10600	NL
<i>Cassinia</i>					For,		
<i>denticulata</i>	38	77	49.35	E	WL	3400	NL
<i>Ozothamnus</i>							
<i>decurrens</i>	159	322	49.38			23100	NL
<i>Olearia tenuifolia</i>	51	103	49.51			6000	NL
<i>Helichrysum</i>							
<i>elatum</i>	214	432	49.54	NE,E,SE		31500	NL
<i>Brachyscome</i>				SW,W,CS			
<i>exilis</i>	105	211	49.76	,SE,E	SaL	14000	NL
<i>Brachyscome</i>				W,SW,CI	variet		
<i>lineariloba</i>	1522	3054	49.84	,CS,ES,EI	y	142900	NL
					D,We		
<i>Olearia cassinia</i>	20	40	50.00	SW	t	1900	NL

<i>Telfordia erioccephala</i>	30	60	50.00			1500	NL
<i>Ozothamnus pholidotus</i>	58	116	50.00			6600	NL
<i>Ixodia achillaeoides alata</i>	366	729	50.21	SE,CS		19800	NL
<i>Brachyscome gracilis</i>	99	197	50.25	NE,E,SE	Dry	7100	NL
<i>Brachyscome radicans</i>	56	109	51.38	E,SE,TAS	Wet	5900	NL
<i>Cassinia ochracea</i>	18	35	51.43	SE	For	1100	NL
<i>Ozothamnus antennaria</i>	70	136	51.47			6400	NL
<i>Olearia magniflora</i>	155	300	51.67	EI,SE,CS, SW		21600	NL
<i>Brachyscome leptocarpa</i>	45	87	51.72	E,SE,CS	For, WL	8500	NL
<i>Olearia frostii</i>	232	447	51.90	SE	Al	1100	NL
<i>Millotia muelleri</i>	591	1136	52.02	SE,CS	Sc,SL	52800	NL
<i>Olearia macdonnellensis</i>	44	84	52.38	CI	WL	1600	VU
<i>Argentipallium obtusifolium</i>	514	980	52.45	SW,CS,S E	He	36000	NL
<i>Calocephalus brownie</i>	393	747	52.61	SW,CS,S E		38600	NL
<i>Gynura drymophila</i>	18	34	52.94	NE,E		2600	NL
<i>Brachyscome rigidula</i>	250	472	52.97	E,SE,TAS		15200	NL
<i>Brachyscome diversifolia</i>	173	324	53.40	E,SE,TAS ,CS		20800	NL
<i>Olearia grandiflora</i>	88	164	53.66	CS	WL,F or	2400	NL
<i>Olearia ciliata</i>	357	664	53.77	TAS,SE, CS,SW	Co, SaP	45000	NL
<i>Olearia axillaris</i>	1033	1914	53.97	E,SE,TAS ,CS,SW, W	Co,D, RH	61100	NL
<i>Senecio laceratus</i>	121	223	54.26			8500	NL
<i>Olearia iodochroa</i>	101	186	54.30	SE	WL,F or	7300	NL
<i>Ozothamnus conditus</i>	118	217	54.38			7200	NL
<i>Rhodanthe collina</i>	18	33	54.55	W		1800	NL
<i>Podotrochea angustifolia</i>	1130	2066	54.70	SW,W		106200	NL
<i>Olearia lepidophylla</i>	256	467	54.82	E,SE,TAS ,CS,SW	Mal	39200	NL

<i>Olearia lanuginosa</i>	121	220	55.00	WI,CS,SE ,TAS	D	14600	NL
<i>Rhodanthe anthemoides</i>	386	698	55.30			29300	NL
<i>Actites megalocarpus</i>	276	499	55.31	W,SW,CS ,E,SE,TA S	CV	37800	NL
<i>Podolepis rugata littoralis</i>	26	47	55.32			3900	NL
<i>Senecio gunnii</i>	593	1067	55.58			26200	NL
<i>Podolepis monticola</i>	24	43	55.81			700	NL
<i>Senecio macranthus</i>	23	41	56.10			2600	NL
<i>Helichrysum rupicola</i>	241	426	56.57	NE		11800	NL
<i>Cassinia telfordii</i>	33	58	56.90	E	Wet For	2100	NL
<i>Ozothamnus alpinus</i>	187	328	57.01			3000	NL
<i>Olearia cydoniifolia</i>	32	56	57.14	E	For,D RF	3300	NL
<i>Olearia exiguiifolia</i>	127	222	57.21	SW,CS		14700	NL
<i>Cassinia maritima</i>	31	54	57.41	SE	For,C V	1900	NL
<i>Olearia rosmarinifolia</i>	62	108	57.41			4800	NL
<i>Olearia megalophylla</i>	263	453	58.06	E,SE	Mal	15700	NL
<i>Ozothamnus reticulatus</i>	28	48	58.33			3800	NL
<i>Ozothamnus turbinatus</i>	254	434	58.53			23500	NL
<i>Ozothamnus argophyllus</i>	109	184	59.24			13000	NL
<i>Senecio platylepis</i>	32	54	59.26			3700	NL
<i>Olearia ramulosa stricta</i>	128	216	59.26			8600	NL
<i>Senecio nigrapicus</i>	22	37	59.46			2400	NL
<i>Brachyscome nivalis</i>	193	324	59.57	E,SE,TAS		4200	NL
<i>Ozothamnus rufescens</i>	118	198	59.60			10400	NL
<i>Senecio amygdalifolius</i>	232	389	59.64			23100	NL
<i>Brachyscome aculeate</i>	564	937	60.19	NSW,QL D,TAS,VI C,SA	Dry	43200	NL

<i>Ozothamnus thomsonii</i>	31	51	60.78			3300	NL
<i>Leiocarpa pluriseta</i>	28	46	60.87	CS		2500	NL
<i>Telfordia obovata</i>	27	44	61.36	E		3500	NL
<i>Craspedia jamesii</i>	143	233	61.37	SE	SuA GrL	5900	NL
<i>Achnophora tatei</i>	44	71	61.97	CS		1500	NL
<i>Brachyscome riparia</i>	28	45	62.22	SE		1200	NL
<i>Senecio ramosissimus</i>	43	69	62.32	SW		5000	NL
<i>Allittia uliginosa</i>	131	210	62.38	SE,CS	Wet SuA,	9300	NL
<i>Brachyscome decipiens</i>	467	748	62.43	E,VIC,TA S	Mon W	20800	NL
<i>Olearia persoonioides</i>	120	192	62.50			13700	NL
<i>Cotula alpina</i>	253	403	62.78	E,SE,TAS	Hgh Wet	21300	NL
<i>Elachanthus glaber</i>	44	70	62.86	SE,CS		2500	NL
<i>Cremnothamnus thomsonii</i>	139	220	63.18	CI		5800	NL
<i>Ozothamnus expansifolius</i>	31	49	63.27			1700	NL
<i>Helichrysum adenophorum waddelliae</i>	122	192	63.54	SE,CS		6600	NL
<i>Acomis acoma</i>	125	196	63.78	E		5400	NL
<i>Olearia asterotricha</i>	67	105	63.81	E,SE	He,Fo r	3600	NL
<i>Ixodia achillaeoides</i>	351	548	64.05	SE,CS		13700	NL
<i>Ozothamnus rogersianus</i>	43	67	64.18			1600	NL
<i>Brachyscome petrophila</i>	85	132	64.39	SE TAS	RF	4800	NL
<i>Leiocarpa supina</i>	107	166	64.46	Is,CS		6300	NL
<i>Ozothamnus secundiflorus</i>	401	615	65.20			10400	NL
<i>Senecio pterophorus</i>	832	1276	65.20			21200	NL
<i>Brachyscome spathulata</i>	879	1335	65.84	E,SE,TAS	Clay	41200	NL
<i>Fitzwillia axilliflora</i>	30	45	66.67	W,SW	SaL	3000	NL
<i>Senecio</i>	31	46	67.39			2400	NL

<i>interpositus</i>							
<i>Olearia</i>							
<i>adenophora</i>	67	99	67.68	SE		2700	NL
<i>Olearia speciosa</i>	82	120	68.33			5000	NL
					SuA		
<i>Craspedia crocata</i>	81	118	68.64	SE	GrL	2900	NL
<i>Taraxacum</i>							
<i>aristum</i>	57	83	68.67			3700	NL
<i>Xerochrysum</i>							
<i>subundulata</i>	481	692	69.51			21900	NL
					Al, SuA Hrb, He, GrL		
<i>Celmisia</i>							
<i>costiniana</i>	128	184	69.57	SE	GrL	2700	NL
<i>Euchiton</i>							
<i>umbricolus</i>	187	268	69.78	SE,E		13400	NL
<i>Cassinia venusta</i>	26	37	70.27	SE	For	900	NL
<i>Podolepis</i>							
<i>hieracioides</i>	86	122	70.49			9100	NL
<i>Senecio</i>							
<i>linearifolius</i>							
<i>latifolius</i>	166	234	70.94			9600	NL
<i>Celmisia</i>					Hgh		
<i>longifolia</i>	40	56	71.43	SE,E	Wet	4400	NL
<i>Brachyscome</i>							
<i>scapigera</i>	296	412	71.84	E,SE,	For	14600	NL
<i>Helichrysum</i>							
<i>ledifolium</i>	95	131	72.52			4300	NL
<i>Pterocaulon</i>							
<i>globuliforus</i>	77	106	72.64			4900	NL
<i>Ozothamnus</i> sp. 1	132	179	73.74			3800	NL
<i>Rutidosia leiolepis</i>	34	46	73.91	E,SE		2500	VU
<i>Olearia</i>							
<i>oppositifolia</i>	72	97	74.23			4700	NL
<i>Celmisia</i>					SuA		
<i>asteliifolia</i>	111	149	74.50	SE	SL	11800	NL
<i>Olearia tasmanica</i>	41	55	74.55			3800	NL
					Mon GrL, He		
<i>Olearia algida</i>	256	342	74.85	SE, TAS		12000	NL
<i>Ozothamnus</i>							
<i>hookeri</i>	222	296	75.00			11600	NL
<i>Leiocarpa gatesii</i>	52	69	75.36	SE	For	700	VU
<i>Celmisia</i>							
<i>sericophylla</i>	74	98	75.51	SE	Al	1000	NL
<i>Blennospora</i>							
<i>doliiformis</i>	25	33	75.76	SW	Wet	1600	NL

<i>Telfordia whitei</i>	69	91	75.82	E		3000	NL
<i>Olearia obcordata</i>	74	96	77.08			3500	NL
<i>Olearia heterocarpa</i>	41	53	77.36	E	For, WL, Mal	1200	NL
<i>Ozothamnus stirlingii</i>	183	234	78.21			5800	NL
<i>Celmisia tomentella</i>	225	287	78.40	SE	SuA He,W et	5400	NL
<i>Leptorhynchus squamatus alpinus</i>	150	190	78.95	E,SE,CS, TAS	Hgh GrL	8800	NL
<i>Argyrotegium fordianum</i>	252	319	79.00	SE,TAS	AH,S AH	4200	NL
<i>Senecio pinnatifolius alpinus</i>	296	374	79.14			11700	NL
<i>Olearia phlogopappa subrepanda</i>	57	70	81.43			2900	NL
<i>Senecio pectinatus major</i>	167	204	81.86			2900	NL
<i>Craspedia lamicola</i>	56	68	82.35	SE	Al Wet SuA,	1600	NL
<i>Euchiton traversii</i>	87	105	82.86	SE,TAS	Al	10000	NL
<i>Brachyglottis brunonis</i>	44	53	83.02	TAS	SuA	500	NL
<i>Ozothamnus vegans</i>	66	78	84.62			1300	VU
<i>Ozothamnus cupressoides</i>	34	40	85.00			2400	NL
<i>Argyrotegium poliochlorum</i>	58	68	85.29	SE,TAS	Al,Su A	2500	NL
<i>Podolepis robusta</i>	375	439	85.42			7600	NL
<i>Pappochroma paludicola</i>	166	191	86.91			4000	NL
<i>Olearia ledifolia</i>	115	132	87.12	TAS	Al	6600	NL
<i>Senecio extensus</i>	58	66	87.88			2600	NL
<i>Olearia pinifolia</i>	80	91	87.91			5100	NL
<i>Pappochroma bellidioides</i>	253	286	88.46			8000	NL
<i>Pappochroma gunnii</i>	140	158	88.61			8600	NL
<i>Celmisia pugioniformis</i>	190	214	88.79	SE	Al, SuA Hrb, He, GrL	5700	NL

<i>Abrotanella forsteroides</i>	81	91	89.01	TAS	Hrb	4700	NL
<i>Brachyscome obovate</i>	100	112	89.29	SE	Al	4300	NL
<i>Craspedia aurantia</i>	101	113	89.38	SE	SuA GrL Al,SA	3600	NL
<i>Cassinia monticola</i>	115	128	89.84	SE	Hrb, WL	3700	NL
<i>Ewartia nubigena</i>	141	156	90.38	SE,TAS	Al	2000	NL
<i>Pappochroma tasmanicum</i>	42	46	91.30			2000	NL
<i>Brachyscome tadgellii</i>	46	50	92.00	SE	Wet- Al,Su A	2200	NL
<i>Leucochrysum albicans alpinum</i>	151	164	92.07	SE	Al	2500	NL
<i>Abrotanella scapigera</i>	82	88	93.18	TAS	Al	4100	NL
<i>Argyrotegium nitidulum</i>	115	123	93.50	SE	AH	1700	VU
<i>Craspedia maxgrayi</i>	75	80	93.75	SE		1700	NL
<i>Senecio leptocarpus</i>	76	81	93.83			5300	NL
<i>Helichrysum pumilum</i>	138	147	93.88	TAS	Al Hrb	8400	NL
<i>Pappochroma nitidum</i>	186	198	93.94			3100	NL
<i>Craspedia alba</i>	104	110	94.55	SE	Al Wet	2000	NL
<i>Ewartia catipes</i>	87	92	94.57	TAS		2900	NL
<i>Ozothamnus rodwayi</i>	170	179	94.97			6700	NL
<i>Ewartia planchonii</i>	85	89	95.51	TAS		4200	NL
<i>Olearia rhizomatica</i>	32	33	96.97			700	NL
<i>Pterygopappus lawrencei</i>	97	100	97.00	TAS		3400	NL
<i>Euchiton argentifolius</i>	35	36	97.22	SE	Al, SuA GrL, Hrb	2900	NL
<i>Senecio albogilvus</i>	36	37	97.30			2600	NL
<i>Pappochroma stellatum</i>	113	116	97.41			6100	NL
<i>Ewartia meredithae</i>	83	85	97.65	TAS		3700	NL

<i>Abrotanella nivigena</i>	89	91	97.80	EI,SE	Hrb,G rL,Bs Al, SuA	1100	NL
<i>Craspedia costiniana</i>	47	48	97.92	SE	GrL	700	NL
<i>Helichrysum milliganii</i>	53	54	98.15	TAS		3500	NL
<i>Argyrotegium mackayi</i>	123	125	98.40	SE,TAS	SAHr b	4200	NL
<i>Senecio pectinatus pectinatus</i>	86	87	98.85			3200	NL
<i>Helichrysum pumilum spathulatum</i>	35	35	100.00	TAS		1700	NL
<i>Brachyscome stolonifera</i>	49	49	100.00	SE	Mon	600	NL
<i>Celmisia saxifrage</i>	63	63	100.00	TAS	Al	3100	NL
<i>Pappochroma setosum</i>	76	76	100.00			800	NL
<i>Parantennaria uniceps</i>	98	98	100.00			1000	NL

Ninety-two species had less than 10% of ANHAT records located within PAs (**Table 41**). Ten of the 92 species are classified as threatened, including three endangered species. Whilst there are species from various parts of Australia in this table, there are notably relatively more species from inland areas of Australia than have been noted in the previous families. Many species do not have detailed information available on their vegetation associations and it is difficult to determine any patterns in the types of vegetation groups that species in this table may show. The few species with information cover a wide variety of vegetation associations.

Table 41 Asteraceae species with <10% of ANHAT records located within PAs.

<i>Species</i>	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Basedowia tenerrima</i>	0	31	0.00	CI	RH	1200	VU
<i>Chrysocephalum odorum</i>	0	33	0.00	E,EI		2400	NL
<i>Rutidosia crispata</i>	0	38	0.00			400	NL
<i>Senecio behrianus</i>	0	40	0.00			1500	EN
<i>Rutidosia lanata</i>	0	41	0.00			1500	NL
<i>Picris barbarorum</i>	0	44	0.00			1800	NL
<i>Senecio daltonii</i>	0	49	0.00			2000	NL

<i>Brachyscome tetrapterocarpa</i>	0	53	0.00	EI		2100	NL
<i>Glossocardia refracta</i>	0	53	0.00	NE,E		1700	NL
<i>Odixia achlaena</i>	0	62	0.00	TAS	For	700	NL
<i>Coleocoma centaurea</i>	0	64	0.00	CI	Fp	2300	NL
<i>Ixiochlamys integerrima</i>	0	68	0.00	CI		2700	NL
<i>Rutidosis leucantha</i>	0	109	0.00	E,EI		3600	NL
<i>Brachyscome dichromosomatica</i>	1	84	1.19	EI,CS,CI, E	Dry	5200	NL
<i>Senecio tuberculatus</i>	2	103	1.94			4300	NL
<i>Olearia microdisca</i>	5	250	2.00	CS	Mal, He	1100	EN
<i>Erodiophyllum elderi</i>	5	242	2.07	EI,CS,WI, SW	Op	8600	NL
<i>Cephalosorus carpesioides</i>	1	47	2.13	W,SW		2500	NL
<i>Calotis xanthosioidea</i>	3	131	2.29	EI,CI		3900	NL
<i>Brachyscome curvicarpa</i>	4	168	2.38	EI,E,VIC	SB,Fp	9800	NL
<i>Quinqueremulus linearis</i>	1	37	2.70	W		1800	NL
<i>Picris evae</i>	4	139	2.88			4100	VU
<i>Senecio cunninghamii</i>							
<i>flindersensis</i>	1	32	3.13			2600	NL
<i>Angianthus cyathifer</i>	3	87	3.45	W,WI,CI	SaL	3100	NL
<i>Ozothamnus diotophyllus</i>	7	202	3.47			6800	NL
<i>Stemmacantha australis</i>	10	281	3.56			6400	VU
<i>Brachyscome whitei</i>	7	187	3.74	E,EI	WL,SaP	8400	NL
<i>Brachyscome smithwhitei</i>	4	93	4.30	E,EI,ES	Fp,SaL	6000	NL
<i>Leiocarpa panaetioides</i>	22	510	4.31	E,EI,SE	WL,SL, GrL	33600	NL
<i>Podolepis davisiana</i>	4	88	4.55			4600	NL
<i>Dimorphocoma minutula</i>	3	63	4.76	EI,CI,CS		3900	NL
<i>Brachyscome campylocarpa</i>	3	61	4.92	CS,SE,E, CI		3700	NL
<i>Hyalosperma glutinosum venustum</i>	2	40	5.00	W,WI,CS, SE,EI	P,AF	3600	NL
<i>Rhodanthe gossypina</i>	5	97	5.15			4400	NL

<i>Calotis inermis</i>	5	96	5.21	EI	Mul	4800	NL
<i>Calotis squamigera</i>	4	75	5.33	W,EI,E,CI	For,GrL	3000	NL
<i>Brachyscome onocarpa</i>	6	108	5.56	W,WI	Fp,SaL	8900	NL
<i>Rhodanthe sterilescens</i>	7	126	5.56	W W,WI,NE, EI,E		7500	NL
<i>Centipeda racemosa</i>	10	178	5.62		wat	8100	NL
<i>Sphaeranthus indicus</i>	17	296	5.74			12500	NL
<i>Helichrysum newcastlianum</i>	13	224	5.80	NE,E		4100	NL
<i>Streptoglossa macrocephala</i>	12	206	5.83	NW,EI,W, CI,WI		10200	NL
<i>Pycnosorus globosus</i>	33	559	5.90	E,SE,CS		27600	NL
<i>Wedelia asperrima</i>	27	440	6.14			18300	NL
<i>Leiocarpa brevicompta</i>	29	467	6.21	E,EI,CS,C I	Fp	22100	NL
<i>Pluchea dioscoridis</i>	7	111	6.31			4700	NL
<i>Leptorhynchus baileyi</i>	11	172	6.40	E,EI,CS,C I		8800	NL
<i>Pycnosorus thompsonianus</i>	6	92	6.52	E,EI		5600	NL
<i>Pluchea baccharioides</i>	5	75	6.67			2300	NL
<i>Blumea benthamiana</i>	3	44	6.82	NE,CN		1600	NL
<i>Pycnosorus melleus</i>	4	58	6.90	EI,CI		3100	NL
<i>Brachyscome erigona</i>	6	87	6.90	EI		5000	NL
<i>Ammobium craspedioides</i>	8	114	7.02	SE W,WI,CI, CS,EI	For	3400	VU
<i>Ixiochlamys nana</i>	11	156	7.05			7400	NL
<i>Pleurocarpaea fasciculata</i>	4	56	7.14			1900	NL
<i>Vittadinia pterochaeta</i>	29	404	7.18	E,EI,CI,C S		32900	NL
<i>Senecio megaglossus</i>	5	69	7.25			2500	VU
<i>Rhodanthe charsleyae</i>	60	813	7.38	SW,W		40500	NL
<i>Olearia humilis</i>	5	66	7.58	W,SW,WI	RH,P	4400	NL
<i>Cassinia rugata</i>	3	39	7.69	SE,CS	He,SL	1000	VU
<i>Rhodanthe uniflora</i>	29	375	7.73			20000	NL
<i>Pycnosorus eremaeus</i>	15	193	7.77	EI,CI		8300	NL

<i>Brachyscome melanocarpa</i>	15	189	7.94	EI,E,SE,C S W,NW,C	Clay	12100	NL
<i>Flaveria australasica</i>	72	890	8.09	N,CI,CS,S E,E,EI,NE	Dist	40300	NL
<i>Podolepis muelleri</i>	9	111	8.11			7200	NL
<i>Dielitzia tysonii</i>	4	49	8.16	W	Fp,gib	3400	NL
<i>Leucochrysum molle</i>	21	255	8.24	EI,CS,CI	Sc	17000	NL
<i>Gnephosis uniflora</i>	5	60	8.33	W,SW	SaL	3600	NL
<i>Ozothamnus tuckeri</i>	5	60	8.33			5100	NL
<i>Rhodanthe chlorocephala splendida</i>	18	216	8.33			15100	NL
<i>Rhodanthe propinqua</i>	12	143	8.39	W		9300	NL
<i>Senecio vulgaris</i>	20	236	8.47	SW		12600	NL
<i>Brachyscome papillosa</i>	5	58	8.62	EI,SE SE,E,EI,N	SB	4700	VU
<i>Calotis cuneata</i>	32	367	8.72	E		22400	NL
<i>Olearia gordonii</i>	3	34	8.82	EI		1000	NL
<i>Iotasperma sessilifolium</i>	5	56	8.93	W,NW,C N,CI	P	3100	NL
<i>Pycnosorus chrysanthes</i>	46	505	9.11	E,EI,CI,S E		28500	NL
<i>Cassinia hewsoniae</i>	5	54	9.26	E	For,WL, Mal	2000	NL
<i>Rhodanthe diffusa</i>	18	194	9.28			16200	NL
<i>Feldstonia nitens</i>	4	43	9.30	W		2800	NL
<i>Trichanthodium exilis</i>	4	43	9.30	SW,W		1200	NL
<i>Rhodanthe troedelii</i>	16	171	9.36			7700	NL
<i>Senecio brigalowensis</i>	32	341	9.38			11400	NL
<i>Rhodanthe polyphylla</i>	15	158	9.49			7100	NL
<i>Chamaemelum nobile</i>	5	52	9.62	SE,TAS,C S NE,NW,C N,E,EI,W, CI,WI	Wet	3600	NL
<i>Streptoglossa odora</i>	83	860	9.65			37100	NL
<i>Pluchea tetranthera</i>	17	176	9.66	W		13800	NL
<i>Schoenia filifolia</i>	6	62	9.68			4500	NL
<i>Senecio queenslandicus</i>	8	82	9.76			3900	NL

<i>Tragopogon porrifolius</i>	59	595	9.92	SW,W	31100	NL
<i>Podolepis kendallii</i>	12	120	10.00	SW,W	7700	NL
<i>Rutidosia leptorrhynchoides</i>	29	290	10.00	E,SE	3700	EN

A total of 73 Asteraceae species had record sites in more than 100 separate PAs (Table 42). Most species in this list had over 1000 records, with an average of 2390 records per species. No species were listed as threatened.

Table 42 Asteraceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Xerochrysum viscosum</i>	1391	101	59	NL
<i>Podolepis jaceoides</i>	1036	102	74	NL
<i>Centipeda minima</i>	1218	102	91	NL
<i>Olearia erubescens</i>	1688	103	74	NL
<i>Senecio prenanthoides</i>	1010	104	79	NL
<i>Podolepis tepperi</i>	720	111	53	NL
<i>Ozothamnus diosmifolius</i>	993	111	96	NL
<i>Calocephalus citreus</i>	1645	111	26	NL
<i>Rhodanthe laevis</i>	662	112	57	NL
<i>Pogonolepis muelleriana</i>	1435	114	73	NL
<i>Gnephosis tenuissima</i>	1310	116	92	NL
<i>Gnaphalium indutum</i>	632	120	81	NL
<i>Senecio lautus dissectifolius</i>	680	120	79	NL
<i>Vellereophyton dealbatum</i>	903	125	81	NL
<i>Lagenophora gracilis</i>	1663	126	92	NL
<i>Podolepis canescens</i>	1675	127	81	NL
<i>Olearia phlogopappa</i>	2985	127	91	NL
<i>Minuria leptophylla</i>	2340	134	79	NL
<i>Millotia muelleri</i>	1136	136	79	NL
<i>Ozothamnus obcordatus</i>	1830	136	73	NL
<i>Cassinia arcuata</i>	2656	137	54	NL
<i>Olearia axillaris</i>	1914	139	75	NL
<i>Euchiton gymnocephalus</i>	692	140	105	NL
<i>Solenogyne dominii</i>	1424	142	57	NL
<i>Olearia pimeleoides</i>	1529	143	84	NL
<i>Craspedia variabilis</i>	786	144	90	NL
<i>Millotia myosotidifolia</i>	1443	144	98	NL
<i>Olearia argophylla</i>	3689	144	93	NL
<i>Isoetopsis graminifolia</i>	1775	151	99	NL
<i>Microseris lanceolata</i>	1416	155	90	NL
<i>Ozothamnus ferrugineus</i>	3216	159	85	NL
<i>Senecio linearifolius</i>	2973	161	99	NL
<i>Olearia muelleri</i>	1636	164	94	NL
<i>Centipeda cunninghamii</i>	1732	166	83	NL

<i>Rhodanthe pygmaea</i>	2292	166	103	NL
<i>Cassinia longifolia</i>	4519	168	94	NL
<i>Brachyscome perpusilla</i>	1134	170	98	NL
<i>Podolepis capillaris</i>	2770	171	118	NL
<i>Olearia lirata</i>	4018	171	106	NL
<i>Rutidosis multiflora</i>	1127	173	89	NL
<i>Stuartina muelleri</i>	1456	179	83	NL
<i>Triptilodiscus pygmaeus</i>	1726	184	104	NL
<i>Cotula australis</i>	1724	194	108	NL
<i>Cymbonotus preissianus</i>	1719	196	102	NL
<i>Vittadinia gracilis</i>	2890	196	97	NL
<i>Senecio glomeratus</i>	2176	197	95	NL
<i>Senecio minimus</i>	2514	198	115	NL
<i>Blennospora drummondii</i>	1339	203	82	NL
<i>Lagenophora huegelii</i>	1586	207	103	NL
<i>Calotis hispidula</i>	4282	211	134	NL
<i>Senecio glossanthus</i>	2472	213	148	NL
<i>Sigesbeckia orientalis</i>	1995	216	171	NL
<i>Brachyscome lineariloba</i>	3054	216	125	NL
<i>Euchiton involucratus</i>	2395	220	124	NL
<i>Hyalosperma demissum</i>	1348	223	107	NL
<i>Vittadinia cuneata</i>	2578	223	98	NL
<i>Brachyscome ciliaris</i>	3694	228	165	NL
<i>Xerochrysum bracteatum</i>	2678	231	177	NL
<i>Actinobole uliginosum</i>	3076	232	141	NL
<i>Chrysocephalum semipapposum</i>	3400	237	129	NL
<i>Cassinia aculeata</i>	7368	252	135	NL
<i>Leptorhynchos squamatus</i>	3373	268	110	NL
<i>Olearia ramulosa</i>	3030	269	151	NL
<i>Podotheca angustifolia</i>	2066	276	160	NL
<i>Euchiton sphaericus</i>	2728	283	195	NL
<i>Pseudognaphalium luteoalbum</i>	3222	298	189	NL
<i>Millotia tenuifolia</i>	2221	303	153	NL
<i>Lagenophora stipitata</i>	6603	318	207	NL
<i>Helichrysum scorpioides</i>	5782	338	191	NL
<i>Senecio pinnatifolius</i>	4364	352	231	NL
<i>Helichrysum leucopsideum</i>	3224	368	188	NL
<i>Senecio quadridentatus</i>	5149	439	220	NL
<i>Chrysocephalum apiculatum</i>	7528	473	281	NL

A total of 189 species had records in five or fewer PAs (**Table 43**). Twenty-one species were listed as threatened, including three classified as endangered. The majority of species in this list had fewer than 100 individual record sites, and no species had more than 500 record sites.

Table 43 Asteraceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Odixia achlaena</i>	62	0	NL
<i>Brachyscome tetrapterocarpa</i>	53	0	NL
<i>Senecio daltonii</i>	49	0	NL
<i>Rutidosis leucantha</i>	109	0	NL
<i>Coleocoma centaurea</i>	64	0	NL
<i>Rutidosis lanata</i>	41	0	NL
<i>Rutidosis crispata</i>	38	0	NL
<i>Chrysocephalum odorum</i>	33	0	NL
<i>Glossocardia refracta</i>	53	0	NL
<i>Basedowia tenerrima</i>	31	0	VU
<i>Senecio behrianus</i>	40	0	EN
<i>Picris barbarorum</i>	44	0	NL
<i>Ixiochlamys integerrima</i>	68	0	NL
<i>Cephalosorus carpesioides</i>	47	1	NL
<i>Ixodia flindersica</i>	73	1	NL
<i>Rutidosis glandulosa</i>	47	1	NL
<i>Senecio cunninghamii flindersensis</i>	32	1	NL
<i>Quinqueremulus linearis</i>	37	1	NL
<i>Pycnosorus thompsonianus</i>	92	1	NL
<i>Hyalosperma glutinosum venustum</i>	40	1	NL
<i>Leptorhynchus orientalis</i>	34	1	NL
<i>Olearia gordonii</i>	34	1	NL
<i>Olearia hygrophila</i>	38	1	EN
<i>Olearia imbricata</i>	38	1	NL
<i>Pleurocarpaea fasciculata</i>	56	1	NL
<i>Craspedia costiniana</i>	48	1	NL
<i>Brachyscome papillosa</i>	58	1	VU
<i>Acomis kakadu</i>	49	1	NL
<i>Acomis macra</i>	31	1	NL
<i>Angianthus cyathifer</i>	87	1	NL
<i>Blumea benthamiana</i>	44	1	NL
<i>Trichanthodium exilis</i>	43	1	NL
<i>Brachyscome dichromosomatica</i>	84	1	NL
<i>Cassinia straminea</i>	61	1	NL
<i>Brachyscome stolonifera</i>	49	1	NL
<i>Calotis glandulosa</i>	103	1	VU
<i>Calotis inermis</i>	96	1	NL
<i>Cassinia rugata</i>	39	1	VU
<i>Senecio megaglossus</i>	69	1	VU
<i>Cassinia ochracea</i>	35	1	NL
<i>Cassinia collina</i>	31	1	NL
<i>Senecio tuberculatus</i>	103	1	NL
<i>Calotis xanthosioidea</i>	131	1	NL
<i>Abrotanella nivigena</i>	91	2	NL
<i>Acomis bella</i>	42	2	NL

<i>Ozothamnus tuckeri</i>	60	2	NL
<i>Olearia suffruticosa</i>	45	2	NL
<i>Olearia pannosa</i>	32	2	NL
<i>Ammobium craspedioides</i>	114	2	VU
<i>Olearia frostii</i>	447	2	NL
<i>Brachyscome curvicarpa</i>	168	2	NL
<i>Leiocarpa gatesii</i>	69	2	VU
<i>Brachyglottis brunonis</i>	53	2	NL
<i>Brachyscome campylocarpa</i>	61	2	NL
<i>Celmisia sericophylla</i>	98	2	NL
<i>Calotis squamigera</i>	75	2	NL
<i>Feldstonia nitens</i>	43	2	NL
<i>Dithyrostegia amplexicaulis</i>	36	2	NL
<i>Cratystylis centralis</i>	61	2	NL
<i>Craspedia lamicola</i>	68	2	NL
<i>Pappochroma setosum</i>	76	2	NL
<i>Stemmacantha australis</i>	281	2	VU
<i>Podotheca wilsonii</i>	31	2	NL
<i>Podolepis davisiana</i>	88	2	NL
<i>Rutidosis leiolepis</i>	46	2	VU
<i>Pycnosorus melleus</i>	58	2	NL
<i>Rhodanthe gossypina</i>	97	2	NL
<i>Minuria multiseta</i>	59	3	NL
<i>Brachyscome muelleroides</i>	49	3	VU
<i>Millotia incurva</i>	34	3	NL
<i>Microseris</i> sp. 2	167	3	NL
<i>Schoenia filifolia</i>	62	3	NL
<i>Cassinia venusta</i>	37	3	NL
<i>Cassinia scabrida</i>	76	3	NL
<i>Cassinia hewsoniae</i>	54	3	NL
<i>Brachyscome tadgellii</i>	50	3	NL
<i>Telfordia eriocephala</i>	60	3	NL
<i>Brachyscome whitei</i>	187	3	NL
<i>Calotis ancyrocarpa</i>	88	3	NL
<i>Calotis breviradiata</i>	58	3	NL
<i>Cassinia monticola</i>	128	3	NL
<i>Helichrysum lindsayanum</i>	57	3	NL
<i>Senecio queenslandicus</i>	82	3	NL
<i>Senecio pinnatifolius capillifolius</i>	37	3	NL
<i>Senecio macrocarpus</i>	180	3	VU
<i>Brachyscome smithwhitei</i>	93	3	NL
<i>Olearia macdonnellensis</i>	84	3	VU
<i>Waitzia corymbosa</i>	42	3	NL
<i>Rhodanthe psammophila</i>	45	3	NL
<i>Dielitzia tysonii</i>	49	3	NL
<i>Ozothamnus alpinus</i>	328	3	NL
<i>Dimorphocoma minutula</i>	63	3	NL
<i>Argyrolottis turbinata</i>	45	3	NL
<i>Chrysocephalum semiamplexicaule</i>	40	3	NL
<i>Craspedia maxgrayi</i>	80	3	NL

<i>Erymophyllum compactum</i>	35	3	NL
Olearia microdisca	250	3	EN
<i>Pluchea baccharioides</i>	75	3	NL
<i>Pluchea dioscoridis</i>	111	3	NL
<i>Vittadinia humerata</i>	47	3	NL
<i>Podolepis microcephala</i>	32	3	NL
Trichanthodium baracchianum	39	3	VU
<i>Olearia brevipedunculata</i>	124	3	NL
<i>Olearia arguta</i>	65	3	NL
<i>Thespidium basiflorum</i>	129	3	NL
<i>Chthonocephalus tomentellus</i>	31	3	NL
<i>Centipeda racemosa</i>	178	4	NL
<i>Chamaemelum nobile</i>	52	4	NL
<i>Senecio leucoglossus</i>	46	4	NL
<i>Brachyscome diversifolia dissecta</i>	38	4	NL
<i>Acmella grandiflora</i>	48	4	NL
<i>Wedelia longipes</i>	95	4	NL
<i>Waitzia podolepis</i>	36	4	NL
<i>Waitzia acuminata albicans</i>	36	4	NL
<i>Angianthus acrohyalinus</i>	56	4	NL
<i>Angianthus glabratus</i>	73	4	NL
<i>Brachyscome riparia</i>	45	4	NL
Argyrotegium nitidulum	123	4	VU
<i>Sondottia connata</i>	37	4	NL
<i>Brachyscome eriogona</i>	87	4	NL
<i>Brachyscome nodosa</i>	82	4	NL
<i>Rhodanthe troedelii</i>	171	4	NL
<i>Taplinia saxatilis</i>	31	4	NL
<i>Chthonocephalus viscosus</i>	35	4	NL
<i>Brachyscome tenuiscapa pubescens</i>	33	4	NL
<i>Argentipallium tephrodes</i>	34	4	NL
<i>Minuria annua</i>	124	4	NL
<i>Helichrysum gilesii</i>	76	4	NL
<i>Podolepis monticola</i>	43	4	NL
<i>Helichrysum purpurascens</i>	33	4	NL
<i>Olearia ericoides</i>	37	4	NL
<i>Podotheca uniseta</i>	76	4	NL
Minuria tridens	89	4	VU
Pleuropappus phyllocalymmeus	155	4	VU
<i>Olearia rhizomatica</i>	33	4	NL
<i>Helichrysum monochaetum</i>	141	4	NL
<i>Iotasperma sessilifolium</i>	56	4	NL
<i>Ozothamnus diotophyllus</i>	202	4	NL
<i>Erodiophyllum elderi</i>	242	4	NL
<i>Ozothamnus rogersianus</i>	67	4	NL
<i>Eclipta alatocarpa</i>	70	4	NL
Picris evae	139	4	VU
<i>Craspedia alba</i>	110	4	NL
<i>Parantennaria uniceps</i>	98	4	NL
<i>Pithocarpa corymbulosa</i>	59	4	NL

<i>Asteridea chaetopoda</i>	56	5	NL
<i>Brachyscome multifida dilatata</i>	49	5	NL
<i>Brachyscome melanocarpa</i>	189	5	NL
<i>Microseris scapigera</i>	34	5	NL
<i>Brachyscome oncocarpa</i>	108	5	NL
<i>Odixia angusta</i>	63	5	NL
<i>Olearia archeri</i>	41	5	NL
<i>Tietkensia corrickiae</i>	62	5	NL
<i>Olearia humilis</i>	66	5	NL
<i>Pterocaulon verbascifolium</i>	156	5	NL
<i>Angianthus micropodioides</i>	51	5	NL
<i>Ottelia alismoides</i>	208	5	NL
<i>Vittadinia nullarborensis</i>	85	5	NL
<i>Pappochroma nitidum</i>	198	5	NL
<i>Pentalepis ecliptoides</i>	85	5	NL
<i>Vittadinia diffusa</i>	46	5	NL
<i>Cassinia maritima</i>	54	5	NL
<i>Rutidosis heterogama</i>	40	5	VU
<i>Pembertonia latisquamea</i>	104	5	NL
<i>Rhodanthe sterilescens</i>	126	5	NL
<i>Rhodanthe oppositifolia</i>	35	5	NL
<i>Rutidosis murchisonii</i>	179	5	NL
<i>Erymophyllum glossanthus</i>	43	5	NL
<i>Celmisia costiniana</i>	184	5	NL
<i>Ewartia nubigena</i>	156	5	NL
<i>Senecio depressicola</i>	152	5	NL
<i>Rhodanthe heterantha</i>	38	5	NL
<i>Gnephosis acicularis</i>	36	5	NL
<i>Wedelia urticifolia</i>	127	5	NL
<i>Gnephosis intonsa</i>	31	5	NL
<i>Brachyscome procumbens</i>	31	5	NL
<i>Gnephosis uniflora</i>	60	5	NL
<i>Senecio longicollaris</i>	35	5	NL
<i>Gynura drymophila glabrifolia</i>	48	5	NL
<i>Haeckeria cassiniiformis</i>	40	5	NL
<i>Helichrysum newcastlianum</i>	224	5	NL
<i>Helichrysum pumilum spathulatum</i>	35	5	NL
<i>Sphaeranthus indicus</i>	296	5	NL
<i>Hyalosperma pusillum</i>	43	5	NL
<i>Ixiochlamys nana</i>	156	5	NL
<i>Pterocaulon niveum</i>	64	5	NL
<i>Craspedia crocata</i>	118	5	NL
<i>Brachyscome ptychocarpa</i>	52	5	NL
<i>Senecio linearifolius intermedius</i>	51	5	NL

Two hundred and three species of Asteraceae had records in five or fewer PAs of greater than 1000 hectares in area. This list includes 21 threatened species, with one being listed as endangered (**Table 44**).

Table 44 Asteraceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Abrotanella nivigena</i>	91	2	NL
<i>Achnophora tatei</i>	71	4	NL
<i>Acmella grandiflora</i>	48	3	NL
<i>Acomis bella</i>	42	2	NL
<i>Acomis kakadu</i>	49	1	NL
<i>Acomis macra</i>	31	1	NL
<i>Ammobium craspedioides</i>	114	2	VU
<i>Angianthus acrohyalinus</i>	56	4	NL
<i>Angianthus cyathifer</i>	87	1	NL
<i>Angianthus glabratus</i>	73	4	NL
<i>Angianthus micropodioides</i>	51	4	NL
<i>Argentipallium tephrodes</i>	34	4	NL
<i>Argyrolottis turbinata</i>	45	3	NL
<i>Argyrotegium nitidulum</i>	123	4	VU
<i>Asteridea chaetopoda</i>	56	4	NL
<i>Blennospora doliiformis</i>	33	4	NL
<i>Blumea benthamiana</i>	44	1	NL
<i>Brachyglottis brunonis</i>	53	1	NL
<i>Brachyscome campylocarpa</i>	61	2	NL
<i>Brachyscome chrysoglossa</i>	102	5	NL
<i>Brachyscome curvicarpa</i>	168	1	NL
<i>Brachyscome dichromosomatica</i>	84	1	NL
<i>Brachyscome diversifolia dissecta</i>	38	4	NL
<i>Brachyscome eriogona</i>	87	3	NL
<i>Brachyscome glandulosa</i>	35	3	NL
<i>Brachyscome melanocarpa</i>	189	5	NL
<i>Brachyscome muelleroides</i>	49	1	VU
<i>Brachyscome multifida dilatata</i>	49	5	NL
<i>Brachyscome nodosa</i>	82	4	NL
<i>Brachyscome oncocarpa</i>	108	5	NL
<i>Brachyscome papillosa</i>	58	1	VU
<i>Brachyscome procumbens</i>	31	5	NL
<i>Brachyscome ptychocarpa</i>	52	4	NL
<i>Brachyscome readeri</i>	65	5	NL
<i>Brachyscome riparia</i>	45	4	NL
<i>Brachyscome smithwhitei</i>	93	3	NL
<i>Brachyscome stolonifera</i>	49	1	NL
<i>Brachyscome tadgellii</i>	50	3	NL
<i>Brachyscome tenuiscapa pubescens</i>	33	4	NL
<i>Brachyscome whitei</i>	187	3	NL
<i>Calotis ancyrocarpa</i>	88	3	NL
<i>Calotis anthemoides</i>	249	4	NL
<i>Calotis breviradiata</i>	58	3	NL
<i>Calotis glandulosa</i>	103	1	VU
<i>Calotis inermis</i>	96	1	NL

<i>Calotis squamigera</i>	75	2	NL
<i>Calotis xanthosioidea</i>	131	1	NL
<i>Cassinia collina</i>	31	1	NL
<i>Cassinia diminuta</i>	87	2	NL
<i>Cassinia hewsoniae</i>	54	1	NL
<i>Cassinia maritima</i>	54	5	NL
<i>Cassinia monticola</i>	128	3	NL
<i>Cassinia ochracea</i>	35	1	NL
<i>Cassinia rugata</i>	39	1	VU
<i>Cassinia scabrida</i>	76	3	NL
<i>Cassinia straminea</i>	61	1	NL
<i>Cassinia venusta</i>	37	2	NL
<i>Celmisia costiniana</i>	184	5	NL
<i>Celmisia sericophylla</i>	98	2	NL
<i>Centipeda racemosa</i>	178	4	NL
<i>Chamaemelum nobile</i>	52	2	NL
<i>Chondropyxis halophila</i>	32	5	NL
<i>Chrysocephalum semiamplexicaule</i>	40	3	NL
<i>Chthonocephalus tomentellus</i>	31	3	NL
<i>Chthonocephalus viscosus</i>	35	4	NL
<i>Craspedia alba</i>	110	4	NL
<i>Craspedia costiniana</i>	48	1	NL
<i>Craspedia crocata</i>	118	5	NL
<i>Craspedia lamicola</i>	68	2	NL
<i>Craspedia maxgrayi</i>	80	3	NL
<i>Cratystylis centralis</i>	61	2	NL
<i>Dielitzia tysonii</i>	49	3	NL
<i>Dimorphocoma minutula</i>	63	3	NL
<i>Dithyrostegia amplexicaulis</i>	36	2	NL
<i>Eclipta alatocarpa</i>	70	4	NL
<i>Enydra fluctuans</i>	98	5	NL
<i>Erodiophyllum elderi</i>	242	4	NL
<i>Erymophyllum compactum</i>	35	3	NL
<i>Erymophyllum glossanthus</i>	43	5	NL
<i>Ewartia nubigena</i>	156	5	NL
<i>Feldstonia nitens</i>	43	2	NL
<i>Gnephosis acicularis</i>	36	4	NL
<i>Gnephosis intonsa</i>	31	5	NL
<i>Gnephosis uniflora</i>	60	4	NL
<i>Gynura drymophila glabrifolia</i>	48	4	NL
<i>Haeckeria cassiniiformis</i>	40	5	NL
<i>Helichrysum gilesii</i>	76	4	NL
<i>Helichrysum lindsayanum</i>	57	2	NL
<i>Helichrysum monochaetum</i>	141	4	NL
<i>Helichrysum newcastlianum</i>	224	3	NL
<i>Helichrysum pumilum spathulatum</i>	35	5	NL
<i>Helichrysum purpurascens</i>	33	3	NL
<i>Helichrysum scutellifolium</i>	35	5	NL
<i>Hyalosperma glutinosum venustum</i>	40	1	NL
<i>Hyalosperma pusillum</i>	43	5	NL

<i>Iotasperma sessilifolium</i>	56	4	NL
<i>Ixiochlamys nana</i>	156	5	NL
<i>Ixodia flindersica</i>	73	1	NL
<i>Leiocarpa gatesii</i>	69	2	VU
<i>Leptorhynchos orientalis</i>	34	1	NL
<i>Microseris scapigera</i>	34	3	NL
<i>Microseris</i> sp. 2	167	2	NL
<i>Millotia incurva</i>	34	3	NL
<i>Minuria annua</i>	124	3	NL
<i>Minuria multiseta</i>	59	3	NL
<i>Minuria tridens</i>	89	4	VU
<i>Myriocephalus occidentalis</i>	55	5	NL
<i>Odixia angusta</i>	63	4	NL
<i>Olearia adenophora</i>	99	5	NL
<i>Olearia archeri</i>	41	4	NL
<i>Olearia arguta</i>	65	3	NL
<i>Olearia brevipedunculata</i>	124	3	NL
<i>Olearia ericoides</i>	37	3	NL
<i>Olearia frostii</i>	447	2	NL
<i>Olearia gordonii</i>	34	1	NL
<i>Olearia grandiflora</i>	164	3	NL
<i>Olearia heterocarpa</i>	53	4	NL
<i>Olearia humilis</i>	66	5	NL
<i>Olearia imbricata</i>	38	1	NL
<i>Olearia macdonnellensis</i>	84	3	VU
<i>Olearia pannosa</i>	32	2	NL
<i>Olearia pannosa pannosa</i>	255	5	VU
<i>Olearia passerinoides glutescens</i>	49	2	NL
<i>Olearia rhizomatica</i>	33	4	NL
<i>Olearia suffruticosa</i>	45	2	NL
<i>Ottelia alismoides</i>	208	4	NL
<i>Ozothamnus alpinus</i>	328	3	NL
<i>Ozothamnus costatifructus</i>	72	4	NL
<i>Ozothamnus diotophyllus</i>	202	3	NL
<i>Ozothamnus rogersianus</i>	67	4	NL
<i>Ozothamnus tuckeri</i>	60	2	NL
<i>Pappochroma nitidum</i>	198	5	NL
<i>Pappochroma setosum</i>	76	2	NL
<i>Parantennaria uniceps</i>	98	4	NL
<i>Pembertonia latisquamea</i>	104	4	NL
<i>Pentalepis ecliptoides</i>	85	5	NL
<i>Picris evae</i>	139	3	VU
<i>Pithocarpa corymbulosa</i>	59	3	NL
<i>Pleurocarpaea fasciculata</i>	56	1	NL
<i>Pleuropappus phyllocalymmeus</i>	155	4	VU
<i>Pluchea baccharioides</i>	75	3	NL
<i>Pluchea dioscoridis</i>	111	3	NL
<i>Podolepis davisiana</i>	88	1	NL
<i>Podolepis microcephala</i>	32	2	NL
<i>Podolepis monticola</i>	43	4	NL

<i>Podolepis muelleri</i>	111	3	NL
<i>Podotheca chrysantha</i>	70	4	NL
<i>Podotheca uniseta</i>	76	3	NL
<i>Podotheca wilsonii</i>	31	2	NL
<i>Pterocaulon niveum</i>	64	5	NL
<i>Pterocaulon verbascifolium</i>	156	5	NL
<i>Pycnosorus melleus</i>	58	2	NL
<i>Pycnosorus thompsonianus</i>	92	1	NL
<i>Quinqueremulus linearis</i>	37	1	NL
<i>Rhodanthe corymbosa</i>	65	5	NL
<i>Rhodanthe diffusa</i>	194	5	NL
<i>Rhodanthe gossypina</i>	97	2	NL
<i>Rhodanthe heterantha</i>	38	3	NL
<i>Rhodanthe oppositifolia</i>	35	5	NL
<i>Rhodanthe psammophila</i>	45	3	NL
<i>Rhodanthe rubella</i>	108	5	NL
<i>Rhodanthe sterilescens</i>	126	5	NL
<i>Rhodanthe troedelii</i>	171	4	NL
<i>Rutidosis glandulosa</i>	47	1	NL
<i>Rutidosis heterogama</i>	40	5	VU
<i>Rutidosis leiolepis</i>	46	2	VU
<i>Rutidosis leptorrhynchoides</i>	290	1	EN
<i>Rutidosis murchisonii</i>	179	4	NL
<i>Schoenia filifolia</i>	62	3	NL
<i>Senecio cunninghamii flindersensis</i>	32	1	NL
<i>Senecio depressicola</i>	152	5	NL
<i>Senecio garlandii</i>	77	4	VU
<i>Senecio gawlerensis</i>	258	5	NL
<i>Senecio hypoleucus</i>	281	5	NL
<i>Senecio leucoglossus</i>	46	2	NL
<i>Senecio linearifolius intermedius</i>	51	5	NL
<i>Senecio longicollaris</i>	35	4	NL
<i>Senecio macrocarpus</i>	180	3	VU
<i>Senecio megaglossus</i>	69	1	VU
<i>Senecio microbasis</i>	43	5	NL
<i>Senecio pinnatifolius capillifolius</i>	37	1	NL
<i>Senecio psilocarpus</i>	81	2	VU
<i>Senecio queenslandicus</i>	82	3	NL
<i>Senecio tuberculatus</i>	103	1	NL
<i>Senecio vulgaris</i>	236	5	NL
<i>Siloxerus pygmaeus</i>	48	5	NL
<i>Sondottia connata</i>	37	4	NL
<i>Sphaeranthus indicus</i>	296	5	NL
<i>Stemmacantha australis</i>	281	2	VU
<i>Taplinia saxatilis</i>	31	4	NL
<i>Telfordia eriocephala</i>	60	3	NL
<i>Thespidium basiflorum</i>	129	3	NL
<i>Tietkensia corrickiae</i>	62	5	NL
<i>Trichanthodium baracchianum</i>	39	1	VU
<i>Trichanthodium exilis</i>	43	1	NL

<i>Vittadinia diffusa</i>	46	4	NL
<i>Vittadinia humerata</i>	47	1	NL
<i>Vittadinia nullarborensis</i>	85	5	NL
<i>Waitzia acuminata albicans</i>	36	4	NL
<i>Waitzia corymbosa</i>	42	3	NL
<i>Waitzia podolepis</i>	36	4	NL
<i>Wedelia longipes</i>	95	4	NL
<i>Wedelia urticifolia</i>	127	5	NL

Mimosaceae – Wattles

The ANHAT database has 380731 records for 1080 species and subspecies of Mimosaceae. One species of Mimosaceae was considered extinct and therefore excluded from analysis. This species is presented in **Table 45**.

Table 45 Mimosaceae species considered extinct

Species	Common name	No. of records
<i>Acacia prismifolia</i>		24

Eighty-five species account for approximately 50% of the total species records in ANHAT (**Table 46**). These species have over 1100 records each.

Table 46 Mimosaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Acacia montana</i>	1100	0.28
<i>Acacia rubida</i>	1110	0.28
<i>Acacia dimidiata</i>	1121	0.28
<i>Acacia stipuligera</i>	1123	0.28
<i>Acacia papyrocarpa</i>	1135	0.29
<i>Acacia oncinocarpa</i>	1147	0.29
<i>Neptunia gracilis</i>	1147	0.29
<i>Acacia galioides</i>	1152	0.29
<i>Acacia latescens</i>	1158	0.29
<i>Acacia gonocarpa</i>	1159	0.29
<i>Acacia tumida</i>	1161	0.29
<i>Acacia acradenia</i>	1177	0.30
<i>Acacia nanodealbata</i>	1179	0.30
<i>Neptunia dimorphantha</i>	1193	0.30
<i>Acacia bivenosa</i>	1202	0.30
<i>Acacia plectocarpa</i>	1202	0.30
<i>Acacia excelsa</i>	1203	0.30
<i>Acacia cowleana</i>	1205	0.30
<i>Acacia lycopodiifolia</i>	1209	0.30
<i>Acacia nyssophylla</i>	1209	0.30
<i>Acacia coriacea</i>	1222	0.31
<i>Acacia gunnii</i>	1226	0.31
<i>Acacia calamifolia</i>	1246	0.31
<i>Acacia penninervis</i>	1248	0.31
<i>Acacia dictyophleba</i>	1249	0.31
<i>Acacia burkittii</i>	1251	0.32
<i>Acacia julifera</i>	1333	0.34

<i>Acacia harpophylla</i>	1380	0.35
<i>Acacia crassicarpa</i>	1383	0.35
<i>Acacia monticola</i>	1389	0.35
<i>Acacia melleodora</i>	1415	0.36
<i>Acacia ancistrocarpa</i>	1426	0.36
<i>Acacia hemignosta</i>	1439	0.36
<i>Acacia brachybotrya</i>	1463	0.37
<i>Acacia deanei</i>	1463	0.37
<i>Acacia cambagei</i>	1489	0.38
<i>Acacia maidenii</i>	1489	0.38
<i>Acacia stricta</i>	1499	0.38
<i>Acacia oxycedrus</i>	1522	0.38
<i>Acacia sophorae</i>	1600	0.40
<i>Acacia difficilis</i>	1691	0.43
<i>Acacia hakeoides</i>	1706	0.43
<i>Acacia platycarpa</i>	1731	0.44
<i>Acacia lysiphloia</i>	1735	0.44
<i>Acacia kempeana</i>	1741	0.44
<i>Acacia torulosa</i>	1756	0.44
<i>Acacia flavescens</i>	1778	0.45
<i>Acacia shirleyi</i>	1800	0.45
<i>Acacia ulicifolia</i>	1836	0.46
<i>Acacia falciformis</i>	1898	0.48
<i>Acacia stenophylla</i>	1915	0.48
<i>Acacia auriculiformis</i>	1956	0.49
<i>Acacia spinescens</i>	1986	0.50
<i>Acacia obliquinervia</i>	1993	0.50
<i>Acacia decora</i>	1995	0.50
<i>Acacia leptostachya</i>	2008	0.51
<i>Acacia alleniana</i>	2042	0.51
<i>Acacia murrayana</i>	2045	0.52
<i>Acacia rigens</i>	2114	0.53
<i>Acacia suaveolens</i>	2117	0.53
<i>Acacia terminalis</i>	2129	0.54
<i>Acacia leptocarpa</i>	2246	0.57
<i>Acacia ramulosa</i>	2296	0.58
<i>Acacia salicina</i>	2341	0.59
<i>Acacia implexa</i>	2504	0.63
<i>Acacia holosericea</i>	2752	0.69
<i>Acacia genistifolia</i>	3081	0.78
<i>Acacia leiocalyx</i>	3164	0.80
<i>Acacia verniciflua</i>	3342	0.84
<i>Acacia longifolia</i>	3371	0.85
<i>Acacia tetragonophylla</i>	3380	0.85
<i>Acacia victoriae</i>	3495	0.88
<i>Acacia acinacea</i>	3513	0.89
<i>Acacia mucronata</i>	3608	0.91
<i>Acacia oswaldii</i>	4328	1.09
<i>Acacia verticillata</i>	4558	1.15
<i>Acacia paradoxa</i>	4772	1.20

<i>Acacia myrtifolia</i>	4893	1.23
<i>Acacia mearnsii</i>	5201	1.31
<i>Acacia aulacocarpa</i>	5293	1.33
<i>Acacia ligulata</i>	6530	1.65
<i>Acacia aneura</i>	6617	1.67
<i>Acacia pycnantha</i>	7457	1.88
<i>Acacia dealbata</i>	7666	1.93
<i>Acacia melanoxydon</i>	11454	2.89
Total	198858	50.11

One hundred and seventy-eight Mimosaceae species had 30 or fewer individual site records in the ANHAT database (

Table 47), representing a little over 10% of all species with record sites. Of those species, 19 are classified as threatened (including one species classified as critically endangered). Information on the locations of these species in Australia is often lacking, but species with established ranges in this category are predominantly from the western half of the continent. There are no obvious patterns in the vegetation types associated with these poorly recorded species. These species have been excluded from analysis but are included here for reference. Exclusion of these poorly recorded species eliminates 2824 records.

Table 47 Mimosaceae species with 30 or fewer individual record sites in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area (km ²)	EPBC status
<i>Acacia aff tetanophylla</i>	1	0.00			100	NL
<i>Acacia alaticaulis</i>	1	100.00			400	NL
<i>Acacia amentifera</i>	1	0.00	E, SE	For, Mal	100	NL
<i>Acacia sp. blyth range</i>	1	0.00			100	NL
<i>Acacia sp. pilbara</i>						
5259	1	0.00			100	NL
<i>Acacia dandaragan</i> (s. van leeuwen 269)	2	0.00			300	EN
<i>Acacia sp. barklys</i>	2	0.00			200	NL
<i>Acacia sp. jimberlana hill</i>	2	0.00			100	NL
<i>Acacia sp. jimblebar</i>	2	0.00			100	NL
<i>Acacia sphacelata verticillata</i>	2	0.00			200	NL
<i>Acacia barklys</i>	3	0.00			300	NL
<i>Acacia infecunda</i>	3	66.67			200	NL
<i>Acacia kulnurensis</i>	3	0.00			1600	NL
<i>Acacia sp. boyd creek</i>	3	0.00			100	NL
<i>Acacia sp. gayndah</i>	3	0.00			100	NL
<i>Acacia sp. mekunga</i>	3	0.00			100	NL

<i>creek</i>						
<i>Acacia sp. the springs</i>	3	0.00			100	NL
<i>Acacia bartleana</i>	4	0.00			200	NL
<i>Acacia humilis</i>	4	0.00			400	NL
<i>Acacia lake mackay</i>	4	0.00			400	NL
<i>Acacia sp. castletower</i>	4	0.00			100	NL
<i>Acacia sp. charters towers</i>	4	0.00			300	NL
<i>Acacia sp. gimbat</i>	4	100.00			300	NL
<i>Acacia sp. indiana station</i>	4	0.00			100	NL
<i>Acacia sp. mt leach range</i>	4	100.00			200	NL
<i>Acacia sp. spear hill</i>	4	0.00			200	NL
<i>Acacia subflexuosa capillata</i>	4	0.00			300	EN
<i>Acacia congesta cliftoniana</i>	5	0.00	W	Mal	300	NL
<i>Acacia kimberleyensis</i>	5	0.00	NW	WL, Sp	400	NL
<i>Acacia pennata</i>	5	20.00			400	NL
<i>Acacia sp. gove</i>	5	40.00			300	NL
<i>Acacia sp. lake mackay</i>	5	0.00			500	NL
<i>Acacia sphacelata recurva</i>	5	20.00			400	NL
<i>Acacia vincentii</i>	5	20.00	NW		300	NL
<i>Acacia zatrichota</i>	5	100.00	NW	WL, SL	200	NL
<i>Acacia elsherana</i>	6	66.67			500	NL
<i>Acacia epedunculata</i>	6	0.00	W	SaP, SL	300	NL
<i>Acacia repens</i>	6	0.00	NW	Sand, Sp, SL	400	NL
<i>Acacia sp. biloela</i>	6	0.00			200	NL
<i>Acacia sp. graveside gorge</i>	6	100.00			300	NL
<i>Acacia sp. gwambagwine</i>	6	50.00			400	NL
<i>Acacia sp. hervey range</i>	6	0.00			200	NL
<i>Acacia sp. pine islet</i>	6	50.00			300	NL
<i>Acacia sp. ruined castle creek</i>	6	0.00			100	NL
<i>Acacia nanopravissima</i>	7	14.29			400	NL
<i>Acacia sp. iron range</i>	7	42.86			300	NL
<i>Acacia tenuior</i>	7	0.00	CI		300	NL
<i>Vachellia pachyphloia brevipinnula</i>	7	0.00			700	NL
<i>Acacia angustissima</i>	8	0.00			400	NL
<i>Acacia hypermeces</i>	8	0.00	NW	Sand	400	NL
<i>Acacia sp. ambathala</i>	8	75.00			300	NL
<i>Acacia sp. annan river</i>	8	0.00			800	NL
<i>Acacia sp. mt beaufort</i>	8	0.00			200	NL

<i>Acacia auripila</i>	9	100.00	CI(W)	Sp	300	NL
<i>Acacia kenneallyi</i>	9	11.11	NW	WL	800	NL
<i>Acacia lentiginea</i>	9	55.56	NW		500	NL
<i>Acacia tabula</i>	9	44.44			300	NL
<i>Albizia sp. south percy island</i>	9	33.33			500	NL
<i>Acacia forsythii</i>	10	40.00	E	WL	500	NL
<i>Acacia pelophila</i>	10	0.00	W	Sc, SL	500	NL
<i>Acacia sp. bulburin</i>	10	0.00			300	NL
<i>Acacia sp. laterite</i>	10	0.00			300	NL
<i>Acacia abbatiana</i>	11	0.00			100	NL
<i>Acacia paula</i>	11	36.36	CN	For	200	NL
<i>Acacia sp. jericho</i>	11	0.00			300	NL
<i>Acacia atrox</i>	12	0.00			400	NL
<i>Acacia caleyi</i>	12	41.67	SW	For, GrL	500	NL
<i>Acacia capillaris</i>	12	91.67	NW	RH, Sp	500	NL
<i>Acacia deuteroneura</i>	12	0.00	E	Sand	400	VU
<i>Acacia rigescens</i>	12	58.33	CN	WL, SL	200	NL
<i>Acacia amblyophylla</i>	13	7.69	W	DF	1100	NL
				Water logged depressions		
<i>Acacia diaphana</i>	13	15.38	SW	ons	900	NL
<i>Acacia gloeotricha</i>	13	0.00	NW	Sand	500	NL
<i>Acacia manipularis</i>	13	23.08	NW	SL	500	NL
<i>Acacia sp. kulgera</i>	13	0.00			400	NL
<i>Acacia toondulya</i>	13	0.00			600	NL
<i>Acacia wilcoxii</i>	13	0.00	W	Sc	700	NL
<i>Acacia xerophila</i>	13	0.00	SW		900	NL
<i>Acacia hystrix</i>	14	0.00	SW		800	NL
<i>Acacia imparilis</i>	14	50.00	SW	Mal Sc	500	NL
<i>Acacia subflexuosa</i>	14	28.57	W, SW		500	NL
<i>Acacia adnata</i>	15	26.67	W		900	NL
<i>Acacia amyctica</i>	15	26.67	SW	Wl, SL	900	NL
<i>Acacia erioclada</i>	15	0.00	SW	He	1100	NL
<i>Acacia insolita</i>	15	13.33	SW		1200	NL
<i>Acacia robiniae</i>	15	13.33	SW	WL, Sw	1000	NL
<i>Acacia sp. blackall</i>	15	0.00			500	NL
				He, SL, Mal		
<i>Acacia improcera</i>	16	43.75	SW		1400	NL
<i>Acacia rhamphophylla</i>	16	25.00	SE	Sc Mal	700	EN
<i>Albizia sp. windsor tableland</i>	16	100.00			500	NL
<i>Acacia acellerata</i>	17	29.41	SW	SL	900	NL
<i>Acacia ataxiphylla</i>	17	11.76	SW		1200	NL
<i>Acacia microneura</i>	17	17.65	SE	He	1100	NL
<i>Acacia newmanii</i>	17	11.76			1400	NL
<i>Acacia sp. krichauff</i>	17	0.00			200	NL

range

<i>Acacia trunculenta</i>	17	76.47	SW	WL, Mal Sc	800	NL
<i>Acacia arbiana</i>	18	11.11	E	He	200	NL
<i>Acacia asepalata</i>	18	50.00	SW	WL	600	NL
<i>Acacia beadleana</i>	18	77.78			400	NL
<i>Acacia incongesta</i>	18	94.44	SW	He	400	NL
				water courses,		
<i>Acacia inops</i>	18	16.67	SW	Sw	800	NL
<i>Acacia sp. fermoy road</i>	18	0.00			400	NL
<i>Acacia cassicula</i>	19	0.00	SW	WL	800	NL
<i>Acacia loxophylla</i>	19	0.00	SW		800	NL
<i>Acacia malloclada</i>	19	5.26	CN?		400	NL
<i>Acacia merrickiae</i>	19	26.32	SE	WL	900	NL
<i>Acacia ryaniana</i>	19	10.53	W	Sc, He	1300	NL
<i>Acacia webbii</i>	19	0.00			1000	NL
				Mal,		
<i>Acacia blaxellii</i>	20	5.00	SW	WL	1100	NL
<i>Acacia formidabilis</i>	20	20.00	W	SL	1100	NL
<i>Acacia ampliata</i>	21	4.76	W	Mal Sc	1100	NL
<i>Acacia awestoniana</i>	21	76.19	SW	WL	700	VU
<i>Acacia chrysotricha</i>	21	19.05	E	RF	300	NL
<i>Acacia lanceolata</i>	21	9.52	W	SL, WL	1300	NL
<i>Acacia pennata kerrii</i>	21	0.00	NE	RF	300	NL
<i>Acacia polyadenia</i>	21	14.29	E	He	900	NL
<i>Acacia pygmaea</i>	21	52.38	W	WL	800	EN
<i>Acacia recurvata</i>	21	19.05	W	SL, WL	600	EN
<i>Acacia sp. richards creek</i>	21	0.00			300	NL
				He, SL,		
<i>Acacia praemorsa</i>	22	4.55	CS	Sc	500	NL
<i>Acacia sp. jim jim falls</i>	22	72.73			800	NL
<i>Acacia aristulata</i>	23	34.78	SW	SL	600	EN
<i>Acacia benthamii</i>	23	8.70	W	RH	1500	NL
<i>Acacia carnosula</i>	23	86.96	SW	Sc, Mal	1400	NL
<i>Acacia insolita recurva</i>	23	52.17	SW	WL	500	EN
				WL,		
<i>Acacia nivea</i>	23	17.39	SW	Mal SL	1800	NL
<i>Acacia ataxiphylla magna</i>	24	8.33	SW	He	1000	EN
<i>Acacia kerryana</i>	24	8.33	SW	SL	1000	NL
<i>Acacia ridleyana</i>	24	0.00	W	He	900	NL
<i>Acacia rubricaulis</i>	24	12.50			900	NL
<i>Acacia sp. el sharana</i>	24	66.67			1300	NL
<i>Acacia unguicula</i>	24	100.00	SW	Sc	200	CE
<i>Acacia volubilis</i>	24	0.00	W		600	EN
<i>Acacia dangarensis</i>	25	92.00	E	WL	400	NL
<i>Acacia euthyphylla</i>	25	16.00	SW	Sw, SL,	1500	NL

				Mal WL		
				WL, Sc,		
<i>Acacia obesa</i>	25	8.00	SW	He	1400	NL
<i>Acacia vassalii</i>	25	8.00	SW	Sc	700	EN
<i>Acacia cerastes</i>	26	23.08	W	RH	900	NL
<i>Acacia cracentis</i>	26	53.85	SW	SL, He	1300	NL
<i>Acacia daviesii</i>	26	0.00			500	NL
<i>Acacia gardneri</i>	26	19.23	NW	Sand	1400	NL
<i>Acacia intorta</i>	26	0.00	W	SL	1500	NL
<i>Acacia levata</i>	26	0.00	W		900	NL
<i>Acacia pharangites</i>	26	34.62	SW	Sc	400	EN
<i>Acacia scleroclada</i>	26	15.38	W	Sc	1900	NL
<i>Acacia solenota</i>	26	3.85	NE	Sc	500	VU
<i>Acacia subrigida</i>	26	46.15	W	SL	900	NL
<i>Acacia aspera</i> <i>parviceps</i>	27	51.85			900	NL
				Mal SL,		
<i>Acacia concolorans</i>	27	22.22	SW	WL	700	NL
<i>Acacia dorsenna</i>	27	3.70	SW		800	NL
<i>Acacia filamentosa</i>	27	0.00	NW	Sand	1500	NL
<i>Acacia imitans</i>	27	74.07	W	SL	400	NL
<i>Acacia incanica</i>	27	92.59	SW	He, SL	400	NL
<i>Acacia perangusta</i>	27	3.70	E		1500	VU
<i>Acacia splendens</i>	27	0.00			500	NL
<i>Acacia tayloriana</i>	27	44.44	SW	For	1500	NL
<i>Acacia costata</i>	28	0.00	SW	He	2000	NL
				He, Sc,		
<i>Acacia depressa</i>	28	50.00	SW	SL	800	VU
<i>Acacia saxicola</i>	28	57.14	E	RH	400	NL
<i>Acacia sciophanes</i>	28	10.71	SE	Sc	400	EN
<i>Acacia sp. nantglyn</i>	28	0.00			600	NL
				For,		
<i>Acacia vittata</i>	28	50.00	W	WL	1200	NL
				Ma SL,		
<i>Acacia acanthaster</i>	29	0.00	SW	WL	2100	NL
<i>Acacia carens</i>	29	72.41	W	He	800	NL
<i>Acacia didyma</i>	29	0.00	West Islands	Sc, SL	700	NL
				Floodpl		
<i>Acacia glaucocaesia</i>	29	0.00	W	ains	1700	NL
<i>Acacia hendersonii</i>	29	75.86	SW		600	NL
<i>Acacia nodiflora</i>	29	3.45	W	RH	1200	NL
<i>Acacia trulliformis</i>	29	13.79	SE	WL	1300	NL
				Mal Sc,		
<i>Acacia calcarata</i>	30	16.67	SW	SL	1100	NL
				For,		
<i>Acacia courtii</i>	30	56.67	E	WL	600	VU
				Sand,		
<i>Acacia filipes</i>	30	100.00	CN	RH	500	NL
<i>Acacia glaucissima</i>	30	20.00	SW	Mal WL	1600	NL
<i>Acacia horridula</i>	30	33.33	SW	RH,	1800	NL

				WL		
<i>Acacia ophiolithica</i>	30	3.33	SW	Mal	1600	NL
<i>Acacia pterocaulon</i>	30	0.00	W	WL, Sc	600	NL
<i>Acacia tuberculata</i>	30	10.00	SE	RH	1300	NL
<i>Archidendron kanisii</i>	30	63.33	NE	RF	400	NL

Removal of record sites for the extinct and poorly recorded species leaves 377883 records in ANHAT for 901 species (and subspecies). The mean number of records per species for species with greater than 30 records was 419.4, with a mean of 25.6 for the percent of records in the NRS.

One hundred and thirty-two species of Mimosaceae had 45% or greater of individual site records located within PAs (**Table 48**). Of those 132 species, nine species are classified as threatened, including three species classified as endangered. There are no patterns evident in the locations or vegetation types of species in this category, with species being found from around Australia and in a wide range of vegetation types.

Table 48 Mimosaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area (km ²)	EPBC status
<i>Acacia nigricans</i>	47	104	45.19	SW	SD, He, Sc	4400	NL
<i>Acacia excentrica</i>	19	42	45.24	SW		2700	NL
<i>Acacia newbeyi</i>	19	42	45.24	SW	SL	1800	NL
<i>Acacia conjunctifolia</i>	83	182	45.60	CN	WL, For	4800	NL
<i>Acacia trachyphloia</i>	70	153	45.75	SE	For	3200	NL
<i>Acacia celsa</i>	81	177	45.76			4000	NL
<i>Entada phaseoloides</i>	38	83	45.78	NE	RF	5600	NL
<i>Acacia setulifera</i>	29	63	46.03	CN	WL	3700	NL
<i>Acacia anceps</i>	180	391	46.04	CS	Co SD, Sc	15700	NL
<i>Acacia leioderma</i>	102	221	46.15	SW	Co He, Sc, SL	10700	NL
<i>Acacia moirii</i>	119	257	46.30	SW		10700	NL
<i>Acacia siculiformis</i>	240	516	46.51	E, SE, TAS	For	19800	NL
<i>Acacia kybeanensis</i>	77	165	46.67	SE	WL, For	2800	NL
<i>Acacia pravissima</i>	213	453	47.02	SE	For	16100	NL
<i>Acacia basedowii</i>	82	172	47.67	CI	RH	5600	NL
<i>Acacia lycopodiifolia</i>	577	1209	47.73	NW, CN	Sand, RH	31800	NL

<i>Acacia yirrkallensis</i>	106	222	47.75	CN	For, WL	7500	NL
<i>Acacia latescens</i>	557	1158	48.10	CN	SL, For, WL	28400	NL
<i>Acacia retinodes</i>	460	951	48.37	CS		26200	NL
<i>Acacia flabellifolia</i>	33	68	48.53	SW	WL	1300	NL
<i>Acacia symonii</i>	35	72	48.61	CI	RH, Mul	1400	NL
<i>Acacia gonocarpa</i>	565	1159	48.75	NW, CN	WL	26700	NL
<i>Acacia albizioides</i>	25	51	49.02	NE	RF	1400	NL
<i>Acacia orites</i>	51	104	49.04	E	RF	2400	NL
<i>Acacia acrionastes</i>	61	124	49.19	E	For	1300	NL
<i>Acacia subtilinervis</i>	68	138	49.28	SE	For	3500	NL
<i>Acacia epacantha</i>	19	38	50.00	W	WL, He	2000	NL
<i>Acacia proiantha</i>	19	38	50.00	CN	Sand Sand,	1700	NL
<i>Acacia tenuispica</i>	23	46	50.00	NW	WL	2000	NL
<i>Albizia retusa</i>	28	56	50.00			1200	NL
<i>Acacia pachyphylla</i>	29	58	50.00	SW	He, Sc Mal	4900	NL
<i>Acacia nematophylla</i>	187	371	50.40	CS	Co SD SD, SL,	7100	NL
<i>Acacia olgana</i>	201	398	50.50	CI(S)	WL	7200	NL
<i>Acacia helmsiana</i>	75	148	50.68	W, CI	Ar, SD For,	7300	NL
<i>Acacia jonesii</i>	27	53	50.94	SE	WL	2200	NL
<i>Acacia pedina</i>	27	53	50.94			800	NL
<i>Acacia crenulata</i>	22	43	51.16	SW	WL	2200	NL
<i>Acacia pubicosta</i>	57	111	51.35	E	RH	2100	NL
<i>Acacia storyi</i>	52	101	51.49	E	For	1800	NL
<i>Acacia brachycarpa</i>	69	134	51.49	E	For Sand,	2500	NL
<i>Acacia flocktoniae</i>	16	31	51.61	E	For	1000	VU
<i>Acacia boormanii</i>	179	345	51.88	SE		6800	NL
<i>Acacia grisea</i>	37	71	52.11	SW		1600	NL
<i>Acacia aemula</i>	54	103	52.43	SW		5600	NL
<i>Acacia clydonophora</i>	34	64	53.13	SW	SL, WL	1700	NL
<i>Acacia inaequiloba</i>	51	96	53.13	SW		3300	NL
<i>Acacia mabellae</i>	126	237	53.16	SE	For, RF	6000	NL
<i>Acacia ingramii</i>	39	72	54.17	E	Sc, WL	2600	NL
<i>Acacia producta</i>	213	391	54.48	CN	WL, He Mal	9000	NL
<i>Acacia leptalea</i>	18	33	54.55	SW	WL	1200	EN

<i>Acacia jasperensis</i>	99	181	54.70	CN	Sand	3800	NL
<i>Acacia chalkeri</i>	17	31	54.84	SE		500	NL
<i>Acacia gemina</i>	22	40	55.00	SW	He, WL	1500	NL
<i>Acacia costiniana</i>	80	143	55.94	SE	WL, For	1200	NL
<i>Acacia gracilifolia</i>	100	178	56.18	CS	WL	1400	NL
<i>Acacia scopularum</i>	60	106	56.60	CN		3000	NL
<i>Acacia wilsonii</i>	24	42	57.14	W	He	2400	NL
<i>Acacia faucium</i>	28	49	57.14			1500	NL
<i>Acacia williamsiana</i>	19	33	57.58			1000	NL
<i>Acacia mitchellii</i>	307	523	58.70	E, SE	WL, For, Sc He, Sw RF, Monsoo n For	11400	NL
<i>Archidendron whitei</i>	80	136	58.82	NE		3000	NL
<i>Acacia subporosa</i>	48	81	59.26	SE	RF	2800	NL
<i>Acacia islana</i>	53	89	59.55	W	WL	1100	NL
<i>Acacia cochlocarpa cochlocarpa</i>	29	48	60.42	W		1100	EN
<i>Acacia tolmerensis</i>	39	64	60.94	CN	For	1600	NL
<i>Acacia brachyphylla</i>	26	42	61.90	SW		1600	NL
<i>Acacia lullfitziorum</i>	82	132	62.12	SW	WL	5900	NL
<i>Acacia kettlewelliae</i>	182	293	62.12	SE	For	9900	NL
<i>Acacia mimula</i>	366	585	62.56	CN	For, WL	16200	NL
<i>Acacia oldfieldii</i>	67	107	62.62	W	Sc, SL	3400	NL
<i>Acacia uncifera</i>	116	185	62.70	E	For, WL Sc, Mal, WL	3200	NL
<i>Acacia bifaria</i>	69	110	62.73	SW		3800	NL
<i>Acacia phlebopetala</i>	29	46	63.04	SW		1900	NL
<i>Acacia crassiuscula</i>	54	85	63.53	SW	Mal, He	3800	NL
<i>Acacia hamiltoniana</i>	102	160	63.75	E, SE	For, WL, He	4900	NL
<i>Acacia eremophiloides</i>	39	61	63.93	E	RH	600	VU
<i>Acacia megalantha</i>	178	278	64.03	CN	WL	6300	NL
<i>Acacia sericoflora</i>	116	179	64.80	CN	Sc, WL Sand,	5700	NL
<i>Acacia hockingsii</i>	41	63	65.08	E	WL	600	NL
<i>Acacia nitidula</i>	33	50	66.00	SW	RH	3100	NL
<i>Archidendron</i>	35	53	66.04	E	RF	1100	VU

lovellae

<i>Acacia delicatula</i>	53	80	66.25	NW, CN	SL, WL	2400	NL
<i>Acacia plautella</i>	30	45	66.67	W	Mal Sc	1700	NL
<i>Acacia aphylla</i>	40	59	67.80	SW	WL	1200	VU
<i>Acacia pedleyi</i>	49	72	68.06	E	For, WL	600	NL
<i>Acacia disticha</i>	22	32	68.75	SW	SL, Sc RF,	1100	NL
<i>Archidendron vaillantii</i>	90	130	69.23	NE	Monsoo n For	3500	NL
<i>Acacia cataractae</i>	169	242	69.83	CN		5200	NL
<i>Acacia barringtonensis</i>	84	120	70.00	E	For, WL	3000	NL
<i>Acacia macnuttiana</i>	40	57	70.18	E		1900	VU
<i>Acacia alcockii</i>	73	104	70.19	CS	Mal	2200	NL
<i>Acacia cummingiana</i>	41	58	70.69	SW	He, WL	3200	NL
<i>Acacia kydrensis</i>	57	79	72.15	SE		1200	NL
<i>Acacia alpina</i>	274	378	72.49	SE	WL He SA, Mon, For RF,	4900	NL
<i>Acacia dallachiana</i>	114	153	74.51		Monsoo n For	3100	NL
<i>Archidendron ramiflorum</i>	74	99	74.75	NE	GrL	2800	NL
<i>Acacia gracillima</i>	58	77	75.32	NW	along creeks & waterco urses	1900	NL
<i>Acacia effusa</i>	54	71	76.06	W		2000	NL
<i>Acacia plicata</i>	133	171	77.78	W	WL	3900	NL
<i>Acacia ascendens</i>	29	37	78.38	SW	SL, Sc	600	NL
<i>Acacia linarioides</i>	220	280	78.57	CN		4600	NL
<i>Acacia insolita efoliolata</i>	60	76	78.95	SW	laterite hills	1300	NL
<i>Acacia sp. baroalba</i>	34	43	79.07			1200	NL
<i>Acacia homaloclada</i>	31	39	79.49	NE	WL	1000	NL
<i>Acacia cedroides</i>	63	79	79.75	SW	He, SL	1800	NL
<i>Acacia multistipulosa</i>	77	96	80.21	CN	WL	1500	NL
<i>Acacia gracilentia</i>	69	86	80.23	CN		1600	NL
<i>Acacia echinuliflora</i>	65	80	81.25	CN		2400	NL
<i>Acacia cuneifolia</i>	53	65	81.54	SW		1900	NL

<i>Acacia empelioclada</i>	111	134	82.84	SW	Sc	6800	NL
<i>Acacia matthewii</i>	89	106	83.96	E	For WL,	1600	NL
<i>Acacia lucasii</i>	118	140	84.29	SE	For	1400	NL
<i>Acacia blayana</i>	28	33	84.85	SE	For	700	NL
<i>Acacia porcata</i>	28	33	84.85	E	RH	300	EN
<i>Acacia phasmoides</i>	67	78	85.90	SW	RH	800	VU
<i>Acacia papulosa</i>	67	76	88.16	SW	WL	3000	NL
<i>Acacia brockii</i>	97	110	88.18	CN	SL	2400	NL
<i>Acacia argutifolia</i>	35	39	89.74	SW	He, SL, Mal RH, Tropica l	800	NL
<i>Acacia helicophylla</i>	206	229	89.96	CN		2400	NL
<i>Acacia diminuta</i>	63	70	90.00	SW		2000	NL
<i>Acacia covenyi</i>	46	51	90.20	SE	Thicket s Sc, For, RF	800	NL
<i>Acacia tessellata</i>	65	72	90.28	E		1500	NL
<i>Acacia chunies-rossiae</i>	63	68	92.65	E	For	1300	NL
<i>Acacia adinophylla</i>	43	46	93.48	W	Ma SL He, Sc,	500	NL
<i>Acacia simulans</i>	92	97	94.85	SW	SL	6400	NL
<i>Acacia olsenii</i>	40	42	95.24	SE	For	700	NL
<i>Acacia cangaiensis</i>	67	70	95.71	E	For	800	NL
<i>Acacia phlebophylla</i>	97	101	96.04	SE	WL, He	800	NL
<i>Acacia daweana</i>	38	39	97.44	W	Sp	1300	NL
<i>Acacia amanda</i>	41	42	97.62	CN		400	NL
<i>Acacia veronica</i>	73	74	98.65	SW	For, WL	1400	NL
<i>Acacia dolichophylla</i>	55	55	100.00	CI	Steep gullies	600	NL

Two hundred and three species had less than 10% of ANHAT records located within PAs (**Table 49**). This represents nearly 20% of all species in this family with records in the ANHAT database. Twenty-five of the 203 species are classified as threatened, including eight endangered species. These species come from right across Australia, with a number of inland species being included in the list. The species occur across a wide range of habitat types, which is at least partly a result of the large number of species on the list. However, there appears to be a relatively large number of species associated with woodlands than in the other categories for this family.

Table 49 Mimosaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area (km ²)	EPBC status
<i>Acacia ommatosperma</i>	0	31	0.00	NE	Ironstone Gravel	800	NL
<i>Acacia speckii</i>	0	31	0.00	W	Mul Sc	1600	NL
<i>Acacia sp. ronlow park</i>	0	33	0.00			1000	NL
<i>Acacia pusilla</i>	0	35	0.00	SE	Sh Mal WL	800	NL
<i>Vachellia clarksoniana</i>	0	36	0.00			1400	NL
<i>Acacia argyrotricha</i>	0	37	0.00	E	WL	200	NL
<i>Acacia aprica</i>	0	39	0.00	W	He	500	EN
<i>Acacia fodinalis</i>	0	39	0.00			1500	NL
<i>Acacia whibleyana</i>	0	43	0.00	CS		1000	EN
<i>Acacia johannis</i>	0	44	0.00	NE	RH	700	NL
<i>Acacia barakulensis</i>	0	46	0.00			800	NL
<i>Acacia dacrydioides</i>	0	46	0.00	NW	WL	700	NL
<i>Acacia websteri</i>	0	46	0.00	SW	SL, Sc	1100	NL
<i>Acacia tingoorensis</i>	0	47	0.00			1100	NL
<i>Acacia barattensis</i>	0	49	0.00	CS		1000	NL
<i>Acacia rubricola</i>	0	50	0.00			400	NL
<i>Acacia praetermissa</i>	0	51	0.00	CN	WL	900	VU
<i>Acacia aphanoclada</i>	0	54	0.00	W	Sp, Euc	1000	NL
<i>Acacia chrysochaeta</i>	0	54	0.00	NW	WL	2000	NL
<i>Acacia distans</i>	0	69	0.00	W	WL, SL	3200	NL
<i>Acacia desmondii</i>	0	85	0.00	CI	RH	2000	NL
<i>Acacia maranoensis</i>	0	86	0.00	E	WL	1900	NL

<i>Acacia handonis</i>	0	87	0.00	E	WL, For	1200	VU
<i>Acacia wardellii</i>	0	88	0.00	E	Sand, WL	2000	VU
<i>Neptunia amplexicaulis</i>	0	103	0.00	NE		1300	NL
<i>Acacia latzii</i>	0	114	0.00	CI	SL	2200	VU
<i>Acacia abbreviata</i>	0	118	0.00	CI(NW)	Sp	1300	NL
<i>Acacia confluens</i>	0	119	0.00	CI(SE)	SL	2400	NL
<i>Acacia crombiei</i>	0	134	0.00	E		4000	VU
<i>Acacia purpureapetal</i> <i>a</i>	0	139	0.00	NE	WL Gibber	1100	VU
<i>Acacia pickardii</i>	0	148	0.00	CI	SaP	2300	VU
<i>Acacia nesophila</i>	0	162	0.00	NE	WL	5000	NL
<i>Acacia chinchillensis</i>	0	215	0.00	E	WL	3300	VU
<i>Acacia semilunata</i>	1	252	0.40	E		6900	NL
<i>Acacia argyrodendron</i>	1	210	0.48	E		9000	NL
<i>Acacia calantha</i>	1	114	0.88	E	WL, For	1600	NL
<i>Acacia thomsonii</i>	2	166	1.20	CN, CI(NE)	RH	6300	NL
<i>Acacia pinguifolia</i>	7	566	1.24	CS	WL, Sc	3400	EN
<i>Acacia meiantha</i>	1	76	1.32	E, SE	WL	500	NL
<i>Acacia aprepta</i>	3	219	1.37	E	Sand	5800	NL
<i>Acacia imbricata</i>	4	281	1.42	CS	For, WL, Sc	3200	VU
<i>Acacia meisneri</i>	2	139	1.44	SE	WL	3100	NL
<i>Acacia chisholmii</i>	10	633	1.58	E, NE, CI(NE)	GrL, Sp WL	1470 0	NL
<i>Acacia wickhamii</i> <i>cassitera</i>	3	163	1.84			3200	NL
<i>Acacia jensenii</i>	2	105	1.90	NW, CI	Sand	3100	NL
<i>Acacia sp.</i> <i>urandangie</i>	1	52	1.92			2000	NL

<i>Acacia anaticeps</i>	2	104	1.92	NW	SD, Saline depression	3200	NL
<i>Acacia tephрина</i>	12	555	2.16	CI(NE), E	s	1960	NL
<i>Acacia guymeri</i>	3	136	2.21	NE	WL	2700	VU
<i>Acacia pendula</i>	12	533	2.25	E, SE	WL	3900	NL
<i>Acacia jacksonioides</i>	1	43	2.33	SW, W	Sc, SL, WL	2700	NL
<i>Acacia ericksoniae</i>	2	83	2.41	SW	He, WL	4000	NL
<i>Acacia omalophylla</i>	14	580	2.41	E, SE	WL	3000	NL
<i>Acacia debilis</i>	4	162	2.47	E	For, WL	4700	NL
<i>Acacia sp. coolullah</i>	2	79	2.53			3400	NL
<i>Acacia lanuginophylla</i>	1	37	2.70	SW	Sc	1000	EN
<i>Acacia loroloba</i>	5	181	2.76	E	For, WL	4800	NL
<i>Acacia subsessilis</i>	1	36	2.78	W	RH, SL	1500	NL
<i>Acacia longiphyllodinea</i>	2	71	2.82	W	WL	4200	NL
<i>Acacia aculeiformis</i>	1	35	2.86	SW	WL	1200	NL
<i>Vachellia douglasica</i>	1	35	2.86			1600	NL
<i>Neptunia gracilis glandulosa</i>	3	103	2.91	NW, CN, NE, E		3400	NL
<i>Acacia auricoma</i>	3	101	2.97	CI	SL Sp	1900	NL
<i>Acacia leptoloba</i>	6	193	3.11	NE		5300	EN
<i>Acacia tetraneura</i>	1	31	3.23	SW	He	1200	NL
<i>Acacia enterocarpa</i>	8	244	3.28	CS	For, WL	6200	EN
<i>Acacia julifera gilbertensis</i>	8	244	3.28	NE, E		7400	NL
<i>Acacia duriuscula</i>	2	58	3.45	W, SW	Sc	3700	NL
<i>Acacia pulviniformis</i>	2	57	3.51	SW	WL	3500	NL
<i>Acacia rossei</i>	6	165	3.64	SW	SL	4300	NL

<i>Acacia binata</i>	3	82	3.66	SW	Sc, SL	3600	NL
<i>Acacia tenuinervis</i>	5	134	3.73	E	Sc, WL	3500	NL
<i>Acacia perryi</i>	7	187	3.74	NW, CI(N)	Sp WL	6000	NL
<i>Acacia meiosperma</i>	4	106	3.77	NE		2600	NL
<i>Acacia sabulosa</i>	3	78	3.85	W	SD, Sp	4000	NL
<i>Acacia daviesioides</i>	4	104	3.85	W	Sc, SL	4900	NL
<i>Acacia aestivalis</i>	4	103	3.88	SW	WL Ma SL, WL	6000	NL
<i>Acacia acoma</i>	2	51	3.92	SW		3300	NL
<i>Acacia amputata</i>	2	49	4.08	SW	SL	1900	NL
<i>Acacia burrowii</i>	22	539	4.08	E	WL, For	1820 0	NL
<i>Acacia sphaerostachya</i>	3	70	4.29	W		3600	NL
<i>Acacia craspedocarpa</i>	11	254	4.33	W	along water courses	1530 0	NL
<i>Acacia brumalis</i>	5	112	4.46	W		5900	NL
<i>Acacia burbridgeae</i>	9	192	4.69	E	WL	5100	NL
<i>Acacia elachantha</i>	25	532	4.70	W, NW, CN, CI(N), E	SaP	2510 0	NL
<i>Acacia grandifolia</i>	12	249	4.82	E		4300	VU
<i>Vachellia suberosa</i>	10	207	4.83			8300	NL
<i>Acacia gilbertii</i>	3	62	4.84	SW	For, WL	3600	NL
<i>Acacia coriacea</i>	60	1222	4.91	W, CN?	SD, WL	6640 0	NL
<i>Acacia wattiana</i>	9	181	4.97	CS	WL, For, GrL	4200	NL
<i>Acacia melvillei</i>	38	761	4.99	E	WL	2780 0	NL
<i>Acacia comans</i>	2	40	5.00	W		2200	NL
<i>Acacia dempsteri</i>	3	60	5.00	SW	RH	3000	NL
<i>Acacia tratmaniana</i>	6	119	5.04	SE	Sc, SL	6900	NL

<i>Acacia lanei</i>	2	39	5.13	SW		1100	NL
<i>Acacia palustris</i>	2	39	5.13	W	SL	2800	NL
<i>Acacia tarculensis</i>	15	292	5.14	CS	SL, WL	9000	NL
<i>Acacia arafurica</i>	3	58	5.17	CN	For	1600	NL
<i>Acacia errabunda</i>	2	38	5.26	SW	WL, Ma, SL	1400	NL
<i>Acacia eremaea</i>	6	113	5.31	W	SL, WL	5400	NL
<i>Acacia orthotricha</i>	5	94	5.32	NW	SL	2900	NL
<i>Acacia georginae</i>	56	1046	5.35	CI(N)	WL	2610 0	NL
<i>Acacia auratiflora</i>	2	37	5.41	SW	Sc	1000	EN
<i>Acacia citriodora</i>	2	36	5.56			2900	NL
<i>Acacia ligustrina</i>	7	126	5.56	W NW, CN, CI(N), NE	WL	6200	NL
<i>Acacia lysiphloia</i>	97	1735	5.59	WL, Sc, Sp GrL		6160 0	NL
<i>Vachellia sutherlandii</i>	21	374	5.61			1020 0	NL
<i>Acacia pubifolia</i>	7	124	5.65	E	WL	2100	VU
<i>Acacia constablei</i>	4	70	5.71	SE		800	VU
<i>Acacia johnsonii</i>	18	311	5.79	E	For	8200	NL
<i>Acacia microsperma</i>	10	172	5.81	E		4400	NL
<i>Acacia pachycarpa</i>	8	137	5.84	W, CI(NW)		4300	NL
<i>Vachellia bidwillii</i>	57	974	5.85			3540 0	NL
<i>Acacia glutinosissima</i>	3	51	5.88	SW	Sc	1400	NL
<i>Acacia fauntleroyi</i>	4	67	5.97	SW NE, CN, NE	SC, SL	2500 2330	NL
<i>Acacia orthocarpa</i>	40	667	6.00	NE	WL, SL	0	NL
<i>Acacia anastema</i>	2	33	6.06	W	SD	1600	NL
<i>Acacia ixiophylla</i>	33	539	6.12			2030 0	NL

<i>Acacia leptopetala</i>	13	209	6.22	SW	Mal Sc	9500	NL
<i>Acacia consobrina</i>	3	48	6.25	SW	Mal, WL	2600	NL
<i>Acacia ancistrocarpa</i>	90	1426	6.31	W, NW, CI(N)	Sp GrL	4980 0	NL
<i>Acacia beauverdiana</i>	9	142	6.34	SW, W	He, Sc, SL, WL	7500	NL
<i>Acacia ptychophylla</i>	7	110	6.36	W, NW	RH, SP, Sp	5500 1430	NL
<i>Acacia sparsiflora</i>	29	454	6.39	E	For, WL	0	NL
<i>Acacia chamaeleon</i>	4	62	6.45	SW	SL	2800	NL
<i>Acacia spectabilis</i>	39	599	6.51	E	For, WL, He	2700 0	NL
<i>Acacia crassa longicoma</i>	38	582	6.53	E	WL, For	1560 0	NL
<i>Acacia rigida</i>	3	45	6.67	SW	WL, SL	2300	NL
<i>Acacia spania</i>	3	45	6.67	E	WL	1500	NL
<i>Acacia argyraea</i>	16	240	6.67	NW, CN		9200	NL
<i>Acacia leuoclada</i>	10	149	6.71	E		7300 6050	NL
<i>Acacia excelsa</i>	81	1203	6.73	E		0	NL
<i>Acacia microcybe</i>	6	89	6.74			2900	NL
<i>Acacia inceana</i>	6	85	7.06	W		4300	NL
<i>Acacia vestita</i>	8	113	7.08	E, SE	For, WL	7700	NL
<i>Acacia intricate</i>	7	98	7.14	SW	WL, Mal SL	5900	NL
<i>Acacia semirigida</i>	12	168	7.14	E	San, For	4400	NL
<i>Acacia kalgoorliensis</i>	5	69	7.25	W	WL	4300	NL
<i>Acacia leuoclada argentifolia</i>	14	193	7.25	E	For, WL	5400	NL
<i>Acacia longipeduncula</i>	8	110	7.27	E	For He, WL,	1800	NL
<i>Acacia sessilis</i>	12	165	7.27	W, SW	Sedgeland	7800	NL
<i>Acacia ensifolia</i>	17	231	7.36	E		5800	NL
<i>Acacia</i>	24	326	7.36	CN		1240	NL

<i>trachycarpa</i>							0	
<i>Acacia harpophylla</i>	102	1380	7.39	E	For		6940 0	NL
<i>Acacia anomala</i>	3	40	7.50	SW	WL		800	VU
<i>Acacia pataczekii</i>	6	79	7.59	TAS	For		1400	NL
<i>Acacia quadrimarginea</i>							1610	
<i>a</i>	23	301	7.64	W NW, CN,	SL		0	NL
<i>Acacia stipuligera</i>	87	1123	7.75	CI(N), E	Sc, WL		3720 0	NL
<i>Acacia grasbyi</i>	20	256	7.81	W, CI	Sc, SL		1310 0	NL
<i>Acacia chrysopoda</i>	3	38	7.89	SW	WL		1600	NL
<i>Acacia crassistipula</i>	3	38	7.89	SW	He, WL		2000	NL
<i>Acacia fagonioides</i>	3	38	7.89	SW	For, He		2000	NL
<i>Acacia undoolyana</i>	8	101	7.92	CI	RH		900	VU
<i>Acacia chippendalei</i>	30	379	7.92	CI(N) W, CI(N),			1060 0	NL
<i>Acacia hilliana</i>	85	1069	7.95	CN	SD, WL, GrL, Sp		3910 0	NL
<i>Acacia neurophylla</i>	8	100	8.00	SW			7500	NL
<i>Acacia cambagei</i>	120	1489	8.06	E, CI(NE)			7260 0	NL
<i>Acacia microbotrya</i>	41	506	8.10	W, SW	WL		2450 0	NL
<i>Acacia wiseana</i>	13	160	8.13	W, CI(N)	Sc, WL, Sp		5700	NL
<i>Acacia conferta</i>	90	1098	8.20	E	For, WL		3360 0	NL
<i>Acacia heteroneura</i>	11	134	8.21	W, SW			7900	NL
<i>Acacia amblygona</i>	55	669	8.22				2330 0	NL
<i>Acacia hippuroides</i>	12	145	8.28	NW	WL, SL		5700	NL
<i>Acacia heterochroa</i>	4	48	8.33				1600	NL
<i>Neptunia dimorphantha</i>	100	1193	8.38	CN, NE	Wet, Sw, WL		5720 0	NL
<i>Acacia colei</i>	65	764	8.51	NW,	Sc, SL		3560	NL

				CI(N)		0	
<i>Acacia peuce</i>	24	279	8.60	CI	Gibber Slopes	4500	VU
<i>Acacia profusa</i>	4	46	8.70	SW	Sc Mal, Sc, He	2100	NL
<i>Mimosa pudica</i>	4	46	8.70	NE?		3200	NL
<i>Acacia mountfordiae</i>	6	69	8.70	CN?			
<i>Acacia caerulescens</i>	8	92	8.70	CN	Sand, RH	1800	NL
<i>Acacia adsurgens</i>	76	871	8.73	SE	WL, For	1300	VU
<i>Acacia cardiophylla</i>	9	103	8.74	CI(N)	Sp GrL	3270	NL
<i>Acacia rendlei</i>	3	34	8.82	E, SE	Mal	0	NL
<i>Acacia phlebocarpa</i>	27	306	8.82	SW	WL	3800	NL
<i>Acacia singula</i>	4	45	8.89	NW, CN	He, Sc, Mal SL	1600	NL
<i>Acacia glaucocarpa</i>	48	540	8.89	SW	For, WL	1900	NL
<i>Acacia stellaticeps</i>	20	224	8.93	E	Sc He, GrL, SL, Sp	1950	NL
<i>Neptunia monosperma</i>	63	705	8.94	W		1420	NL
<i>Acacia spilleriana</i>	9	100	9.00	W, NW, CN, CI, NE, E	WL	0	NL
<i>Acacia drewiana</i>	5	55	9.09	CS	RH	3170	NL
<i>Acacia xanthocarpa</i>	5	55	9.09	SW		0	NL
<i>Acacia semitrullata</i>	9	99	9.09	SW	For	2900	NL
<i>Acacia wickhamii</i>	52	570	9.12	NW, CN, NE		4100	NL
<i>Acacia dielsii</i>	10	109	9.17	W, SW	Sc, SL	2020	NL
<i>Acacia holotricha</i>	9	98	9.18	E		0	NL
<i>Acacia petraea</i>	21	227	9.25	E		6700	NL
<i>Acacia arrecta</i>	4	43	9.30	W	Sp	2300	NL
<i>Acacia cretacea</i>	7	75	9.33	CS	SL, Mal Sc	2200	NL
<i>Acacia cowleana</i>	113	1205	9.38	W, CI(N),		1300	EN
						5520	
						0	NL

				E, CN			
<i>Acacia</i>						1680	
<i>catenulata</i>	37	387	9.56	E, CN		0	NL
						2930	
<i>Acacia crassa</i>	89	930	9.57	E		0	NL
				NE, E,		9920	
<i>Acacia decora</i>	191	1995	9.57	SE		0	NL
<i>Acacia</i>					He, Sc,		
<i>flagelliformis</i>	7	73	9.59	SW	For	2900	NL
<i>Acacia</i>					WL, Sc,		
<i>resinosa</i>	7	73	9.59	SW	SL, He	3600	NL
<i>Neptunia</i>				NW,		5790	
<i>gracilis</i>	110	1147	9.59	CN, NE	GrL, WL	0	NL
<i>Acacia enervia</i>	10	104	9.62	SE		6600	NL
<i>Acacia</i>						1810	
<i>polybotrya</i>	39	405	9.63	E	For, SL	0	NL
<i>Acacia</i>					WL, Mal,		
<i>mackeyana</i>	14	145	9.66	SW	Sc	8400	NL
<i>Acacia</i>					SL, Mal		
<i>crassuloides</i>	9	93	9.68	SW	WL, He	3200	NL
<i>Acacia dilatata</i>	5	51	9.80	SW	He, SL	3500	NL
<i>Acacia</i>					floodplain		
<i>cuspidifolia</i>	5	50	10.00	W	s	3200	NL
<i>Acacia</i>							
<i>shuttleworthii</i>	5	50	10.00	SW	WL	3100	NL

A total of 27 Mimosaceae species had records in more than 100 separate PAs (**Table 50**). All species in this list had over 1000 records, with an average of 3776 records per species. No species were classified as threatened.

Table 50 Mimosaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Acacia falciformis</i>	1898	107	92	NL
<i>Acacia leiocalyx</i>	3164	114	69	NL
<i>Acacia stricta</i>	1499	119	65	NL
<i>Acacia brachybotrya</i>	1463	120	56	NL
<i>Acacia sophorae</i>	1600	121	70	NL
<i>Acacia gunnii</i>	1226	123	78	NL
<i>Acacia rigens</i>	2114	127	78	NL
<i>Acacia suaveolens</i>	2117	128	97	NL
<i>Acacia maidenii</i>	1489	136	99	NL
<i>Acacia verniciflua</i>	3342	152	97	NL
<i>Acacia implexa</i>	2504	155	85	NL
<i>Acacia genistifolia</i>	3081	155	78	NL

<i>Acacia mucronata</i>	3608	160	100	NL
<i>Acacia longifolia</i>	3371	177	103	NL
<i>Acacia oswaldii</i>	4328	182	115	NL
<i>Acacia ulicifolia</i>	1836	183	137	NL
<i>Acacia aulacocarpa</i>	5293	197	134	NL
<i>Acacia spinescens</i>	1986	208	98	NL
<i>Acacia acinacea</i>	3513	210	72	NL
<i>Acacia ligulata</i>	6530	214	157	NL
<i>Acacia mearnsii</i>	5201	232	100	NL
<i>Acacia verticillata</i>	4558	240	108	NL
<i>Acacia dealbata</i>	7666	267	139	NL
<i>Acacia paradoxa</i>	4772	285	103	NL
<i>Acacia myrtifolia</i>	4893	340	181	NL
<i>Acacia pycnantha</i>	7457	413	129	NL
<i>Acacia melanoxylon</i>	11454	522	279	NL

A total of 402 species had records in five or fewer PAs (**Table 51**). Forty-three species were listed as threatened, including 13 species classified as endangered. The majority of species in this list had fewer than 100 individual record sites and no species had more than 600 record sites.

Table 51 Mimosaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Acacia aprica</i>	39	0	EN
<i>Acacia whibleyana</i>	43	0	EN
<i>Acacia praetermissa</i>	51	0	VU
<i>Acacia handonis</i>	87	0	VU
<i>Acacia wardellii</i>	88	0	VU
<i>Acacia latzii</i>	114	0	VU
<i>Acacia crombiei</i>	134	0	VU
<i>Acacia purpureapetala</i>	139	0	VU
<i>Acacia pickardii</i>	148	0	VU
<i>Acacia chinchillensis</i>	215	0	VU
<i>Acacia porcata</i>	33	1	EN
<i>Acacia lanuginophylla</i>	37	1	EN
<i>Acacia auratiflora</i>	37	1	EN
<i>Acacia cochlocarpa cochlocarpa</i>	48	1	EN
<i>Acacia eremophiloides</i>	61	1	VU
<i>Acacia undoolyana</i>	101	1	VU
<i>Acacia araneosa</i>	108	1	VU
<i>Acacia peuce</i>	279	1	VU
<i>Acacia lobulata</i>	32	2	EN
<i>Acacia leptalea</i>	33	2	EN
<i>Acacia anomala</i>	40	2	VU
<i>Acacia brachypoda</i>	49	2	EN
<i>Archidendron lovellae</i>	53	2	VU
<i>Acacia gordonii</i>	55	2	EN

<i>Acacia pycnostachya</i>	61	2	VU
<i>Acacia caerulescens</i>	92	2	VU
<i>Acacia ammophila</i>	118	2	VU
<i>Acacia curranii</i>	131	2	VU
<i>Acacia guymeri</i>	136	2	VU
<i>Acacia imbricata</i>	281	2	VU
<i>Acacia pinguifolia</i>	566	2	EN
<i>Acacia flocktoniae</i>	31	3	VU
<i>Acacia semicircularis</i>	47	3	VU
<i>Acacia denticulosa</i>	58	3	VU
<i>Acacia constablei</i>	70	3	VU
<i>Acacia pubifolia</i>	124	3	VU
<i>Acacia leptoloba</i>	193	3	EN
<i>Acacia pubescens</i>	212	3	VU
<i>Acacia macnuttiana</i>	57	4	VU
<i>Acacia phasmoides</i>	78	4	VU
<i>Acacia grandifolia</i>	249	4	VU
<i>Acacia aphylla</i>	59	5	VU
<i>Acacia cretacea</i>	75	5	EN

Four hundred and eleven species of Mimosaceae had records in five or fewer PAs greater than 1000 hectares in size. Of these, 37 are classified as threatened, with 11 species classified as endangered (**Table 52**).

Table 52 Mimosaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Acacia areolata</i>	32	1	NL
<i>Acacia lobulata</i>	32	1	EN
<i>Acacia blayana</i>	33	1	NL
<i>Acacia porcata</i>	33	1	EN
<i>Vachellia douglasica</i>	35	1	NL
<i>Acacia subsessilis</i>	36	1	NL
<i>Acacia ascendens</i>	37	1	NL
<i>Acacia auratiflora</i>	37	1	EN
<i>Acacia chrysopoda</i>	38	1	NL
<i>Acacia lanei</i>	39	1	NL
<i>Acacia argutifolia</i>	39	1	NL
<i>Acacia dawsoniana</i>	39	1	NL
<i>Acacia cochlocarpa</i>	40	1	NL
<i>Acacia comans</i>	40	1	NL
<i>Acacia anomala</i>	40	1	VU
<i>Acacia ingrata</i>	42	1	NL
<i>Acacia amanda</i>	42	1	NL
<i>Acacia newbeyi</i>	42	1	NL
<i>Acacia jacksonioides</i>	43	1	NL

<i>Acacia deflexa</i>	44	1	NL
<i>Acacia spania</i>	45	1	NL
<i>Acacia dictyoneura</i>	45	1	NL
<i>Acacia adinophylla</i>	46	1	NL
<i>Acacia phlebopetala</i>	46	1	NL
<i>Acacia profusa</i>	46	1	NL
<i>Acacia spongolitica</i>	47	1	NL
<i>Acacia semicircularis</i>	47	1	VU
<i>Acacia heterochroa</i>	48	1	NL
<i>Acacia arcuatis</i>	48	1	NL
<i>Acacia cochlocarpa cochlocarpa</i>	48	1	EN
<i>Acacia amputata</i>	49	1	NL
<i>Acacia brachypoda</i>	49	1	EN
<i>Acacia glutinosissima</i>	51	1	NL
<i>Acacia megacephala</i>	52	1	NL
<i>Acacia sp. urandangie</i>	52	1	NL
<i>Archidendron lovellae</i>	53	1	VU
<i>Acacia pedina</i>	53	1	NL
<i>Acacia subracemosa</i>	55	1	NL
<i>Acacia drewiana</i>	55	1	NL
<i>Acacia dolichophylla</i>	55	1	NL
<i>Acacia octonervia</i>	58	1	NL
<i>Acacia arafurica</i>	58	1	NL
<i>Acacia denticulosa</i>	58	1	VU
<i>Acacia demissa</i>	59	1	NL
<i>Acacia chapmanii</i>	59	1	NL
<i>Acacia gelasina</i>	60	1	NL
<i>Acacia dempsteri</i>	60	1	NL
<i>Acacia exilis</i>	60	1	NL
<i>Acacia eremophiloides</i>	61	1	VU
<i>Acacia tolmerensis</i>	64	1	NL
<i>Acacia flabellifolia</i>	68	1	NL
<i>Acacia mountfordiae</i>	69	1	NL
<i>Acacia grisea</i>	71	1	NL
<i>Acacia longiphyllodinea</i>	71	1	NL
<i>Acacia pedleyi</i>	72	1	NL
<i>Acacia flagelliformis</i>	73	1	NL
<i>Acacia veronica</i>	74	1	NL
<i>Acacia meiantha</i>	76	1	NL
<i>Acacia papulosa</i>	76	1	NL
<i>Acacia sabulosa</i>	78	1	NL
<i>Acacia cedroides</i>	79	1	NL
<i>Acacia sp. coolullah</i>	79	1	NL
<i>Acacia jackesiana</i>	81	1	NL
<i>Acacia quornensis</i>	84	1	NL
<i>Acacia orbifolia</i>	88	1	NL
<i>Acacia caerulescens</i>	92	1	VU
<i>Acacia lacertensis</i>	95	1	NL
<i>Acacia multistipulosa</i>	96	1	NL
<i>Acacia holotricha</i>	98	1	NL

<i>Acacia spilleriana</i>	100	1	NL
<i>Acacia storyi</i>	101	1	NL
<i>Acacia auricoma</i>	101	1	NL
<i>Acacia phlebophylla</i>	101	1	NL
<i>Neptunia gracilis glandulosa</i>	103	1	NL
<i>Acacia anaticeps</i>	104	1	NL
<i>Acacia meiosperma</i>	106	1	NL
<i>Acacia scopularum</i>	106	1	NL
<i>Acacia oldfieldii</i>	107	1	NL
<i>Acacia araneosa</i>	108	1	VU
<i>Acacia bifaria</i>	110	1	NL
<i>Acacia calantha</i>	114	1	NL
<i>Acacia tratmaniana</i>	119	1	NL
<i>Acacia acrionastes</i>	124	1	NL
<i>Acacia beauverdiana</i>	142	1	NL
<i>Acacia wickhamii cassitera</i>	163	1	NL
<i>Acacia loroloba</i>	181	1	NL
<i>Acacia argyrodendron</i>	210	1	NL
<i>Acacia gittinsii</i>	217	1	NL
<i>Acacia aprepta</i>	219	1	NL
<i>Acacia ammobia</i>	220	1	NL
<i>Acacia hamersleyensis</i>	228	1	NL
<i>Acacia semilunata</i>	252	1	NL
<i>Acacia peuce</i>	279	1	VU
<i>Acacia gillii</i>	297	1	NL
<i>Acacia pinguiifolia</i>	566	1	EN
<i>Acacia chisholmii</i>	633	1	NL
<i>Acacia chalkeri</i>	31	2	NL
<i>Acacia inamabilis</i>	31	2	NL
<i>Acacia trinalis</i>	32	2	NL
<i>Acacia disticha</i>	32	2	NL
<i>Acacia repanda</i>	32	2	NL
<i>Acacia declinata</i>	33	2	NL
<i>Acacia anastema</i>	33	2	NL
<i>Acacia leptalea</i>	33	2	EN
<i>Acacia isoneura</i>	33	2	NL
<i>Acacia quadrisulcata</i>	33	2	NL
<i>Acacia sorophylla</i>	35	2	NL
<i>Acacia donaldsonii</i>	35	2	NL
<i>Acacia citriodora</i>	36	2	NL
<i>Acacia anasilla</i>	37	2	NL
<i>Acacia floydii</i>	37	2	NL
<i>Acacia proiantha</i>	38	2	NL
<i>Acacia sporadica</i>	39	2	NL
<i>Acacia homaloclada</i>	39	2	NL
<i>Acacia palustris</i>	39	2	NL
<i>Acacia gemina</i>	40	2	NL
<i>Acacia asparagoides</i>	40	2	NL
<i>Acacia telmica</i>	40	2	NL
<i>Acacia excentrica</i>	42	2	NL

<i>Acacia olsenii</i>	42	2	NL
<i>Acacia</i> sp. <i>baroalba</i>	43	2	NL
<i>Acacia spinosissima</i>	43	2	NL
<i>Acacia arrecta</i>	43	2	NL
<i>Acacia rigida</i>	45	2	NL
<i>Acacia drepanophylla</i>	45	2	NL
<i>Acacia scalena</i>	46	2	NL
<i>Acacia adenogonia</i>	46	2	NL
<i>Acacia saxatilis</i>	46	2	NL
<i>Acacia diaphyllodinea</i>	47	2	NL
<i>Acacia consobrina</i>	48	2	NL
<i>Acacia</i> sp. <i>diemals</i>	48	2	NL
<i>Acacia durabilis</i>	49	2	NL
<i>Acacia faucium</i>	49	2	NL
<i>Acacia tetanophylla</i>	49	2	NL
<i>Acacia shuttleworthii</i>	50	2	NL
<i>Acacia acoma</i>	51	2	NL
<i>Acacia covenyi</i>	51	2	NL
<i>Acacia dilatata</i>	51	2	NL
<i>Acacia teretifolia</i>	51	2	NL
<i>Acacia phaeocalyx</i>	52	2	NL
<i>Acacia curvata</i>	53	2	NL
<i>Acacia desertorum</i>	53	2	NL
<i>Acacia pychoclada</i>	53	2	NL
<i>Acacia gordonii</i>	55	2	EN
<i>Acacia sphenophylla</i>	55	2	NL
<i>Acacia xanthocarpa</i>	55	2	NL
<i>Acacia ferocior</i>	56	2	NL
<i>Acacia duriuscula</i>	58	2	NL
<i>Acacia aphylla</i>	59	2	VU
<i>Acacia aciphylla</i>	60	2	NL
<i>Acacia armillata</i>	61	2	NL
<i>Acacia pycnostachya</i>	61	2	VU
<i>Acacia poliochroa</i>	62	2	NL
<i>Acacia gilbertii</i>	62	2	NL
<i>Acacia oxyclada</i>	65	2	NL
<i>Acacia consanguinea</i>	67	2	NL
<i>Acacia cangaiensis</i>	70	2	NL
<i>Acacia baxteri</i>	71	2	NL
<i>Acacia maconochieana</i>	71	2	NL
<i>Acacia burrana</i>	72	2	NL
<i>Acacia symonii</i>	72	2	NL
<i>Acacia puncticulata</i>	73	2	NL
<i>Acacia cretacea</i>	75	2	EN
<i>Acacia gracillima</i>	77	2	NL
<i>Acacia delicatula</i>	80	2	NL
<i>Acacia echinuliflora</i>	80	2	NL
<i>Acacia binata</i>	82	2	NL
<i>Acacia resinicostata</i>	83	2	NL
<i>Acacia gracilentia</i>	86	2	NL

<i>Acacia microcybe</i>	89	2	NL
<i>Acacia bulgaensis</i>	93	2	NL
<i>Acacia crassuloides</i>	93	2	NL
<i>Acacia orthotricha</i>	94	2	NL
<i>Acacia sibilans</i>	96	2	NL
<i>Acacia intricata</i>	98	2	NL
<i>Acacia daviesioides</i>	104	2	NL
<i>Acacia jensenii</i>	105	2	NL
<i>Archidendron muellerianum</i>	105	2	NL
<i>Acacia leiocalyx herveyensis</i>	109	2	NL
<i>Acacia brockii</i>	110	2	NL
<i>Acacia longipedunculata</i>	110	2	NL
<i>Acacia brumalis</i>	112	2	NL
<i>Acacia convallium</i>	113	2	NL
<i>Acacia richardsii</i>	117	2	NL
<i>Acacia ammophila</i>	118	2	VU
<i>Acacia fleckeri</i>	126	2	NL
<i>Acacia ligustrina</i>	126	2	NL
<i>Acacia atkinsiana</i>	130	2	NL
<i>Acacia curranii</i>	131	2	VU
<i>Acacia tenuinervis</i>	134	2	NL
<i>Acacia guymeri</i>	136	2	VU
<i>Acacia costiniana</i>	143	2	NL
<i>Acacia debilis</i>	162	2	NL
<i>Acacia thomsonii</i>	166	2	NL
<i>Acacia cana</i>	167	2	NL
<i>Acacia gracilifolia</i>	178	2	NL
<i>Acacia sericoflora</i>	179	2	NL
<i>Acacia betchei</i>	182	2	NL
<i>Acacia glandulicarpa</i>	186	2	VU
<i>Acacia perryi</i>	187	2	NL
<i>Acacia leptoloba</i>	193	2	EN
<i>Acacia pubescens</i>	212	2	VU
<i>Acacia enterocarpa</i>	244	2	EN
<i>Acacia julifera gilbertensis</i>	244	2	NL
<i>Acacia menzeli</i>	251	2	VU
<i>Acacia flocktoniae</i>	31	3	VU
<i>Acacia rendlei</i>	34	3	NL
<i>Acacia dissona</i>	35	3	NL
<i>Acacia</i> sp. swamp	35	3	NL
<i>Acacia castanostegia</i>	36	3	NL
<i>Acacia kochii</i>	37	3	NL
<i>Acacia fagonioides</i>	38	3	NL
<i>Acacia hadrophylla</i>	38	3	NL
<i>Acacia bracteolata</i>	39	3	NL
<i>Acacia clandullensis</i>	40	3	NL
<i>Acacia deltoidea</i>	41	3	NL
<i>Acacia balsamea</i>	42	3	NL
<i>Acacia brachyphylla</i>	42	3	NL
<i>Acacia microcalyx</i>	42	3	NL

<i>Acacia sedifolia</i>	43	3	NL
<i>Acacia sericata</i>	45	3	NL
<i>Acacia singula</i>	45	3	NL
<i>Acacia alexandri</i>	46	3	NL
<i>Mimosa pudica</i>	46	3	NL
<i>Acacia flavipila</i>	48	3	NL
<i>Acacia graniticola</i>	48	3	NL
<i>Archidendropsis xanthoxylon</i>	50	3	NL
<i>Acacia dermatophylla</i>	51	3	NL
<i>Acacia jonesii</i>	53	3	NL
<i>Acacia startii</i>	53	3	NL
<i>Acacia pritzeliana</i>	53	3	NL
<i>Albizia retusa</i>	56	3	NL
<i>Acacia undulifolia</i>	56	3	NL
<i>Acacia masliniana</i>	58	3	NL
<i>Acacia hylonoma</i>	61	3	NL
<i>Acacia chamaeleon</i>	62	3	NL
<i>Acacia hockingsii</i>	63	3	NL
<i>Acacia aureocrinita</i>	64	3	NL
<i>Acacia clydonophora</i>	64	3	NL
<i>Acacia cuneifolia</i>	65	3	NL
<i>Acacia clunies-rossiae</i>	68	3	NL
<i>Acacia pachypoda</i>	69	3	NL
<i>Acacia kalgoorliensis</i>	69	3	NL
<i>Acacia racospermoides</i>	69	3	NL
<i>Acacia diminuta</i>	70	3	NL
<i>Acacia constablei</i>	70	3	VU
<i>Acacia sphaerostachya</i>	70	3	NL
<i>Acacia effusa</i>	71	3	NL
<i>Acacia ingramii</i>	72	3	NL
<i>Acacia armitii</i>	76	3	NL
<i>Acacia conniana</i>	76	3	NL
<i>Acacia subtessarogona</i>	78	3	NL
<i>Acacia phasmoides</i>	78	3	VU
<i>Acacia pataczekii</i>	79	3	NL
<i>Acacia stipulosa</i>	80	3	NL
<i>Acacia oligoneura</i>	84	3	NL
<i>Acacia islana</i>	89	3	NL
<i>Acacia merinthophora</i>	91	3	NL
<i>Acacia filifolia</i>	93	3	NL
<i>Acacia mimica</i>	97	3	NL
<i>Acacia aestivalis</i>	103	3	NL
<i>Acacia hopperiana</i>	110	3	NL
<i>Acacia ptychophylla</i>	110	3	NL
<i>Acacia schinoides</i>	110	3	NL
<i>Acacia fulva</i>	111	3	NL
<i>Acacia nigripilosa</i>	111	3	NL
<i>Acacia vestita</i>	113	3	NL
<i>Acacia pubifolia</i>	124	3	VU
<i>Acacia piligera</i>	129	3	NL

<i>Acacia pachycarpa</i>	137	3	NL
<i>Acacia lucasii</i>	140	3	NL
<i>Acacia axillaris</i>	142	3	VU
<i>Acacia howittii</i>	143	3	NL
<i>Acacia hippuroides</i>	145	3	NL
<i>Acacia leucoclada</i>	149	3	NL
<i>Acacia dallachiana</i>	153	3	NL
<i>Acacia wanyu</i>	158	3	NL
<i>Acacia latisepala</i>	161	3	NL
<i>Acacia striatifolia</i>	162	3	NL
<i>Acacia semirigida</i>	168	3	NL
<i>Acacia microsperma</i>	172	3	NL
<i>Acacia minutifolia</i>	178	3	NL
<i>Acacia wattiana</i>	181	3	NL
<i>Acacia conjunctifolia</i>	182	3	NL
<i>Acacia burbridgeae</i>	192	3	NL
<i>Vachellia ditricha</i>	194	3	NL
<i>Acacia limbata</i>	196	3	NL
<i>Acacia conspersa</i>	201	3	NL
<i>Acacia williamsonii</i>	202	3	NL
<i>Acacia linearifolia</i>	207	3	NL
<i>Vachellia suberosa</i>	207	3	NL
<i>Acacia ensifolia</i>	231	3	NL
<i>Acacia argyraea</i>	240	3	NL
<i>Acacia cataractae</i>	242	3	NL
<i>Acacia linarioides</i>	280	3	NL
<i>Acacia tarculensis</i>	292	3	NL
<i>Acacia lazaridis</i>	315	3	NL
<i>Acacia rhotinocarpa</i>	336	3	VU
<i>Acacia incrassata</i>	31	4	NL
<i>Acacia euthycarpa oblanceolata</i>	36	4	NL
<i>Acacia epacantha</i>	38	4	NL
<i>Acacia quinquenervia</i>	38	4	NL
<i>Acacia cylindrica</i>	39	4	NL
<i>Acacia laricina</i>	43	4	NL
<i>Acacia galeata</i>	44	4	NL
<i>Acacia tenuispica</i>	46	4	NL
<i>Acacia obtecta</i>	50	4	NL
<i>Acacia cavealis</i>	51	4	NL
<i>Acacia tetraptera</i>	55	4	NL
<i>Acacia macnuttiana</i>	57	4	VU
<i>Acacia trigonophylla</i>	60	4	NL
<i>Acacia sphacelata</i>	62	4	NL
<i>Acacia setulifera</i>	63	4	NL
<i>Acacia delphina</i>	67	4	NL
<i>Acacia pinguiculosa</i>	68	4	NL
<i>Acacia tessellata</i>	72	4	NL
<i>Acacia hexaneura</i>	74	4	NL
<i>Acacia insolita efoliolata</i>	76	4	NL
<i>Acacia kydrensis</i>	79	4	NL

<i>Acacia gregorii</i>	82	4	NL
<i>Acacia inceana</i>	85	4	NL
<i>Acacia idiomorpha</i>	86	4	NL
<i>Acacia marramamba</i>	95	4	NL
<i>Acacia signata</i>	101	4	NL
<i>Acacia cardiophylla</i>	103	4	NL
<i>Acacia alcockii</i>	104	4	NL
<i>Acacia saliciformis</i>	106	4	NL
<i>Acacia dielsii</i>	109	4	NL
<i>Acacia pubicosta</i>	111	4	NL
<i>Acacia eremaea</i>	113	4	NL
<i>Acacia tysonii</i>	115	4	NL
<i>Acacia ericifolia</i>	117	4	NL
<i>Acacia harveyi</i>	119	4	NL
<i>Acacia legnota</i>	122	4	NL
<i>Acacia celastrifolia</i>	135	4	NL
<i>Archidendron hirsutum</i>	136	4	NL
<i>Acacia burdekensis</i>	143	4	NL
<i>Acacia mackeyana</i>	145	4	NL
<i>Acacia ulicina</i>	148	4	NL
<i>Acacia subternata</i>	154	4	NL
<i>Acacia kelleri</i>	155	4	NL
<i>Acacia scirpifolia</i>	161	4	NL
<i>Acacia uncifera</i>	185	4	NL
<i>Acacia midgleyi</i>	194	4	NL
<i>Acacia nanodealbata</i>	197	4	NL
<i>Acacia everistii</i>	218	4	NL
<i>Acacia petraea</i>	227	4	NL
<i>Acacia helicophylla</i>	229	4	NL
<i>Acacia acuaria</i>	236	4	NL
<i>Acacia grandifolia</i>	249	4	VU
<i>Acacia craspedocarpa</i>	254	4	NL
<i>Acacia argyrophylla</i>	266	4	NL
<i>Acacia leptophleba</i>	302	4	NL
<i>Vachellia sutherlandii</i>	374	4	NL
<i>Acacia producta</i>	391	4	NL
<i>Acacia olgana</i>	398	4	NL
<i>Acacia burrowii</i>	539	4	NL
<i>Acacia williamsiana</i>	33	5	NL
<i>Acacia tetragonocarpa</i>	35	5	NL
<i>Acacia undosa</i>	37	5	NL
<i>Acacia rostellata</i>	39	5	NL
<i>Acacia resinistipulea</i>	40	5	NL
<i>Acacia wilsonii</i>	42	5	NL
<i>Acacia crenulata</i>	43	5	NL
<i>Acacia plautella</i>	45	5	NL
<i>Acacia heteroclita</i>	45	5	NL
<i>Acacia inophloia</i>	46	5	NL
<i>Acacia campylophylla</i>	47	5	NL
<i>Acacia cuspidifolia</i>	50	5	NL

<i>Acacia roycei</i>	51	5	NL
<i>Acacia clelandii</i>	52	5	NL
<i>Acacia cremiflora</i>	59	5	NL
<i>Acacia warramaba</i>	61	5	NL
<i>Acacia ephedroides</i>	64	5	NL
<i>Acacia evenulosa</i>	67	5	NL
<i>Acacia incurva</i>	71	5	NL
<i>Acacia obovata</i>	71	5	NL
<i>Archidendron lucyi</i>	72	5	NL
<i>Acacia resinosa</i>	73	5	NL
<i>Acacia ashbyae</i>	74	5	NL
<i>Acacia dorothea</i>	81	5	NL
<i>Acacia sericocarpa</i>	83	5	NL
<i>Entada rheedii</i>	89	5	NL
<i>Acacia georgensis</i>	94	5	VU
<i>Acacia froggattii</i>	98	5	NL
<i>Acacia semitrullata</i>	99	5	NL
<i>Acacia neurophylla</i>	100	5	NL
<i>Acacia enervia</i>	104	5	NL
<i>Acacia chartacea</i>	105	5	NL
<i>Acacia mollifolia</i>	106	5	NL
<i>Acacia matthewii</i>	106	5	NL
<i>Acacia</i> sp. comet	108	5	NL
<i>Acacia leptoclada</i>	140	5	NL
<i>Acacia anfractuosa</i>	149	5	NL
<i>Acacia delibrata</i>	154	5	NL
<i>Acacia hamiltoniana</i>	160	5	NL
<i>Acacia wiseana</i>	160	5	NL
<i>Acacia rossei</i>	165	5	NL
<i>Acacia plicata</i>	171	5	NL
<i>Acacia polifolia</i>	172	5	NL
<i>Acacia attenuata</i>	175	5	VU
<i>Acacia praelongata</i>	191	5	NL
<i>Acacia gilesiana</i>	202	5	NL
<i>Acacia leptopetala</i>	209	5	NL
<i>Acacia yirrkallensis</i>	222	5	NL
<i>Acacia granitica</i>	222	5	NL
<i>Acacia hyaloneura</i>	270	5	NL
<i>Acacia pruinosa</i>	273	5	NL
<i>Acacia phlebocarpa</i>	306	5	NL
<i>Acacia dodonaeifolia</i>	388	5	NL
<i>Acacia omalophylla</i>	580	5	NL

Rutaceae

The ANHAT database has 91955 records for 591 species and subspecies of Rutaceae. One species of Rutaceae is considered extinct and therefore excluded from analysis. This species is presented in **Table 53**.

Table 53 Rutaceae species considered extinct.

Species	Common name	No. of records
<i>Philotheca falcata</i>		11

Seventy-eight species account for approximately 50% of the total species records in ANHAT (

Table 54). These species each have over 300 individual record sites in the ANHAT database, with *Correa reflexa* having over 5000 record sites.

Table 54 Rutaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Flindersia maculosa</i>	327	0.30
<i>Boronia bowmanii</i>	332	0.31
<i>Melicope broadbentiana</i>	335	0.31
<i>Philotheca linearis</i>	338	0.31
<i>Brombya platynema</i>	350	0.32
<i>Correa backhouseana coriacea</i>	350	0.32
<i>Pitaviaster haplophyllus</i>	351	0.32
<i>Correa glabra</i>	358	0.33
<i>Correa aemula</i>	358	0.33
<i>Flindersia dissosperma</i>	358	0.33
<i>Bouchardatia neurococca</i>	369	0.34
<i>Phebalium filifolium</i>	369	0.34
<i>Boronia alulata</i>	371	0.34
<i>Microcybe multiflora</i>	374	0.35
<i>Boronia nana</i>	375	0.35
<i>Acronychia pauciflora</i>	385	0.36
<i>Crowea exalata</i>	390	0.36
<i>Leionema equestre</i>	393	0.36
<i>Phebalium nottii</i>	404	0.37
<i>Dinosperma erythrococcum</i>	407	0.38
<i>Bosistoa medicinalis</i>	414	0.38
<i>Zieria aspalathoides</i>	417	0.39
<i>Acronychia oblongifolia</i>	418	0.39
<i>Boronia falcifolia</i>	422	0.39

<i>Correa alba</i>	423	0.39
<i>Bosistoa transversa</i>	426	0.39
<i>Asterolasia trymaloides</i>	430	0.40
<i>Zanthoxylum parviflorum</i>	430	0.40
<i>Phebalium glandulosum</i>	431	0.40
<i>Boronia filifolia</i>	431	0.40
<i>Coatesia paniculate</i>	432	0.40
<i>Citrus glauca</i>	433	0.40
<i>Boronia ledifolia</i>	434	0.40
<i>Melicope micrococca</i>	437	0.40
<i>Phebalium tuberosum</i>	438	0.40
<i>Luvunga monophylla</i>	440	0.41
<i>Philothea myoporoides</i>	442	0.41
<i>Zieria laxiflora</i>	444	0.41
<i>Boronia anemonifolia</i>	444	0.41
<i>Philothea pungens</i>	445	0.41
<i>Phebalium Woombye</i>	457	0.42
<i>Philothea verrucosa</i>	459	0.42
<i>Boronia pilosa</i>	482	0.45
<i>Boronia spathulata</i>	484	0.45
<i>Boronia occidentalis</i>	487	0.45
<i>Flindersia schottiana</i>	491	0.45
<i>Philothea spicata</i>	501	0.46
<i>Zieria cytisoides</i>	506	0.47
<i>Boronia parviflora</i>	512	0.47
<i>Boronia rosmarinifolia</i>	516	0.48
<i>Boronia glabra</i>	522	0.48
<i>Flindersia collina</i>	537	0.50
<i>Boronia inornata leptophylla</i>	548	0.51
<i>Boronia algida</i>	571	0.53
<i>Acronychia imperforate</i>	590	0.55
<i>Sarcomelicope simplicifolia</i>	595	0.55
<i>Phebalium squamulosum</i>	604	0.56
<i>Zanthoxylum brachyacanthum</i>	615	0.57
<i>Correa pulchella</i>	675	0.62
<i>Flindersia australis</i>	695	0.64
<i>Nematolepis squamea</i>	704	0.65
<i>Halfordia kendack</i>	755	0.70
<i>Boronia tolerans</i>	895	0.83
<i>Boronia lanceolata</i>	949	0.88
<i>Melicope elleryana</i>	1069	0.99
<i>Phebalium bullatum</i>	1109	1.02
<i>Boronia lanuginose</i>	1123	1.04
<i>Correa lawrenceana</i>	1227	1.13
<i>Zieria smithii</i>	1263	1.17
<i>Zieria arborescens</i>	1307	1.21
<i>Acronychia laevis</i>	1341	1.24
<i>Geijera linearifolia</i>	1427	1.32
<i>Glycosmis trifoliata</i>	1442	1.33
<i>Boronia coerulescens</i>	1653	1.53

<i>Geijera salicifolia</i>	1743	1.61
<i>Geijera parviflora</i>	1782	1.65
<i>Micromelum minutum</i>	1810	1.67
<i>Correa reflexa</i>	5171	4.78
Total	53542	49.49

One hundred and eighty-eight species had 30 or fewer individual site records in the ANHAT database (**Table 55**). This represents approximately 30% of all species of the Rutaceae with records in ANHAT. Of these, 31 species are listed as threatened (including two species classified as critically endangered). There are relatively few species with detailed information on their ranges so it is difficult to detect any possible patterns in the data. There was no data available on the vegetation types associated with the species within this category. Exclusion of these poorly recorded species eliminates 2856 records.

Table 55 Rutaceae species with 30 or fewer individual record sites in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Boronia anomala</i>	1	0.00			100	NL
<i>Phebalium appressum</i>	1	0.00			100	NL
<i>Philotheca deserti brevifolia</i>	1	0.00			100	NL
<i>Philotheca gardneri</i>	1	0.00	SW		100	NL
<i>Philotheca gardneri globosa</i>	1	0.00			100	NL
<i>Philotheca glabra</i>	1	100.00	W		100	NL
<i>Zieria inexpectata</i>	1	0.00			100	NL
<i>Boronia barkeriana</i>	10	50.00	E		900	NL
<i>Boronia capitata clavata</i>	10	20.00			1000	NL
<i>Diplolaena cinerea</i>	10	50.00	SW		600	NL
<i>Philotheca myoporoides euroensis</i>	10	30.00			600	NL
<i>Asterolasia rivularis</i>	11	54.55	E		500	NL
<i>Boronia boliviensis</i>	11	72.73	E		100	NL
<i>Boronia inflexa torringtonensis</i>	11	45.45			500	NL
<i>Boronia ternata glabrifolia</i>	11	90.91			500	NL
<i>Correa calycina halmaturorum</i>	11	90.91			300	VU
<i>Melicope peninsularis</i>	11	0.00	NE		300	NL
<i>Phebalium brevifolium</i>	11	72.73			800	NL
<i>Philotheca pinoides</i>	11	63.64	SW		900	NL
<i>Zieria adenophora</i>	11	18.18	E		400	EN
<i>Medicosma sp. karnak</i>	12	100.00			200	NL
<i>Philotheca citrina</i>	12	0.00	W		700	NL
<i>Philotheca langei</i>	12	66.67	SW		600	NL
<i>Philotheca salsolifolia pedicellata</i>	12	50.00			600	NL
<i>Philotheca scabra</i>	12	41.67	E		2200	NL

<i>Rhadinothamnus rudis linearis</i>	12	83.33		300	NL
Zieria floydii	12	75.00	E	1200	EN
<i>Boronia anemonifolia wadbilligensis</i>	13	92.31		300	NL
Boronia exilis	13	23.08	SW	300	EN
<i>Phebalium bifidum</i>	13	0.00	E	500	NL
<i>Asterolasia asteriscophora albiflora</i>	14	7.14		300	NL
Boronia hemichiton	14	0.00		100	VU
<i>Boronia scabra condensata</i>	14	57.14		600	NL
<i>Diplolaena eneabensis</i>	14	0.00	W	1000	NL
<i>Melicope fellii</i>	14	35.71	NE	200	NL
Phebalium daviesii	14	14.29	TAS	500	CE
<i>Rhadinothamnus rudis amblycarpus</i>	14	28.57		1400	NL
<i>Zieria arborescens decurrens</i>	14	85.71		200	NL
<i>Zieria exsul</i>	14	0.00		200	NL
<i>Zieria graniticola</i>	14	0.00		300	NL
<i>Zieria whitei</i>	14	0.00		300	NL
<i>Boronia fabianoides rosea</i>	15	0.00		1300	NL
<i>Boronia tetragona</i>	15	13.33	SW	800	NL
<i>Crowea exalata revoluta</i>	15	60.00		800	NL
<i>Diplolaena geraldtonensis</i>	15	6.67	W	1100	NL
Philotheca wonganensis	15	0.00	SW	300	EN
<i>Boronia citrata</i>	16	81.25	SE	300	NL
<i>Boronia clavata</i>	16	6.25		800	NL
<i>Boronia hoipolloi</i>	16	100.00	EI	300	NL
<i>Drummondita microphylla</i>	16	12.50	W	700	NL
Leionema lachnaeoides	16	25.00	E	400	EN
<i>Philotheca buxifolia obovata</i>	16	12.50		1500	NL
<i>Philotheca myoporoides brevipedunculata</i>	16	87.50		1100	NL
<i>Boronia gravicocca</i>	17	0.00	CN	500	NL
<i>Boronia westringioides</i>	17	11.76	SW	900	NL
<i>Boronia yarrowmerensis</i>	17	0.00		300	NL
<i>Leionema ellipticum</i>	17	100.00		200	NL
<i>Philotheca cymbiformis</i>	17	94.12	SW	600	NL
Zieria prostrata	17	35.29	E	900	EN
<i>Boronia inflexa</i>	18	44.44		600	NL
<i>Brombya sp. gap creek</i>	18	88.89		200	NL
<i>Philotheca coateana</i>	18	16.67	W,WI	800	NL
<i>Philotheca myoporoides leichhardtii</i>	18	50.00		500	NL
<i>Zieria actites</i>	18	0.00		400	NL
<i>Zieria hindii</i>	18	94.44	E	200	NL
Zieria parrisiae	18	0.00	SE	100	EN
<i>Boronia citriodora orientalis</i>	19	84.21		300	NL

<i>Zieria arborescens</i>					
<i>glabrifolia</i>	19	42.11		500	NL
<i>Asterolasia sp. dungowan</i>					
<i>creek</i>	2	0.00		200	NL
<i>Boronia barkeriana</i>					
<i>gymnometala</i>	2	50.00		200	NL
<i>Boronia purdieana calcicola</i>	2	50.00		200	NL
<i>Leionema sp. colo river</i>	2	100.00	E	300	NL
<i>Philothea brucei cinerea</i>	2	0.00		200	NL
<i>Philothea myoporoides</i>					
<i>petraeus</i>	2	50.00		200	NL
<i>Philothea nutans</i>	2	50.00	SW	200	NL
<i>Zieria alata</i>	2	100.00		200	NL
<i>Zieria insularis</i>	2	100.00		200	NL
<i>Boronia capitata</i>	20	5.00	SW	1200	NL
<i>Boronia deanei</i>	20	50.00	E	1100	VU
<i>Boronia excelsa</i>	20	100.00	NE	300	NL
<i>Boronia ternata</i>					
<i>austrofoliosa</i>	20	15.00		1000	NL
<i>Dinosperma longifolium</i>	20	100.00	NE	300	NL
<i>Diplolaena andrewsii</i>	20	40.00		500	NL
<i>Diplolaena obovata</i>	20	50.00		1400	NL
<i>Drummondita longifolia</i>	20	85.00	SW	300	VU
<i>Microcybe albiflora</i>	20	5.00	SW	1300	NL
<i>Asterolasia pallida</i>	21	57.14		1200	NL
<i>Boronia crassipes</i>	21	9.52	SW	1300	NL
<i>Boronia grimshawii</i>	21	0.00		100	NL
<i>Boronia imlayensis</i>	21	100.00	SE	100	NL
<i>Boronia jucunda</i>	21	28.57	NW	600	NL
<i>Boronia pilosa</i>					
<i>parvidaemonis</i>	21	85.71		600	NL
<i>Microcybe pauciflora</i>					
<i>grandis</i>	21	0.00		500	NL
<i>Leionema sympetalum</i>	22	68.18	E	1000	VU
<i>Philothea obovatifolia</i>	22	72.73		800	NL
<i>Philothea tubiflora</i>	22	0.00	WI	700	NL
<i>Boronia filicifolia</i>	23	65.22	NW	1200	NL
<i>Correa lawrenceana</i>					
<i>genoensis</i>	23	43.48		600	EN
<i>Philothea acrolopha</i>	23	91.30	NE	200	VU
<i>Zieria aspalathoides</i>					
<i>brachyphylla</i>	23	52.17		700	NL
<i>Zieria buxijugum</i>	23	0.00	SE	100	EN
<i>Asterolasia buckinghamii</i>	24	0.00	E	500	NL
<i>Boronia humifusa</i>	24	4.17	SW	800	NL
<i>Boronia juncea laniflora</i>	24	12.50		1700	NL
<i>Clausena smyrelliana</i>	24	0.00		300	NL
<i>Correa lawrenceana</i>					
<i>glandulifera</i>	24	91.67		800	NL
<i>Asterolasia nivea</i>	25	12.00	SW	700	VU

<i>Boronia anemonifolia</i>					
<i>aurifodina</i>	25	24.00		1600	NL
<i>Boronia gunnii</i>	25	44.00	TAS	900	VU
<i>Boronia hapalophylla</i>	25	40.00	E	600	NL
<i>Boronia juncea micrantha</i>	25	28.00		1700	NL
<i>Boronia revoluta</i>	25	0.00	SW	400	EN
<i>Boronia viridiflora</i>	25	0.00	CN	200	VU
<i>Phebalium obovatum</i>	25	44.00	SW	1600	NL
<i>Philothea buxifolia</i>	25	52.00	E	1800	NL
<i>Zieria involucrata</i>	25	56.00	E	2100	VU
<i>Zieria rimulosa</i>	25	12.00	NE	500	VU
<i>Boronia pilosa tasmanensis</i>	26	76.92		800	NL
<i>Boronia ruppii</i>	26	15.38	E	400	NL
<i>Boronia ternata elongata</i>	26	0.00		500	NL
<i>Correa reflexa</i>					
<i>nummulariifolia</i>	26	15.38		3400	NL
<i>Diplolaena leemania</i>	26	11.54	SW,W	1200	NL
<i>Drummondita miniata</i>	26	3.85	W	1200	NL
<i>Leionema bilobum</i>					
<i>serrulatum</i>	26	34.62		1600	NL
<i>Phebalium elegans</i>	26	3.85	SW	1200	NL
<i>Phebalium squamulosum</i>					
<i>parvifolium</i>	26	0.00		1600	NL
<i>Zieria formosa</i>	26	0.00	SE	200	EN
<i>Boronia beeronensis</i>	27	88.89		100	NL
<i>Phebalium squamulosum</i>					
<i>lineare</i>	27	51.85		1800	NL
<i>Zieria covenyi</i>	27	100.00	E	100	EN
<i>Boronia crenulata obtusa</i>	28	17.86		2200	NL
<i>Boronia deanei acutifolia</i>	28	60.71		600	NL
<i>Boronia kalumburuensis</i>	28	0.00	NW	400	NL
<i>Phebalium laevigatum</i>	28	39.29	SW	2000	NL
<i>Zieria bifida</i>	28	3.57	E	100	EN
<i>Zieria obcordata</i>	28	0.00	E	600	EN
<i>Zieria robertsiorum</i>	28	92.86	NE	500	NL
<i>Zieria veronicea insularis</i>	28	35.71		2200	NL
<i>Asterolasia drummondii</i>	29	48.28	SW	600	NL
<i>Zieria ingramii</i>	29	79.31	E	1300	EN
<i>Asterolasia pallida hyalina</i>	3	0.00		200	NL
<i>Philothea eremicola</i>	3	33.33		300	NL
<i>Philothea nodiflora</i>					
<i>calycina</i>	3	0.00		300	NL
<i>Philothea pachyphylla</i>	3	0.00	SW	100	NL
<i>Zieria scopulus</i>	3	0.00		100	NL
<i>Boronia capitata gracilis</i>	30	30.00		1300	NL
<i>Boronia ternata</i>	30	33.33	SW	2300	NL
<i>Correa backhouseana</i>					
<i>orbicularis</i>	30	40.00		1900	NL
<i>Diplolaena angustifolia</i>	30	20.00	SW	2300	NL
<i>Leionema scopulinum</i>	30	96.67	E	300	NL

<i>Phebalium brachycalyx</i>	30	0.00	SW	2000	NL
<i>Asterolasia rupestris</i>	4	100.00	E	200	NL
<i>Boronia acanthoclada</i>	4	100.00		300	NL
<i>Boronia baeckeacea</i>	4	25.00		400	NL
<i>Boronia ramosa lesueurana</i>	4	50.00		400	NL
<i>Zieria distans</i>	4	75.00		300	NL
<i>Zieria eungellaensis</i>	4	100.00		200	NL
<i>Medicosma sp. east mulgrave river</i>	5	100.00		100	NL
<i>Philotheca brucei brevifolia</i>	5	0.00		200	NL
<i>Asterolasia rupestris recurva</i>	6	0.00		200	NL
<i>Boronia baeckeacea patula</i>	6	0.00		600	NL
<i>Boronia barrettiorum</i>	6	100.00		200	NL
<i>Boronia busseliana</i>	6	0.00	SW	200	NL
<i>Boronia montimulliganensis</i>	6	0.00	NE	200	NL
<i>Boronia ternata promiscua</i>	6	16.67		500	NL
<i>Drummondita wilsonii</i>	6	0.00	SW	200	NL
<i>Phebalium glandulosum nitidum</i>	6	50.00		400	NL
<i>Philotheca basistyla</i>	6	0.00	SW	200	EN
<i>Zieria cephalophila</i>	6	100.00		100	NL
<i>Zieria hydroscopica</i>	6	0.00		200	NL
<i>Boronia coerulescens spicata</i>	7	14.29		700	NL
<i>Boronia coriacea</i>	7	100.00		400	NL
<i>Boronia corynophylla</i>	7	100.00	SW	300	NL
<i>Boronia inflexa grandiflora</i>	7	42.86		300	NL
<i>Boronia inflexa montiazura</i>	7	0.00		300	NL
<i>Correa lawrenceana macrocalyx</i>	7	57.14		600	NL
<i>Asterolasia buxifolia</i>	8	12.50	E	500	NL
<i>Boronia crenulata pubescens</i>	8	12.50		800	NL
<i>Boronia rozefeldsii</i>	8	100.00		100	NL
<i>Clausena sp. tipperary</i>	8	0.00		300	NL
<i>Correa calycina</i>	8	75.00		500	VU
<i>Correa glabra leuococlada</i>	8	0.00		1600	NL
<i>Leionema bilobum thackerayense</i>	8	100.00		300	NL
<i>Philotheca freyciana</i>	8	100.00	TAS	200	CE
<i>Philotheca papillata</i>	8	12.50	E	100	NL
<i>Drummondita ericoides</i>	9	0.00		400	EN
<i>Philotheca kalbarriensis</i>	9	44.44		800	NL
<i>Zieria madida</i>	9	77.78		300	NL

Removal of extinct and poorly recorded species leaves 89088 records for 402 species (and subspecies). The mean number of records per species for species with greater than 30 records was 221.6, with a mean of 44.1 for the percent of records in the NRS.

One hundred and sixty-eight species of Rutaceae had 45% or greater of individual site records located within PAs (**Table 56**). Of those 168 species, 14 species are classified as threatened, including three species classified as endangered. The majority of these species come from the eastern half of Australia and there are few inland species on the list. Again, there is no information presented on the associated vegetation types for species in this family.

Table 56 Rutaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Flindersia oppositifolia</i>	103	103	100.00	NE		700	NL
<i>Nematolepis rhytidophylla</i>	31	31	100.00	SE		200	VU
<i>Leionema ceratogynum</i>	35	35	100.00	SE		300	NL
<i>Correa lawrenceana grampiana</i>	53	53	100.00			800	NL
<i>Boronia verecunda</i>	56	56	100.00	CN		1200	NL
<i>Boronia tolerans</i>	895	895	100.00	CN		500	NL
<i>Melicope rubra</i>	54	120	45.00	NE		2600	NL
<i>Halfordia kendack</i>	340	755	45.03	NE,E		2180	NL
<i>Boronia nana</i>	173	375	46.13	SE		2090	NL
<i>Asterolasia asteriscophora</i>	61	132	46.21	E,SE		5200	NL
<i>Eriostemon australasius</i>	136	294	46.26	E		1370	NL
<i>Medicosma obovata</i>	19	41	46.34	E		300	VU
<i>Acronychia acronychioides</i>	139	298	46.64	NE,E		8000	NL
<i>Boronia forsteri</i>	58	124	46.77	EI		2000	NL
<i>Phebalium obcordatum</i>	73	156	46.79	E,SE		7200	NL
<i>Flindersia acuminata</i>	92	195	47.18	NE		4600	NL
<i>Zieria cytisoides</i>	239	506	47.23	E,SE		1870	NL
<i>Correa backhouseana</i>	55	116	47.41	TAS		9800	NL
<i>Philothea epilosa</i>	40	84	47.62			1500	NL
<i>Phebalium squamulosum argenteum</i>	32	67	47.76			2900	NL
<i>Boronia filifolia</i>	206	431	47.80	SE,CS		9700	NL
<i>Phebalium lowanense</i>	55	115	47.83	SE,CS		3400	VU
<i>Zieria veronicea</i>	119	248	47.98	SE		1100	NL

					0	
<i>Boronia gracilipes</i>	89	184	48.37	SW,W	6500	NL
<i>Phebalium stenophyllum</i>	62	128	48.44	E,SE	4500	NL
<i>Correa baeuerlenii</i>	47	97	48.45	E,SE	2500	VU
					2870	
<i>Boronia lanuginosa</i>	545	1123	48.53	NW,CN	0	NL
<i>Boronia mollis</i>	20	41	48.78	E	2100	NL
					1120	
<i>Philotheca trachyphylla</i>	123	250	49.20	E,SE	0	NL
<i>Boronia rubiginosa</i>	48	97	49.48	E	6100	NL
					4160	
<i>Phebalium bullatum</i>	549	1109	49.50	CS	0	NL
<i>Flindersia laeviscarpa</i>	51	103	49.51		2100	NL
					1140	
<i>Zieria laevigata</i>	106	214	49.53	E	0	NL
<i>Leionema equestre</i>	195	393	49.62	CS	2300	EN
					1770	
<i>Microcybe pauciflora</i>	128	256	50.00		0	NL
<i>Correa backhouseana coriacea</i>					1680	
<i>Boronia rivularis</i>	175	350	50.00		0	NL
	92	183	50.27	E	3000	NL
				E,SE,CS,	3520	
<i>Boronia parviflora</i>	259	512	50.59	TAS	0	NL
<i>Asterolasia hexapetala</i>	29	57	50.88	E	1000	NL
<i>Correa lawrenceana latrobeana</i>					1070	
<i>Correa lawrenceana cordifolia</i>	147	286	51.40		0	NL
	33	64	51.56		3500	NL
					2540	
<i>Boronia anemonifolia</i>	230	444	51.80	E,SE	0	NL
<i>Flindersia bourjotiana</i>	141	272	51.84	NE	6200	NL
<i>Diplolaena ferruginea</i>	24	46	52.17	SW	2300	NL
					1040	
<i>Correa reflexa speciosa</i>	160	306	52.29		0	NL
<i>Philotheca myoporoides</i>					1800	
	232	442	52.49	E	0	NL
					1480	
<i>Crowea exalata</i>	205	390	52.56	E,SE	0	NL
<i>Acronychia baeuerlenii</i>	60	113	53.10	E	3400	NL
					4270	
<i>Nematolepis squamea</i>	374	704	53.13	E,TAS	0	NL
					2020	
<i>Boronia lanceolata</i>	507	949	53.42	CN	0	NL
<i>Acronychia vestita</i>	112	209	53.59	NE,E	4500	NL
					1850	
<i>Correa pulchella</i>	363	675	53.78	CS	0	NL

<i>Zieria murphyi</i>	21	39	53.85	E	900	VU
<i>Leionema lamprophyllum</i>	48	89	53.93	E,SE	5900	NL
<i>Bosistoa brassii</i>	37	68	54.41		2800	NL
<i>Melicope jonesii</i>	40	72	55.56	NE	1700	NL
<i>Zieria robusta</i>	34	60	56.67	E	1900	NL
<i>Medicosma elliptica</i>	38	67	56.72		500	VU
					2490	
<i>Boronia pilosa</i>	274	482	56.85	SE,TAS	0	NL
<i>Zieria fraseri</i>	78	137	56.93		3500	NL
<i>Flindersia ifflaiana</i>	105	184	57.07	NE	3400	NL
<i>Acradenia euodiiiformis</i>	79	137	57.66	E	6200	NL
<i>Correa eburnea</i>	94	163	57.67	CS	4100	NL
<i>Melicope xanthoxyloides</i>	108	187	57.75	NE,E	5800	NL
<i>Phebalium squamulosum</i>	353	604	58.44	E,SE	0	NL
<i>Philotheca virgata</i>	133	227	58.59	SE,TAS	9900	NL
<i>Flindersia brassii</i>	35	59	59.32	NE	1000	NL
<i>Zieria littoralis</i>	38	64	59.38	SE,TAS	2900	NL
<i>Melicope broadbentiana</i>	199	335	59.40	NE,E	4900	NL
<i>Phebalium festivum</i>	38	63	60.32		1700	NL
<i>Boronia muelleri</i>	143	237	60.34	SE	5600	NL
<i>Phebalium squamulosum coriaceum</i>	20	33	60.61		1300	NL
<i>Leionema phyllicifolium</i>	114	187	60.96	SE	5500	NL
<i>Medicosma fareana</i>	120	194	61.86	NE	4900	NL
<i>Brombya platynema</i>	217	350	62.00	NE	6300	NL
<i>Flindersia pimenteliana</i>	168	270	62.22	NE,E	5600	NL
<i>Boronia rhomboidea</i>	58	93	62.37	E,TAS	2500	NL
<i>Pitaviaster haplophyllus</i>	220	351	62.68	NE,E	6900	NL
<i>Boronia barkeriana angustifolia</i>	49	78	62.82		2800	NL
<i>Phebalium whitei</i>	29	46	63.04	E	400	VU
<i>Euodia hylandii</i>	41	65	63.08	NE	700	NL
					1160	
<i>Boronia algida</i>	363	571	63.57	E,SE	0	NL
<i>Zieria southwellii</i>	92	144	63.89	E	4300	NL
<i>Boronia tetrandra</i>	46	72	63.89	SW	3500	NL
<i>Leionema lamprophyllum obovatum</i>	57	89	64.04		2300	NL

<i>Leionema lamprophyllum orbiculare</i>	22	34	64.71		1100	NL
<i>Leionema ambiens</i>	68	105	64.76	E	1700	NL
<i>Leionema elatius beckleri</i>	76	117	64.96		3300	NL
<i>Boronia angustisepala</i>	26	40	65.00	E	1900	NL
<i>Leionema carruthersii</i>	45	69	65.22	E,SE	1300	NL
<i>Boronia albiflora</i>	147	225	65.33	SW	7600	NL
<i>Dinosperma stipitatum</i>	121	185	65.41	NE	3300	NL
<i>Boronia prolixa</i>	33	50	66.00	CN	800	NL
<i>Asterolasia correifolia</i>	76	115	66.09	E	7200	NL
<i>Neobyrnesia suberosa</i>	51	76	67.11	CN	900	NL
<i>Boronia warangensis</i>	58	86	67.44	E	1700	NL
<i>Asterolasia phebaliioides</i>	90	133	67.67	SE	3100	VU
<i>Boronia amabilis</i>	74	109	67.89	E	800	NL
<i>Zieria tenuis</i>	34	50	68.00		800	NL
<i>Boronia eriantha</i>	129	189	68.25	E	3400	NL
<i>Zieria oreocaena</i>	31	45	68.89	SE	900	NL
<i>Boronia fraseri</i>	29	42	69.05	E	2100	NL
<i>Boronia obovata</i>	103	149	69.13		2300	NL
<i>Boronia thujona</i>	66	95	69.47	E	3700	NL
<i>Medicosma sessiliflora</i>	135	194	69.59	NE,E	2800	NL
<i>Boronia foetida</i>	28	40	70.00		100	NL
<i>Acronychia acuminata</i>	38	54	70.37	NE	900	NL
<i>Citrus inodora</i>	24	34	70.59	NE	900	NL
<i>Boronia laxa</i>	106	148	71.62	CN	1700	NL
<i>Philotheca scabra latifolia</i>	61	85	71.76		1800	NL
<i>Leionema bilobum truncatum</i>	41	57	71.93		3100	NL
<i>Correa aemula</i>	258	358	72.07	SE,CS	7300	NL
<i>Leionema bilobum</i>	158	219	72.15	SE,TAS	6400	NL
<i>Zieria montana</i>	46	63	73.02	NE,E	2000	NL
<i>Acradenia frankliniae</i>	57	78	73.08	TAS	3400	NL
<i>Leionema viridiflorum</i>	49	67	73.13	E	1800	NL
<i>Nematolepis frondosa</i>	41	56	73.21	SE	300	VU
<i>Boronia rupicola</i>	44	60	73.33	CN	1100	NL
<i>Boronia citriodora paulwilsonii</i>	70	95	73.68		3800	NL
<i>Boronia pauciflora</i>	23	31	74.19	NW	1200	NL
<i>Phebalium</i>	73	98	74.49		3900	NL

<i>squamulosum alpinum</i>						
<i>Zieria caducibracteata</i>	63	84	75.00	E	2800	NL
<i>Phebalium squamulosum</i>						
<i>ozothamnoides</i>	228	302	75.50		6700	NL
<i>Boronia subulifolia</i>	65	85	76.47	E	2000	NL
<i>Acronychia parviflora</i>	141	183	77.05	NE,E	3000	NL
<i>Acronychia eungellensis</i>	44	57	77.19	E	800	NL
<i>Boronia anceps</i>	80	103	77.67	SW	3100	NL
<i>Boronia capitata capitata</i>	60	77	77.92		2000	EN
<i>Boronia grandisepala</i>	113	144	78.47		4200	NL
<i>Correa lawrenceana rosea</i>	37	47	78.72		2700	NL
<i>Philotheca angustifolia montana</i>	26	33	78.79		700	NL
<i>Boronia virgata</i>	101	128	78.91	SW,TAS	4900	NL
<i>Asterolasia trymalioides</i>	344	430	80.00	E,SE	7000	NL
<i>Boronia oxyantha brevicalyx</i>	74	91	81.32		4000	NL
<i>Boronia elisabethiae</i>	65	79	82.28	TAS	5100	NL
<i>Zieria adenodonta</i>	43	52	82.69	E	1300	NL
<i>Euodia pubifolia</i>	34	41	82.93	NE	400	NL
<i>Acronychia chooreechillum</i>	159	191	83.25	NE	2500	NL
<i>Boronia nana pubescens</i>	123	147	83.67		3500	NL
<i>Correa reflexa angustifolia</i>	72	85	84.71		2100	NL
<i>Zieria lasiocaulis</i>	28	33	84.85	E	1000	EN
<i>Boronia penicillata</i>	73	85	85.88	SW	4100	NL
<i>Boronia xanthastrum</i>	57	66	86.36	CN	1300	NL
<i>Leionema coxii</i>	64	74	86.49	E,SE	1600	NL
<i>Leionema elatius</i>	52	60	86.67		1600	NL
<i>Muiriantha hassellii</i>	41	47	87.23		1300	NL
<i>Drummondita calida</i>	75	85	88.24	CN	1800	NL
<i>Leionema montanum</i>	65	73	89.04	TAS	2100	NL
<i>Nematolepis elliptica</i>	66	74	89.19	E,SE	1200	NL
					1080	
<i>Boronia citriodora</i>	36	40	90.00	TAS	0	NL
<i>Acronychia aberrans</i>	67	74	90.54	NE	1100	NL
<i>Leionema oldfieldii</i>	29	32	90.63	TAS	1100	NL
<i>Boronia pulchella</i>	54	59	91.53	SW	1900	NL

<i>Boronia suberosa</i>	65	71	91.55	CN	500	NL
<i>Boronia jenziaea</i>	34	37	91.89	E	700	NL
<i>Nematolepis squamea coriacea</i>	34	37	91.89		700	VU
<i>Boronia oxyantha</i>	68	74	91.89		3200	NL
<i>Boronia latipinna</i>	82	89	92.13	SE	1300	NL
<i>Melicope affinis</i>	36	39	92.31	NE	1100	NL
<i>Boronia grandisepala acanthophida</i>	37	40	92.50		1000	NL
<i>Nematolepis wilsonii</i>	39	42	92.86	SE	500	VU
<i>Boronia crenulata angustifolia</i>	29	31	93.55		1400	NL
<i>Medicosma glandulosa</i>	76	81	93.83	NE	1500	NL
<i>Boronia decumbens</i>	119	123	96.75	CN	1100	NL
<i>Geleznovia verrucosa Kalbarri</i>	138	142	97.18		8300	NL
<i>Boronia scabra attenuate</i>	241	248	97.18		9200	NL
<i>Rhadinothamnus euphemiae</i>	56	57	98.25	SW	1100	NL
<i>Nematolepis ovatifolia</i>	83	84	98.81	SE	1600	NL

Twenty-six species had less than 10% of ANHAT records located within PAs (Table 57). Nine of the 26 species are classified as threatened, including two endangered species. These species cover all parts of Australia and no patterns are evident amongst the species on the list.

Table 57 Rutaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Philotheca sporadica</i>	0	154	0.00	E		1500	VU
<i>Medicosma sp. mt mellum</i>	0	35	0.00			700	NL
<i>Boronia galbraithiae</i>	0	38	0.00	SE		400	VU
<i>Boronia amplectens</i>	0	47	0.00	CN		300	NL
<i>Medicosma riparia</i>	0	54	0.00	NE		1000	NL
<i>Phebalium distans</i>	0	69	0.00	W		800	NL
<i>Boronia quinkanensis</i>	0	89	0.00	NE		1300	NL
<i>Boronia repanda</i>	0	89	0.00	E		700	EN
<i>Zieria furfuracea gymnocarpa</i>	1	57	1.75			400	NL

<i>Philotheca myoporoides acuta</i>	1	51	1.96		3600	NL
<i>Boronia fabianooides</i>	1	39	2.56	SW	2700	NL
<i>Philotheca apiculata</i>	1	35	2.86	SW	800	NL
<i>Boronia splendida</i>	3	102	2.94	E	2100	NL
<i>Boronia ternata foliosa</i>	1	31	3.23		1900	NL
<i>Zieria obovata</i>	1	31	3.23	NE	700	VU
<i>Zieria verrucosa</i>	4	102	3.92	E	1600	VU
<i>Zanthoxylum rhetsa</i>	2	51	3.92	NE,CN	1200	NL
<i>Boronia warrumbunglensis</i>	2	39	5.13	E	1100	NL
<i>Zieria collina</i>	4	75	5.33	E	600	VU
<i>Flindersia dissosperma</i>	20	358	5.59	E	18500	NL
<i>Flindersia maculosa</i>	22	327	6.73	E,EI	20400	NL
<i>Boronia quadrilata</i>	10	148	6.76	CN	400	VU
<i>Zieria granulata</i>	4	57	7.02	E	1300	EN
<i>Boronia adamsiana</i>	3	42	7.14	SW,W	2000	VU
<i>Citrus glauca</i>	39	433	9.01	E,EI,CS	22000	NL
<i>Geijera parviflora</i>	172	1782	9.65	E,EI	145900	NL

A total of five Rutaceae species had record sites in more than 100 separate PAs (**Table 58**). All species in this list had over 1000 records, with an average of 2248 records per species. No species were listed as threatened.

Table 58 Rutaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Micromelum minutum</i>	1810	105	74	NL
<i>Acronychia laevis</i>	1341	121	84	NL
<i>Zieria smithii</i>	1263	131	112	NL
<i>Boronia coerulescens</i>	1653	146	81	NL
<i>Correa reflexa</i>	5171	356	203	NL

A total of 143 species had records in five or fewer PAs (**Table 59**). Thirty-one species were listed as threatened, including seven species classified as endangered. The majority of species in this list had fewer than 100 individual record sites and no species had more than 900 record sites.

Table 59 Rutaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Medicosma</i> sp. <i>mt mellum</i>	35	0	NL
<i>Boronia galbraithiae</i>	38	0	VU
<i>Boronia amplexens</i>	47	0	NL
<i>Medicosma riparia</i>	54	0	NL
<i>Phebalium distans</i>	69	0	NL
<i>Boronia quinkanensis</i>	89	0	NL
<i>Boronia repanda</i>	89	0	EN
<i>Philotheca sporadica</i>	154	0	VU
<i>Zieria obovata</i>	31	1	VU
<i>Boronia crenulata angustifolia</i>	31	1	NL
<i>Nematolepis rhytidophylla</i>	31	1	VU
<i>Boronia ternata foliosa</i>	31	1	NL
<i>Phebalium squamulosum coriaceum</i>	33	1	NL
<i>Phebalium glandulosum angustifolium</i>	34	1	NL
<i>Zieria citriodora</i>	35	1	VU
<i>Phebalium glandulosum eglandulosum</i>	35	1	VU
<i>Leionema ceratogynum</i>	35	1	NL
<i>Philotheca apiculata</i>	35	1	NL
<i>Boronia jensziae</i>	37	1	NL
<i>Asterolasia elegans</i>	38	1	EN
<i>Philotheca buxifolia falcata</i>	39	1	NL
<i>Boronia fabianoides</i>	39	1	NL
<i>Boronia foetida</i>	40	1	NL
<i>Medicosma obovata</i>	41	1	VU
<i>Boronia bella</i>	44	1	NL
<i>Phebalium whitei</i>	46	1	VU
<i>Boronia prolixa</i>	50	1	NL
<i>Zanthoxylum rhetsa</i>	51	1	NL
<i>Philotheca myoporoides acuta</i>	51	1	NL
<i>Nematolepis frondosa</i>	56	1	VU
<i>Boronia verecunda</i>	56	1	NL
<i>Acronychia eungellensis</i>	57	1	NL
<i>Zieria furfuracea gymnocarpa</i>	57	1	NL
<i>Medicosma elliptica</i>	67	1	VU
<i>Boronia suberosa</i>	71	1	NL
<i>Boronia oxyantha</i>	74	1	NL
<i>Zieria collina</i>	75	1	VU
<i>Neobyrnesia suberosa</i>	76	1	NL
<i>Boronia warangensis</i>	86	1	NL
<i>Boronia duiganiae</i>	90	1	NL
<i>Leionema gracile</i>	92	1	NL
<i>Boronia splendida</i>	102	1	NL
<i>Boronia keysii</i>	123	1	VU

<i>Boronia laxa</i>	148	1	NL
<i>Boronia quadrilata</i>	148	1	VU
<i>Boronia tolerans</i>	895	1	NL
<i>Boronia minutipinna</i>	32	2	NL
<i>Philotheca angustifolia montana</i>	33	2	NL
<i>Leionema lamprophyllum orbiculare</i>	34	2	NL
<i>Correa reflexa lobata</i>	35	2	NL
<i>Boronia hippopala</i>	36	2	VU
<i>Phebalium drummondii</i>	37	2	NL
<i>Nematolepis squamea coriacea</i>	37	2	VU
<i>Philotheca cuticularis</i>	38	2	NL
<i>Boronia warrumbunglensis</i>	39	2	NL
<i>Zieria murphyi</i>	39	2	VU
<i>Boronia grandisepala acanthophida</i>	40	2	NL
<i>Boronia adamsiana</i>	42	2	VU
<i>Nematolepis wilsonii</i>	42	2	VU
<i>Zieria oreocaena</i>	45	2	NL
<i>Muiriantha hassellii</i>	47	2	NL
<i>Zieria tenuis</i>	50	2	NL
<i>Boronia squamipetala</i>	51	2	NL
<i>Zieria vagans</i>	55	2	NL
<i>Asterolasia hexapetala</i>	57	2	NL
<i>Zieria granulata</i>	57	2	EN
<i>Zieria tuberculata</i>	59	2	VU
<i>Boronia rupicola</i>	60	2	NL
<i>Leionema ralstonii</i>	62	2	VU
<i>Euodia hylandii</i>	65	2	NL
<i>Boronia xanthastrum</i>	66	2	NL
<i>Leionema viridiflorum</i>	67	2	NL
<i>Zieria baeuerlenii</i>	68	2	EN
<i>Boronia subulifolia</i>	85	2	NL
<i>Lunasia amara</i>	98	2	NL
<i>Zieria verrucosa</i>	102	2	VU
<i>Boronia amabilis</i>	109	2	NL
<i>Boronia decumbens</i>	123	2	NL
<i>Boronia grandisepala</i>	144	2	NL
<i>Philotheca deserti</i>	32	3	NL
<i>Zieria lasiocaulis</i>	33	3	EN
<i>Phebalium squamulosum verrucosum</i>	34	3	NL
<i>Boronia chartacea</i>	34	3	NL
<i>Citrus inodora</i>	34	3	NL
<i>Boronia umbellata</i>	35	3	VU
<i>Boronia octandra</i>	36	3	NL
<i>Euodia pubifolia</i>	41	3	NL
<i>Acronychia acuminata</i>	54	3	NL
<i>Citrus gracilis</i>	57	3	NL
<i>Flindersia brassii</i>	59	3	NL
<i>Zieria furfuracea euthadenia</i>	63	3	NL
<i>Diplolaena dampieri</i>	70	3	NL
<i>Philotheca glasshouseiensis</i>	73	3	NL

<i>Nematolepis ovatifolia</i>	84	3	NL
<i>Drummondita calida</i>	85	3	NL
<i>Boronia oxyantha brevicalyx</i>	91	3	NL
<i>Leionema obtusifolium</i>	92	3	VU
<i>Flindersia oppositifolia</i>	103	3	NL
<i>Eriostemon banksii</i>	104	3	NL
<i>Leionema ambiens</i>	105	3	NL
<i>Boronia wilsonii</i>	109	3	NL
<i>Boronia forsteri</i>	124	3	NL
<i>Boronia obovata</i>	149	3	NL
<i>Boronia rivularis</i>	183	3	NL
<i>Boronia purdieana</i>	36	4	NL
<i>Diplolaena graniticola</i>	37	4	NL
<i>Boronia angustisepala</i>	40	4	NL
<i>Phebalium microphyllum</i>	40	4	NL
<i>Diplolaena mollis</i>	42	4	NL
<i>Diplolaena ferruginea</i>	46	4	NL
<i>Correa lawrenceana rosea</i>	47	4	NL
<i>Philotheca thryptomenoides</i>	50	4	NL
<i>Philotheca conduplicata</i>	51	4	NL
<i>Boronia palasepala</i>	52	4	NL
<i>Asterolasia grandiflora</i>	55	4	NL
<i>Rhadinothamnus euphemiae</i>	57	4	NL
<i>Boronia pulchella</i>	59	4	NL
<i>Zieria robusta</i>	60	4	NL
<i>Philotheca obovalis</i>	80	4	NL
<i>Philotheca scabra latifolia</i>	85	4	NL
<i>Boronia latipinna</i>	89	4	NL
<i>Citrus garrawayi</i>	130	4	NL
<i>Boronia granitica</i>	138	4	EN
<i>Bosistoa floydii</i>	31	5	NL
<i>Correa reflexa insularis</i>	32	5	NL
<i>Leionema oldfieldii</i>	32	5	NL
<i>Philotheca nodiflora lasiocalyx</i>	34	5	NL
<i>Diplolaena drummondii</i>	35	5	NL
<i>Zieria odorifera</i>	42	5	NL
<i>Boronia fraseri</i>	42	5	NL
<i>Boronia defoliata</i>	46	5	NL
<i>Correa lawrenceana grampiana</i>	53	5	NL
<i>Phebalium festivum</i>	63	5	NL
<i>Philotheca coccinea</i>	63	5	NL
<i>Leionema carruthersii</i>	69	5	NL
<i>Leionema montanum</i>	73	5	NL
<i>Nematolepis elliptica</i>	74	5	NL
<i>Leionema coxii</i>	74	5	NL
<i>Philotheca epilosa</i>	84	5	NL
<i>Correa reflexa angustifolia</i>	85	5	NL
<i>Acronychia littoralis</i>	97	5	EN
<i>Correa baeuerlenii</i>	97	5	VU
<i>Boronia eriantha</i>	189	5	NL

One hundred and fifty-four species of Rutaceae had records in five or fewer PAs greater than 1000 hectares, including 29 species classified as threatened with six species listed as endangered (**Table 60**).

Table 60 Rutaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Boronia crenulata angustifolia</i>	31	1	NL
<i>Zieria obovata</i>	31	1	VU
<i>Nematolepis rhytidophylla</i>	31	1	VU
<i>Correa reflexa insularis</i>	32	1	NL
<i>Phebalium squamulosum coriaceum</i>	33	1	NL
<i>Phebalium glandulosum angustifolium</i>	34	1	NL
<i>Philotheca apiculata</i>	35	1	NL
<i>Leionema ceratogynum</i>	35	1	NL
<i>Zieria citriodora</i>	35	1	VU
<i>Phebalium glandulosum eglandulosum</i>	35	1	VU
<i>Boronia hippopala</i>	36	1	VU
<i>Boronia jensziae</i>	37	1	NL
<i>Phebalium drummondii</i>	37	1	NL
<i>Asterolasia elegans</i>	38	1	EN
<i>Boronia fabianoides</i>	39	1	NL
<i>Philotheca buxifolia falcata</i>	39	1	NL
<i>Boronia foetida</i>	40	1	NL
<i>Medicosma obovata</i>	41	1	VU
<i>Boronia adamsiana</i>	42	1	VU
<i>Boronia bella</i>	44	1	NL
<i>Phebalium whitei</i>	46	1	VU
<i>Boronia prolixa</i>	50	1	NL
<i>Zanthoxylum rhetsa</i>	51	1	NL
<i>Philotheca myoporoides acuta</i>	51	1	NL
<i>Asterolasia grandiflora</i>	55	1	NL
<i>Boronia verecunda</i>	56	1	NL
<i>Nematolepis frondosa</i>	56	1	VU
<i>Zieria granulata</i>	57	1	EN
<i>Acronychia eungellensis</i>	57	1	NL
<i>Zieria furfuracea gymnocarpa</i>	57	1	NL
<i>Medicosma elliptica</i>	67	1	VU
<i>Zieria baeuerlenii</i>	68	1	EN
<i>Boronia suberosa</i>	71	1	NL
<i>Philotheca glasshouseiensis</i>	73	1	NL
<i>Boronia oxyantha</i>	74	1	NL
<i>Zieria collina</i>	75	1	VU
<i>Neobyrnesia suberosa</i>	76	1	NL
<i>Boronia warangensis</i>	86	1	NL

<i>Boronia duiganiae</i>	90	1	NL
<i>Boronia splendida</i>	102	1	NL
<i>Zieria verrucosa</i>	102	1	VU
<i>Boronia keysii</i>	123	1	VU
<i>Boronia laxa</i>	148	1	NL
<i>Boronia quadrilata</i>	148	1	VU
<i>Boronia rivularis</i>	183	1	NL
<i>Boronia tolerans</i>	895	1	NL
<i>Boronia minutipinna</i>	32	2	NL
<i>Philotheca deserti</i>	32	2	NL
<i>Philotheca angustifolia montana</i>	33	2	NL
<i>Leionema lamprophyllum orbiculare</i>	34	2	NL
<i>Correa reflexa lobata</i>	35	2	NL
<i>Boronia umbellata</i>	35	2	VU
<i>Nematolepis squamea coriacea</i>	37	2	VU
<i>Philotheca cuticularis</i>	38	2	NL
<i>Boronia warrumbunglensis</i>	39	2	NL
<i>Zieria murphyi</i>	39	2	VU
<i>Boronia grandisepala acanthophida</i>	40	2	NL
<i>Euodia pubifolia</i>	41	2	NL
<i>Nematolepis wilsonii</i>	42	2	VU
<i>Zieria oreocaena</i>	45	2	NL
<i>Muiriantha hassellii</i>	47	2	NL
<i>Zieria tenuis</i>	50	2	NL
<i>Boronia squamipetala</i>	51	2	NL
<i>Acronychia acuminata</i>	54	2	NL
<i>Zieria vagans</i>	55	2	NL
<i>Asterolasia hexapetala</i>	57	2	NL
<i>Zieria tuberculata</i>	59	2	VU
<i>Boronia rupicola</i>	60	2	NL
<i>Leionema ralstonii</i>	62	2	VU
<i>Zieria furfuracea euthadenia</i>	63	2	NL
<i>Euodia hylandii</i>	65	2	NL
<i>Boronia xanthastrum</i>	66	2	NL
<i>Leionema viridiflorum</i>	67	2	NL
<i>Boronia subulifolia</i>	85	2	NL
<i>Boronia oxyantha brevicalyx</i>	91	2	NL
<i>Lunasia amara</i>	98	2	NL
<i>Boronia amabilis</i>	109	2	NL
<i>Boronia decumbens</i>	123	2	NL
<i>Boronia grandisepala</i>	144	2	NL
<i>Zieria lasiocaulis</i>	33	3	EN
<i>Citrus inodora</i>	34	3	NL
<i>Boronia chartacea</i>	34	3	NL
<i>Phebalium squamulosum verrucosum</i>	34	3	NL
<i>Boronia octandra</i>	36	3	NL
<i>Boronia defoliata</i>	46	3	NL
<i>Philotheca thryptomenoides</i>	50	3	NL
<i>Citrus gracilis</i>	57	3	NL
<i>Flindersia brassii</i>	59	3	NL

<i>Diplolaena dampieri</i>	70	3	NL
<i>Nematolepis ovatifolia</i>	84	3	NL
<i>Drummondita calida</i>	85	3	NL
<i>Leionema obtusifolium</i>	92	3	VU
<i>Acronychia littoralis</i>	97	3	EN
<i>Flindersia oppositifolia</i>	103	3	NL
<i>Eriostemon banksii</i>	104	3	NL
<i>Leionema ambiens</i>	105	3	NL
<i>Leionema hillebrandii</i>	107	3	NL
<i>Boronia wilsonii</i>	109	3	NL
<i>Diplolaena velutina</i>	114	3	NL
<i>Boronia forsteri</i>	124	3	NL
<i>Boronia obovata</i>	149	3	NL
<i>Philotheca queenslandica</i>	150	3	NL
<i>Diplolaena drummondii</i>	35	4	NL
<i>Boronia purdieana</i>	36	4	NL
<i>Diplolaena graniticola</i>	37	4	NL
<i>Boronia heterophylla</i>	38	4	NL
<i>Boronia angustisepala</i>	40	4	NL
<i>Phebalium microphyllum</i>	40	4	NL
<i>Diplolaena mollis</i>	42	4	NL
<i>Diplolaena ferruginea</i>	46	4	NL
<i>Correa lawrenceana rosea</i>	47	4	NL
<i>Philotheca conduplicata</i>	51	4	NL
<i>Boronia palasepala</i>	52	4	NL
<i>Boronia crenulata viminea</i>	56	4	NL
<i>Rhadinothamnus euphemiae</i>	57	4	NL
<i>Boronia pulchella</i>	59	4	NL
<i>Zieria robusta</i>	60	4	NL
<i>Phebalium festivum</i>	63	4	NL
<i>Philotheca obovalis</i>	80	4	NL
<i>Boronia penicillata</i>	85	4	NL
<i>Philotheca scabra latifolia</i>	85	4	NL
<i>Boronia latipinna</i>	89	4	NL
<i>Boronia dichotoma</i>	98	4	NL
<i>Citrus garrawayi</i>	130	4	NL
<i>Boronia granitica</i>	138	4	EN
<i>Correa glabra turnbullii</i>	218	4	NL
<i>Bosistoa floydii</i>	31	5	NL
<i>Leionema oldfieldii</i>	32	5	NL
<i>Philotheca nodiflora lasiocalyx</i>	34	5	NL
<i>Boronia fraseri</i>	42	5	NL
<i>Zieria odorifera</i>	42	5	NL
<i>Boronia serrulata</i>	50	5	NL
<i>Zieria adenodonta</i>	52	5	NL
<i>Correa lawrenceana grampiana</i>	53	5	NL
<i>Asterolasia squamuligera</i>	55	5	NL
<i>Boronia tenuis</i>	62	5	NL
<i>Philotheca coccinea</i>	63	5	NL
<i>Crowea saligna</i>	69	5	NL

<i>Leionema carruthersii</i>	69	5	NL
<i>Leionema montanum</i>	73	5	NL
<i>Nematolepis elliptica</i>	74	5	NL
<i>Leionema coxii</i>	74	5	NL
<i>Phebalium ambiguum</i>	77	5	NL
<i>Philotheca epilosa</i>	84	5	NL
<i>Correa reflexa angustifolia</i>	85	5	NL
<i>Diplolaena grandiflora</i>	87	5	NL
<i>Correa baeuerlenii</i>	97	5	VU
<i>Correa alba pannosa</i>	102	5	NL
<i>Boronia pilosa torquata</i>	104	5	NL
<i>Phebalium lowanense</i>	115	5	VU
<i>Boronia fastigiata</i>	118	5	NL
<i>Citrus australis</i>	139	5	NL
<i>Boronia eriantha</i>	189	5	NL
<i>Boronia edwardsii</i>	304	5	NL

Euphorbiaceae

The ANHAT database has 103355 records for 481 species and subspecies of Euphorbiaceae. No species are considered extinct.

Fifty-two species account for approximately 50% of the total species records in ANHAT (**Table 61**). These species have over 500 records each and *Chamaesyce drummondii* has over 4500 records.

Table 61 Euphorbiaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Glochidion lobocarpum</i>	554	0.46
<i>Chamaesyce coghlanii</i>	557	0.46
<i>Claoxylon tenerifolium</i>	562	0.46
<i>Excoecaria dallachyana</i>	562	0.46
<i>Mallotus claoxyloides</i>	582	0.48
<i>Phyllanthus calycinus</i>	589	0.49
<i>Claoxylon australe</i>	610	0.50
<i>Mallotus nesophilus</i>	615	0.51
<i>Macaranga tanarius</i>	617	0.51
<i>Micrantheum hexandrum</i>	620	0.51
<i>Euphorbia cyathophora</i>	626	0.52
<i>Phyllanthus carpentariae</i>	626	0.52
<i>Chamaesyce dallachyana</i>	629	0.52
<i>Petalostigma quadriloculare</i>	638	0.53
<i>Antidesma parvifolium</i>	650	0.54
<i>Euphorbia terracina</i>	656	0.54
<i>Mallotus polyadenos</i>	678	0.56
<i>Acalypha eremorum</i>	678	0.56
<i>Adriana quadripartite</i>	695	0.57
<i>Croton phebaliioides</i>	706	0.58
<i>Antidesma ghaesembilla</i>	708	0.59
<i>Choriceras tricorne</i>	718	0.59
<i>Baloghia inophylla</i>	721	0.60
<i>Phyllanthus gunnii</i>	723	0.60
<i>Glochidion sumatranum</i>	736	0.61
<i>Beyeria viscosa</i>	751	0.62
<i>Alchornea ilicifolia</i>	767	0.63
<i>Beyeria opaca</i>	816	0.67
<i>Sauropus trachyspermus</i>	819	0.68
<i>Chamaesyce australis</i>	823	0.68
<i>Croton arnhemicus</i>	834	0.69
<i>Euphorbia tannensis</i>	868	0.72
<i>Phyllanthus maderaspatensis</i>	870	0.72
<i>Phyllanthus hirtellus</i>	871	0.72
<i>Chamaesyce mitchelliana</i>	928	0.77
<i>Excoecaria agallocha</i>	953	0.79

<i>Croton insularis</i>	986	0.82
<i>Chamaesyce hirta</i>	1001	0.83
<i>Flueggea virosa melanthesoides</i>	1039	0.86
<i>Breynia cernua</i>	1182	0.98
<i>Phyllanthus fuernrohrii</i>	1254	1.04
<i>Ricinocarpos pinifolius</i>	1383	1.14
<i>Petalostigma banksii</i>	1521	1.26
<i>Mallotus philippensis</i>	1652	1.37
<i>Euphorbia tannensis eremophila</i>	2258	1.87
<i>Beyeria lechenaultii</i>	2595	2.15
<i>Phyllanthus virgatus</i>	2857	2.36
<i>Poranthera microphylla</i>	2885	2.39
<i>Breynia oblongifolia</i>	3058	2.53
<i>Amperea xiphoclada</i> var. <i>xiphoclada</i>	3510	2.90
<i>Petalostigma pubescens</i>	3532	2.92
<i>Chamaesyce drummondii</i>	4536	3.75
Total	60605	50.13

One hundred and thirty-five species had 30 or fewer individual site records in the ANHAT database (**Table 62**). This represents more than one-third of all the species with records in the database. Of those species, 11 are classified as threatened (including five species classified as endangered). No information has been obtained on the vegetation associations of species in this family and so patterns cannot be assessed. There are no obvious patterns in the locations of these species in Australia, with species being present from all areas, although there are not many species with accurate range data. These species have been excluded from analysis but are included here for reference. Exclusion of these poorly recorded species eliminates 1830 records.

Table 62 Euphorbiaceae species with 30 or fewer individual record sites in the ANHAT database.

Species	No. Records	No. Records in NRS	Location	Veg type	Area km ²	EPBC status
<i>Bertya lapicola</i>	1	0.00			100	NL
<i>Breynia oblongifolia</i> var. <i>oblongifolia</i>	1	0.00			100	NL
<i>Croton wassi-kussae</i>	1	0.00			100	NL
<i>Euphorbia baurei</i>	1	0.00			100	NL
<i>Leptopus decaisnei</i> var. <i>orbicularis</i>	1	0.00			200	NL
<i>Macaranga inermis</i>	1	0.00			100	NL
<i>Mallotus tiliifolius</i>	1	0.00			200	NL
<i>Micrantheum demissum</i> var. <i>microphyllum</i>	1	0.00	CS		100	NL
<i>Phyllanthus armstrongii</i>	1	100.00			100	NL
<i>Phyllanthus exillis</i>	1	0.00			200	NL
<i>Ricinocarpos pilifer</i>	1	100.00			100	NL

<i>Bertya grampiana</i>	10	100.00		100	NL
				100	
<i>Poranthera florosa</i>	10	70.00	SW	0	NL
<i>Sauropus arenosus</i>	10	0.00		900	NL
<i>Sauropus elachophyllus</i> var. <i>latior</i>	10	20.00	NE,CN	800	NL
<i>Tragia arnhemica</i>	10	50.00		700	NL
<i>Ricinocarpos graniticus</i>	11	45.45		700	NL
<i>Ricinocarpos marginatus</i>	11	0.00	NW	400	NL
<i>Shonia tristigma</i> <i>parvifolia</i>	11	0.00		400	NL
				110	
<i>Bertya pomaderroides</i>	12	58.33	E	0	NL
<i>Croton glandulosus</i>	12	0.00		100	NL
				100	
<i>Euphorbia chamaesyce</i>	12	16.67	CN	0	NL
<i>Sauropus anemoniflorus</i>	12	41.67		300	NL
<i>Beyeria latifolia</i>	13	76.92	SW	600	NL
<i>Croton caudatus</i>	13	100.00		300	NL
<i>Sauropus androgynus</i>	13	0.00	NE	700	NL
<i>Bertya cunninghamii</i> <i>pubiramula</i>	14	92.86		900	NL
				140	
<i>Beyeria brevifolia</i> var. <i>brevipes</i>	14	14.29	SW	0	NL
			NE,CN,E,	120	
<i>Euphorbia serrulata</i>	14	21.43	EI	0	NL
<i>Phyllanthus baeckeoides</i>	14	0.00		800	NL
Stachystemon nematophorus	14	50.00	W	700	VU
<i>Actephila championiae</i>	15	0.00		500	NL
<i>Amperea micrantha</i>	15	40.00		900	NL
<i>Croton armstrongii</i>	15	26.67	CN	800	NL
				130	
<i>Euphorbia thymifolia</i>	15	26.67	E	0	NL
<i>Ricinocarpos</i> <i>trichophyllus</i>	15	46.67		900	NL
				140	
<i>Acalypha wilkesiana</i>	16	0.00	NE	0	NL
<i>Bertya mollissima</i>	16	93.75	E	500	NL
<i>Ricinocarpos</i> <i>megalocarpus</i>	16	68.75		130	
				0	NL
				140	
<i>Sauropus dunlopii</i>	16	81.25		0	NL
<i>Wetria australiensis</i>	16	68.75		100	NL
<i>Mallotus</i> <i>didymochryseus</i>	17	17.65	NW	0	NL
				120	
<i>Phyllanthus</i> <i>oblanceolatus</i>	17	52.94		0	NL
				140	
<i>Ricinocarpos cyanescens</i>	17	23.53	SW	0	NL

<i>Shonia territorialis</i>	17	70.59	CN	700	NL
<i>Stachystemon mucronatus</i>	17	76.47	SW	700	NL
<i>Bertya tasmanica tasmanica</i>	18	5.56		0	VU
<i>Poranthera petalifera</i>	18	100.00	TAS	300	VU
<i>Sauropus filicinus</i>	19	63.16	CN	800	NL
<i>Alchornea thozetiana</i> var. <i>thozetiana</i>	2	0.00		300	NL
<i>Antidesma excavatum</i>	2	0.00	NE	100	NL
<i>Antidesma sinuatum</i>	2	0.00		200	NL
<i>Bertya linearifolia</i>	2	0.00		200	NL
<i>Chamaesyce nutans</i>	2	0.00		400	NL
<i>Claoxylon attenuatum</i>	2	0.00	E	100	NL
<i>Croton multicaulis</i>	2	0.00		200	NL
<i>Glochidion sessiliflorum</i> var. <i>stylosum</i>	2	50.00		200	NL
<i>Macaranga bracteata</i>	2	0.00	NE	100	NL
<i>Ricinocarpos oliganthus</i>	2	0.00		200	NL
<i>Sauropus gracilis</i>	2	0.00		200	NL
<i>Bertya ernestiana</i>	20	60.00		200	VU
<i>Bertya ingramii</i>	20	45.00	E	600	EN
<i>Beyeria brevifolia</i> var. <i>brevifolia</i>	20	30.00		0	NL
<i>Glochidion barronense</i>	20	20.00		400	NL
<i>Ricinocarpos ruminatus</i>	20	0.00		500	NL
<i>Ricinocarpos verrucosus</i>	20	60.00		600	NL
<i>Sauropus brunonis</i> var. <i>ovatus</i>	20	90.00	CN	120	NL
				210	
<i>Sauropus stenocladus</i>	20	40.00		0	NL
<i>Endospermum medullosum</i>	21	52.38		140	NL
<i>Glochidion perakense</i> var. <i>supra-axillare</i>	21	33.33		0	NL
<i>Ricinocarpos rosmarinifolius</i>	21	71.43	NW	900	NL
<i>Ricinocarpos trichophorus</i>	21	23.81	SW	900	EN
				150	
<i>Sauropus rimophilus</i>	21	80.95	CN	0	NL
<i>Amperea spicata</i>	22	90.91	CI	400	NL
				170	
<i>Amperea volubilis</i>	22	50.00	SW	0	NL
<i>Bertya calycina</i>	22	0.00	E	400	VU
				170	
<i>Beyeria gardneri</i>	22	22.73	W	0	NL
				220	
<i>Euphorbia distans</i>	22	36.36	NW	0	NL
<i>Fontainea fugax</i>	22	4.55		100	NL

<i>Fontainea oraria</i>	22	9.09	E	500	EN
<i>Pseudanthus ballingalliae</i>	22	100.00		300	NL
<i>Ricinocarpos linearifolius</i>	22	13.64		180	
				0	NL
				160	
<i>Sauropus crassifolius</i>	23	26.09	W	0	NL
<i>Actephila foetida</i>	24	41.67	NE	400	VU
				130	
<i>Calycopeplus oligandrus</i>	24	0.00	SW	0	NL
<i>Actephila petiolaris</i>	25	72.00	NE	900	NL
<i>Bertya lapicola lapicola</i>	25	28.00		300	NL
<i>Glochidion ferdinandi</i>				390	
var. <i>pubens</i>	25	32.00	E	0	NL
<i>Omphalea papuana</i>	25	96.00	NE	700	NL
<i>Acalypha lyonsii</i>	26	42.31		300	NL
<i>Beyeria brevifolia</i> var. <i>robustior</i>	26	30.77	SW	210	
				0	NL
				190	
<i>Croton argyratus</i>	26	3.85	CN	0	NL
				140	
<i>Stachystemon vinosus</i>	26	7.69		0	NL
				130	
<i>Amperea conferta</i>	27	66.67	SW	0	NL
<i>Bertya granitica</i>	27	100.00		100	EN
				230	
<i>Monotaxis linifolia</i>	27	59.26	E	0	NL
<i>Chamaesyce ophiolitica</i>	28	10.71		900	NL
<i>Croton rarus</i>	28	21.43		800	NL
				110	
<i>Drypetes subcubica</i>	28	78.57	NE	0	NL
<i>Euphorbia kimberleyensis</i>	28	21.43		210	
				0	NL
<i>Sauropus elachophyllus</i>				150	
var. <i>glaber</i>	28	17.86	NE	0	NL
<i>Actephila plicata</i>	29	55.17		800	NL
<i>Bertya cunninghamii</i>				140	
var. <i>cunninghamii</i>	29	13.79		0	NL
<i>Pseudanthus ligulatus</i>					
var. <i>volcanicus</i>	29	13.79		200	NL
<i>Phyllanthus triandrus</i>	3	66.67	EI	200	NL
				170	
<i>Bertya oblonga</i>	30	13.33	E	0	NL
<i>Beyeria brevifolia</i> var. <i>truncata</i>	4	25.00		400	NL
<i>Beyeria cyanescens</i>	4	0.00	W	200	NL
<i>Euphorbia bouleyi</i>	4	0.00	NW,CN	200	NL
<i>Glochidion macrocarpum</i>	4	0.00	NE	100	NL
<i>Ricinocarpos brevis</i>	4	25.00		300	NL

<i>Bertya riparia</i>	5	40.00		200	NL
<i>Beyeria calycina</i> var. <i>calycina</i>	5	0.00		400	NL
<i>Sauropus torridus</i>	5	0.00		200	NL
<i>Acalypha pubiflora</i> <i>australica</i>	6	0.00		400	NL
<i>Actephila petiolaris</i> <i>jagonis</i>	6	100.00		100	NL
<i>Beyeria calycina</i>	6	50.00	SW	300	NL
<i>Beyeria calycina</i> var. <i>minor</i>	6	0.00	SW	600	NL
<i>Chamaesyce filipes</i>	6	0.00		500	NL
<i>Croton simulans</i>	6	0.00		100	NL
<i>Phyllanthus involutus</i>	6	0.00		300	NL
<i>Poranthera dissecta</i>	6	16.67	SW	400	NL
<i>Sauropus</i> <i>decreascentifolia</i>	6	0.00		200	NL
<i>Chamaesyce sparrmanii</i>	7	28.57	E	700	NL
<i>Codiaeum variegatum</i> var. <i>variegatum</i>	7	0.00		500	NL
<i>Glochidion pruinatum</i>	7	100.00	NE	100	NL
<i>Phyllanthus caudicola</i>	7	85.71		300	NL
<i>Sauropus</i> <i>convallarioides</i>	7	0.00	NE	300	NL
<i>Bridelia ovata</i>	8	0.00	CN	400	NL
<i>Croton choristadenius</i>	8	0.00		100	NL
<i>Croton waterhouseae</i>	8	0.00		200	NL
<i>Phyllanthus scaber</i>	8	0.00	SW	400	NL
<i>Actephila flavescens</i>	9	100.00		300	NL
<i>Bertya virgata</i>	9	11.11		600	NL
<i>Beyeria lepidopetala</i>	9	55.56	W	500	EN

Removal of extinct and poorly recorded species leaves 101525 records in ANHAT for 346 species (and subspecies). The mean number of records per species for species with greater than 30 records was 293.4, with a mean of 35.1 for the percent of records in the NRS.

Ninety-three species of Euphorbiaceae had 45% or greater of individual site records located within PAs (**Table 63**). Two of these are classified as threatened, both species being listed as vulnerable under the EPBC Act. A relatively large number of species on this list come from north-east Australia and very few have ranges falling in the more inland parts of Australia. The majority of species have known ranges of less than 4000 km², suggesting that species with smaller ranges are more likely to have relative higher levels of reservation.

Table 63 Euphorbiaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Pseudanthus ligulatus</i>	73	161	45.34			3500	NL
<i>Ricinocarpos tuberculatus</i>	15	33	45.45	SW		1400	NL
<i>Shonia carinata</i>	15	33	45.45	EI		800	NL
<i>Euphorbia muelleri</i>	28	61	45.90	NE,CN		2700	NL
<i>Omphalea queenslandiae</i>	25	54	46.30	NE		2000	NL
<i>Phyllanthus praelongipes</i>	25	54	46.30	NE		1400	NL
<i>Phyllanthus mitchellii</i>	115	248	46.37	EI		6800	NL
<i>Suregada glomerulata</i>	34	73	46.58	CN		2000	NL
<i>Cleidion spiciflorum</i>	15	32	46.88			2300	NL
<i>Bertya polystigma</i>	55	117	47.01	NE		1900	NL
<i>Monotaxis paxii</i>	19	40	47.50	SW		3400	NL
<i>Claoxylon angustifolium</i>	67	141	47.52	NE,E		3400	NL
<i>Micrantheum hexandrum</i>	297	620	47.90	E,SE,TA S		2090 0	NL
<i>Fontainea picrosperma</i>	80	166	48.19	NE		1500	NL
<i>Cleistanthus semiopacus</i>	56	116	48.28	NE		2300	NL
<i>Homalanthus stillingiifolius</i>	16	33	48.48			3900	NL
<i>Sauropus glaucus</i>	67	137	48.91	CN		6900	NL
<i>Ricinocarpos glaucus</i>	74	151	49.01	SW,W		7200	NL
<i>Poranthera obovata</i>	50	102	49.02	E		2700	NL
<i>Amperea xiphoclada</i>	128	261	49.04	E,SE,TA S		2750 0	NL
<i>Codiaeum variegatum</i>	20	40	50.00	NE		2200	NL
<i>Phyllanthus indigoferoides</i>	22	44	50.00	NE,CN		3100	NL
<i>Phyllanthus sauropodoides</i>	55	109	50.46			2000 1690	NL
<i>Poranthera triandra</i>	135	267	50.56	CS		0	NL
<i>Homalanthus novoguineensis</i>	86	170	50.59	NE,NW, CN		8200	NL

<i>Mallotus surculosus</i>	30	59	50.85	NE	1400	NL
<i>Amperea simulans</i>	58	114	50.88	SW	6800	NL
<i>Pseudanthus</i>				E,SE,TA		
<i>divaricatissimus</i>	70	137	51.09	S	7700	NL
<i>Breynia</i>						
<i>rhynchocharpa</i>	19	37	51.35	CN	3300	NL
<i>Euphorbia</i>						
<i>plumerioides</i>	49	94	52.13	NW,E	3600	NL
<i>Alchornea rugosa</i>	60	115	52.17	NE	3300	NL
<i>Fontainea australis</i>	23	44	52.27	E	1100	VU
<i>Glochidion</i>						
<i>sessiliflorum</i> var.						
<i>pedicellatum</i>	23	44	52.27	NE	1400	NL
<i>Pseudanthus</i>						
<i>pimeleoides</i>	68	130	52.31	NE,E	6700	NL
<i>Actephila</i>						
<i>longipedicellata</i>	20	38	52.63	NE	700	NL
				NE,NW,		
<i>Mallotus dispersus</i>	28	53	52.83	CN	3400	NL
<i>Macaranga</i>						
<i>subdentata</i>	116	218	53.21	NE	5600	NL
					3930	
<i>Beyeria opaca</i>	443	816	54.29	CS	0	NL
<i>Pseudanthus</i>						
<i>orbicularis</i>	47	86	54.65	E,SE	3400	NL
<i>Glochidion hylandii</i>	91	165	55.15	NE,E	3100	NL
<i>Bertya recurvata</i>	25	45	55.56	E	900	NL
<i>Calycopeplus</i>						
<i>collinus</i>	48	86	55.81	NW,CN	4600	NL
<i>Glochidion</i>						
<i>sessiliflorum</i>	52	93	55.91	NE	2800	NL
<i>Bertya tasmanica</i>					1300	
<i>vestita</i>	148	262	56.49		0	NL
<i>Sauropus rigidulus</i>	33	58	56.90	CN	4200	NL
<i>Phyllanthus</i>						
<i>hypospodius</i>	85	148	57.43	NE	1900	NL
<i>Bischofia javanica</i>	48	83	57.83	NE	2000	NL
<i>Croton brachypus</i>	31	53	58.49	NE	800	NL
<i>Cleistanthus</i>						
<i>discolor</i>	39	65	60.00	NE	1200	NL
<i>Macaranga</i>						
<i>dallachyana</i>	29	48	60.42	NE	1400	NL
<i>Ricinocarpos</i>						
<i>gloria-medii</i>	66	109	60.55	CI	1100	VU
<i>Bertya brownii</i>	19	31	61.29	E	1300	NL
<i>Pseudanthus</i>						
<i>pauciflorus</i>	19	31	61.29		900	NL
<i>Actephila latifolia</i>	46	75	61.33	NE,E	2100	NL

<i>Pimelodendron</i>							
<i>amboinicum</i>	42	68	61.76	NE	700	NL	
<i>Croton dockrillii</i>	36	58	62.07	NE	1500	NL	
<i>Margaritaria indica</i>	58	93	62.37	NE,CN	1300	NL	
<i>Shonia</i>							
<i>bickertonensis</i>	29	46	63.04	CN	1400	NL	
<i>Macaranga</i>							
<i>inamoena</i>	94	149	63.09	NE	3400	NL	
<i>Cleistanthus</i>							
<i>myrianthus</i>	63	99	63.64	NE	1700	NL	
<i>Actephila vernicosa</i>	30	47	63.83		600	NL	
<i>Mallotus resinus</i>	64	100	64.00		2900	NL	
<i>Bertya glandulosa</i>	32	49	65.31		700	NL	
<i>Pseudanthus</i>							
<i>pauciflorus</i>							
<i>arenicola</i>	21	32	65.63		700	NL	
<i>Codiaeum</i>							
<i>membranaceum</i>	25	38	65.79		800	NL	
<i>Poranthera</i>							
<i>coerulea</i>	29	44	65.91	CN	3600	NL	
<i>Rockinghamia</i>							
<i>angustifolia</i>	178	270	65.93	NE	4300	NL	
<i>Croton byrnesii</i>	35	52	67.31	CN	1400	NL	
<i>Dissiliaria</i>							
<i>laxinervis</i>	31	46	67.39	NE	1000	NL	
<i>Monotaxis tenuis</i>	70	103	67.96	NW,CN	3500	NL	
<i>Sauropus</i>							
<i>stenocladus</i>							
<i>pinifolius</i>	30	44	68.18		3100	NL	
<i>Euphorbia</i>							
<i>armstrongiana</i>	47	68	69.12	NW,CN	3300	NL	
<i>Dissiliaria tuckeri</i>	30	43	69.77		500	NL	
<i>Sauropus brunonis</i>	22	31	70.97	CN	2100	NL	
<i>Drypetes acuminata</i>	36	50	72.00		1600	NL	
<i>Phyllanthus</i>							
<i>clamboides</i>	85	116	73.28	NE	2500	NL	
<i>Hylandia dockrillii</i>	160	210	76.19	NE	2800	NL	
<i>Beyeria similis</i>	26	34	76.47	SW,W	1100	NL	
<i>Baloghia parviflora</i>	148	192	77.08	NE	2400	NL	
<i>Pseudanthus</i>							
<i>ovalifolius</i>	87	112	77.68	E,SE	4500	NL	
<i>Phyllanthus brassii</i>	46	57	80.70	NE	1100	NL	
<i>Amperea protensa</i>	52	64	81.25	SW	4100	NL	
<i>Actephila petiolaris</i>							
<i>petiolaris</i>	29	35	82.86		900	NL	
<i>Drypetes iodoformis</i>	49	59	83.05		1100	NL	

<i>Bertya findlayi</i>	30	36	83.33	SE	1500	NL
<i>Beyeria cygnorum</i>	35	42	83.33	W	1900	NL
<i>Austrobuxus nitidus</i>	35	41	85.37	NE	1100	NL
<i>Choriceras majus</i>	51	58	87.93	NE	700	NL
<i>Austrobuxus megacarpus</i>	67	74	90.54		1100	NL
<i>Glochidion pungens</i>	76	83	91.57	NE	900	NL
<i>Calycopeplus marginatus</i>	87	92	94.57	SW	2900	NL
<i>Poranthera oreophila</i>	58	60	96.67	SE	1900	NL
<i>Rockinghamia brevipes</i>	151	154	98.05	NE	1000	NL

Thirty-two species have less than 10% of the record sites available in ANHAT located within PAs, including nine with no records in a PA (**Table 64**). Three species are classified as threatened, including one endangered species. These species are scattered across the continent, with several species occurring in inland areas of Australia. Some of these species have significantly larger range sizes than the species with relatively high reservation levels (**Table 63**).

Table 64 Euphorbiaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Sauropus aphyllus</i>	0	32	0.00			900	NL
<i>Bertya cunninghamii rupicola</i>	0	40	0.00			900	NL
<i>Sankowskyia stipularis</i>	0	45	0.00	NE		200	EN
<i>Croton aridus</i>	0	46	0.00			2800	NL
<i>Sauropus huntii</i>	0	46	0.00	CI		2200	NL
<i>Chamaesyce petala</i>	0	51	0.00			3000	NL
<i>Chrozophora tinctoria</i>	0	66	0.00	CS		2700	NL
<i>Chamaesyce carissoides</i>	0	83	0.00	NE,E,EI		1700	NL
<i>Chamaesyce ophthalmica</i>	0	97	0.00	E		2400	NL
<i>Euphorbia maconochieana</i>	1	54	1.85	CN		2900	NL
<i>Croton minimus</i>	1	47	2.13	NE NW,CN,E		900	NL
<i>Petalostigma nummularium</i>	3	126	2.38	,CI		6900	NL
<i>Stachystemon brachyphyllus</i>	1	41	2.44	SW		2600	NL
<i>Croton stockeri</i>	1	39	2.56	NE		400	NL

<i>Croton schultzei</i>	1	31	3.23		1900	NL
<i>Euphorbia helioscopia</i>	5	141	3.55	SW,E,SE, CS	7500	NL
<i>Ricinocarpos stylosus</i>	4	88	4.55	SW	3300	NL
<i>Actephila traceyi</i>	3	64	4.69	NE	1200	NL
<i>Fontainea venosa</i>	6	125	4.80	E	1300	VU
<i>Bertya pinifolia</i>	2	36	5.56	E	800	VU
<i>Phyllanthus maderaspatensis</i> var. <i>angustifolius</i>	10	167	5.99	NW,CN,E I,CI	9800	NL
<i>Euphorbia stevenii</i>	20	284	7.04	CN,EI,CI, CS	17300	NL
<i>Chamaesyce hyssopifolia</i>	28	376	7.45	NE,E	13100	NL
<i>Chamaesyce dallachyana</i>	47	629	7.47	E	35700	NL
<i>Chamaesyce prostrata</i>	11	142	7.75	E	7900	NL
<i>Mallotus megadontus</i>	5	57	8.77		1200	NL
<i>Euphorbia planiticola</i>	4	44	9.09	E	5100	NL
<i>Ricinocarpos velutinus</i>	19	204	9.31	SW,W NE,NW,C	9500	NL
<i>Glochidion disparipes</i>	28	288	9.72	N,E	12600	NL
<i>Chamaesyce maculata</i>	16	164	9.76	E,SE	8400	NL
<i>Glochidion perakense</i>	4	41	9.76	NE NW,CN,E	3000	NL
<i>Excoecaria parvifolia</i>	18	184	9.78	I,CI	8400	NL

A total of 10 Euphorbiaceae species had records in more than 100 separate PAs (Table 65). Most species in this list had over 1000 records, with an average of 2595 records per species. No species were classified as threatened.

Table 65 Euphorbiaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Claoxylon australe</i>	610	100	80	NL
<i>Baloghia inophylla</i>	721	109	79	NL
<i>Petalostigma pubescens</i>	3532	115	99	NL
<i>Amperea xiphoclada</i> var. <i>xiphoclada</i>	3510	127	78	NL
<i>Phyllanthus virgatus</i>	2857	139	114	NL
<i>Mallotus philippensis</i>	1652	160	107	NL
<i>Chamaesyce drummondii</i>	4536	220	150	NL
<i>Beyeria lechenaultii</i>	2595	234	134	NL
<i>Breynia oblongifolia</i>	3058	250	178	NL
<i>Poranthera microphylla</i>	2885	415	285	NL

A total of 108 species had records in five or fewer PAs (**Table 66**). Twelve species are listed as threatened under the EPBC Act, including one species classified as endangered. The majority of species in this list had fewer than 100 individual record sites and no species had more than 200 record sites. Nine species had no records within a PA.

Table 66 Euphorbiaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Sauropus aphyllus</i>	32	0	NL
<i>Bertya cunninghamii rupicola</i>	40	0	NL
<i>Sankowskya stipularis</i>	45	0	EN
<i>Sauropus huntii</i>	46	0	NL
<i>Croton aridus</i>	46	0	NL
<i>Chamaesyce petala</i>	51	0	NL
<i>Chrozophora tinctoria</i>	66	0	NL
<i>Chamaesyce carissoides</i>	83	0	NL
<i>Chamaesyce ophthalmica</i>	97	0	NL
<i>Croton schultzei</i>	31	1	NL
<i>Trigonostemon inopinatus</i>	33	1	VU
<i>Croton stockeri</i>	39	1	NL
<i>Dissiliaria surculose</i>	40	1	NL
<i>Stachystemon brachyphyllum</i>	41	1	NL
<i>Bertya recurvata</i>	45	1	NL
<i>Croton minimus</i>	47	1	NL
<i>Croton byrnesii</i>	52	1	NL
<i>Euphorbia maconochieana</i>	54	1	NL
<i>Actephila traceyi</i>	64	1	NL
<i>Drypetes vernicosa</i>	70	1	NL
<i>Calycopeplus marginatus</i>	92	1	NL
<i>Fontainea rostrata</i>	116	1	VU
<i>Sauropus brunonis</i>	31	2	NL
<i>Pseudanthus pauciflorus arenicola</i>	32	2	NL
<i>Shonia carinata</i>	33	2	NL
<i>Bertya pinifolia</i>	36	2	VU
<i>Actephila longipedicellata</i>	38	2	NL
<i>Antidesma hylandii</i>	40	2	NL
<i>Bertya glandulosa</i>	49	2	NL
<i>Croton mutabilis</i>	51	2	NL
<i>Croton brachypus</i>	53	2	NL
<i>Croton densivestitus</i>	58	2	NL
<i>Croton magneticus</i>	64	2	VU
<i>Pimelodendron amboinicum</i>	68	2	NL
<i>Fontainea venosa</i>	125	2	VU
<i>Petalostigma nummularium</i>	126	2	NL
<i>Beyeria similis</i>	34	3	NL
<i>Glochidion perakense</i>	41	3	NL
<i>Dissiliaria tuckeri</i>	43	3	NL

<i>Euphorbia planiticola</i>	44	3	NL
<i>Shonia bickertonensis</i>	46	3	NL
<i>Actephila vernicosa</i>	47	3	NL
<i>Actephila grandifolia</i>	50	3	NL
<i>Sauropus podenzanae</i>	51	3	NL
<i>Bertya lapicola brevifolia</i>	53	3	NL
<i>Omphalea queenslandiae</i>	54	3	NL
<i>Micranthemum serpentinum</i>	57	3	NL
<i>Mallotus megadontus</i>	57	3	NL
<i>Omphalea celata</i>	57	3	VU
<i>Croton dockrillii</i>	58	3	NL
<i>Choriceras majus</i>	58	3	NL
<i>Euphorbia muelleri</i>	61	3	NL
<i>Actephila venusta</i>	66	3	NL
<i>Dissiliaria muelleri</i>	67	3	NL
<i>Suregada glomerulata</i>	73	3	NL
<i>Sauropus ditassoides</i>	79	3	NL
<i>Calycopeplus collinus</i>	86	3	NL
<i>Whyanbeelia terrae-reginae</i>	87	3	NL
<i>Ricinocarpos stylosus</i>	88	3	NL
<i>Ricinocarpos trachyphyllus</i>	89	3	NL
<i>Bertya sharpeana</i>	90	3	NL
<i>Margaritaria indica</i>	93	3	NL
<i>Shonia tristigma borealis</i>	95	3	NL
<i>Monotaxis tenuis</i>	103	3	NL
<i>Ricinocarpos gloria-medii</i>	109	3	VU
<i>Euphorbia sarcostemmoides</i>	173	3	NL
<i>Actephila petiolaris petiolaris</i>	35	4	NL
<i>Tragia finalis</i>	36	4	NL
<i>Codiaeum membranaceum</i>	38	4	NL
<i>Beyeria cinerea</i>	38	4	NL
<i>Sauropus paucifolius</i>	39	4	NL
<i>Fontainea australis</i>	44	4	VU
<i>Phyllanthus lacerosus</i>	49	4	NL
<i>Ricinocarpos psilocladus</i>	51	4	NL
<i>Acalypha lanceolata</i>	51	4	NL
<i>Phyllanthus praelongipes</i>	54	4	NL
<i>Phyllanthus brassii</i>	57	4	NL
<i>Mallotus surculosus</i>	59	4	NL
<i>Croton multicaulis velutinus</i>	65	4	NL
<i>Pseudanthus micranthus</i>	69	4	NL
<i>Chamaesyce macgillivrayi</i>	91	4	NL
<i>Cleistanthus peninsularis</i>	99	4	NL
<i>Beyeria subsecta</i>	103	4	VU
<i>Sauropus macranthus</i>	105	4	VU
<i>Sauropus glaucus</i>	137	4	NL
<i>Euphorbia helioscopia</i>	141	4	NL
<i>Croton capitis-york</i>	142	4	NL
<i>Chamaesyce prostrata</i>	142	4	NL
<i>Poranthera drummondii</i>	31	5	NL

<i>Pseudanthus pauciflorus</i>	31	5	NL
<i>Phyllanthus eutaxioides</i>	33	5	NL
<i>Bertya findlayi</i>	36	5	NL
<i>Breynia rynchocarpa</i>	37	5	NL
<i>Phyllanthus debilis</i>	38	5	NL
<i>Sauropus stenocladus pinifolius</i>	44	5	NL
<i>Chamaesyce micradenia</i>	46	5	NL
<i>Bridelia finalis</i>	47	5	NL
<i>Bertya dimerostigma</i>	51	5	NL
<i>Stachystemon vermicularis</i>	53	5	NL
<i>Dissiliaria indistincta</i>	55	5	NL
<i>Cleistanthus discolor</i>	65	5	NL
<i>Baloghia marmorata</i>	75	5	VU
<i>Cleistanthus myrianthus</i>	99	5	NL
<i>Shonia tristigma</i>	129	5	NL
<i>Phyllanthus hypospodius</i>	148	5	NL
<i>Fontainea picrosperma</i>	166	5	NL
<i>Phyllanthus maderaspatensis</i> var.			
<i>angustifolius</i>	167	5	NL
<i>Cleistanthus xerophilus</i>	190	5	NL

One hundred and ten species of Euphorbiaceae had records in five or fewer PAs greater than 1000 hectares, including 10 species classified as vulnerable (

Table 67). This excludes species with no records in PAs.

Table 67 Euphorbiaceae species recorded in five or fewer PAs greater than 1000 hectares.

<i>Species</i>	No. Records	No. PAs >1000ha	EPBC status
<i>Croton schultzei</i>	31	1	NL
<i>Trigonostemon inopinatus</i>	33	1	VU
<i>Bertya pinifolia</i>	36	1	VU
<i>Croton stockeri</i>	39	1	NL
<i>Dissiliaria surculosa</i>	40	1	NL
<i>Stachystemon brachyphyllus</i>	41	1	NL
<i>Bertya recurvata</i>	45	1	NL
<i>Croton minimus</i>	47	1	NL
<i>Bertya glandulosa</i>	49	1	NL
<i>Ricinocarpos psilocladus</i>	51	1	NL
<i>Croton byrnesii</i>	52	1	NL
<i>Euphorbia maconochieana</i>	54	1	NL
<i>Actephila traceyi</i>	64	1	NL
<i>Croton magneticus</i>	64	1	VU
<i>Drypetes vernicosa</i>	70	1	NL
<i>Calycopeplus marginatus</i>	92	1	NL
<i>Fontainea rostrata</i>	116	1	VU

Fontainea venosa	125	1	VU
<i>Sauropus brunonis</i>	31	2	NL
<i>Pseudanthus pauciflorus arenicola</i>	32	2	NL
<i>Ricinocarpos tuberculatus</i>	33	2	NL
<i>Shonia carinata</i>	33	2	NL
<i>Actephila longipedicellata</i>	38	2	NL
<i>Antidesma hylandii</i>	40	2	NL
<i>Actephila vernicosa</i>	47	2	NL
<i>Actephila grandifolia</i>	50	2	NL
<i>Croton mutabilis</i>	51	2	NL
<i>Croton brachypus</i>	53	2	NL
<i>Micrantheum serpentinum</i>	57	2	NL
<i>Mallotus megadontus</i>	57	2	NL
<i>Choriceras majus</i>	58	2	NL
<i>Croton densivestitus</i>	58	2	NL
<i>Dissiliaria muelleri</i>	67	2	NL
<i>Pimelodendron amboinicum</i>	68	2	NL
<i>Pseudanthus micranthus</i>	69	2	NL
Baloghia marmorata	75	2	VU
<i>Bertya sharpeana</i>	90	2	NL
<i>Bertya rotundifolia</i>	92	2	NL
Sauropus macranthus	105	2	VU
Ricinocarpos gloria-medii	109	2	VU
<i>Petalostigma nummularium</i>	126	2	NL
<i>Beyeria similis</i>	34	3	NL
<i>Tragia finalis</i>	36	3	NL
<i>Codiaeum membranaceum</i>	38	3	NL
<i>Glochidion perakense</i>	41	3	NL
<i>Dissiliaria tuckeri</i>	43	3	NL
<i>Euphorbia planiticola</i>	44	3	NL
Fontainea australis	44	3	VU
<i>Shonia bickertonensis</i>	46	3	NL
<i>Sauropus podenzanae</i>	51	3	NL
<i>Bertya lapicola brevifolia</i>	53	3	NL
<i>Omphalea queenslandiae</i>	54	3	NL
Omphalea celata	57	3	VU
<i>Croton dockrillii</i>	58	3	NL
<i>Mallotus surculosus</i>	59	3	NL
<i>Euphorbia muelleri</i>	61	3	NL
<i>Actephila venusta</i>	66	3	NL
<i>Suregada glomerulata</i>	73	3	NL
<i>Sauropus ditassoides</i>	79	3	NL
<i>Calycopeplus collinus</i>	86	3	NL
<i>Whyanbeelia terrae-reginae</i>	87	3	NL
<i>Ricinocarpos stylosus</i>	88	3	NL
<i>Ricinocarpos trachyphyllus</i>	89	3	NL
<i>Chamaesyce macgillivrayi</i>	91	3	NL
<i>Margaritaria indica</i>	93	3	NL
<i>Shonia tristigma borealis</i>	95	3	NL
<i>Monotaxis tenuis</i>	103	3	NL

<i>Euphorbia helioscopia</i>	141	3	NL
<i>Euphorbia sarcostemmoides</i>	173	3	NL
<i>Actephila petiolaris petiolaris</i>	35	4	NL
<i>Beyeria cinerea</i>	38	4	NL
<i>Sauropus paucifolius</i>	39	4	NL
<i>Chamaesyce micradenia</i>	46	4	NL
<i>Phyllanthus lacerosus</i>	49	4	NL
<i>Acalypha lanceolata</i>	51	4	NL
<i>Stachystemon vermicularis</i>	53	4	NL
<i>Phyllanthus praelongipes</i>	54	4	NL
<i>Phyllanthus brassii</i>	57	4	NL
<i>Croton multicaulis velutinus</i>	65	4	NL
<i>Cleistanthus discolor</i>	65	4	NL
<i>Cleistanthus peninsularis</i>	99	4	NL
<i>Cleistanthus myrianthus</i>	99	4	NL
<i>Sauropus glaucus</i>	137	4	NL
<i>Croton capitis-york</i>	142	4	NL
<i>Chamaesyce prostrata</i>	142	4	NL
<i>Chamaesyce maculata</i>	164	4	NL
<i>Fontainea picrosperma</i>	166	4	NL
<i>Pseudanthus pauciflorus</i>	31	5	NL
<i>Poranthera drummondii</i>	31	5	NL
<i>Phyllanthus eutaxioides</i>	33	5	NL
<i>Bertya findlayi</i>	36	5	NL
<i>Stachystemon intricatus</i>	37	5	NL
<i>Breynia rhynchocarpa</i>	37	5	NL
<i>Phyllanthus debilis</i>	38	5	NL
<i>Austrobuxus nitidus</i>	41	5	NL
<i>Beyeria cygnorum</i>	42	5	NL
<i>Sauropus stenocladus pinifolius</i>	44	5	NL
<i>Bridelia finalis</i>	47	5	NL
<i>Macaranga dallachyana</i>	48	5	NL
<i>Bertya dimerostigma</i>	51	5	NL
<i>Dissiliaria indistincta</i>	55	5	NL
<i>Drypetes iodoformis</i>	59	5	NL
<i>Sauropus hirtellus</i>	89	5	NL
<i>Stachystemon virgatus</i>	117	5	NL
<i>Shonia tristigma</i>	129	5	NL
<i>Phyllanthus hypospodius</i>	148	5	NL
<i>Cleistanthus hylandii</i>	154	5	NL
<i>Bertya pedicellata</i>	156	5	NL
<i>Phyllanthus maderaspatensis</i> var.			
<i>angustifolius</i>	167	5	NL
<i>Cleistanthus xerophilus</i>	190	5	NL

Epacridaceae – heaths

The ANHAT database has 121043 records for 463 species and subspecies of Epacridaceae. Two species of Epacridaceae are considered extinct and therefore excluded from analysis. These species are presented in

Table 68.

Table 68 Epacridaceae species considered extinct

Species	Common name	No. of records
<i>Leucopogon cryptanthus</i>		1
<i>Coleanthera virgata</i>		1

Twenty species account for approximately 50% of the total species records in ANHAT (**Table 69**). These species have over 1000 records each, and, in the case of the *Epacris impressa*, over 9900 records.

Table 69 Epacridaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Leucopogon rufus</i>	1025	0.85
<i>Acrotriche patula</i>	1144	0.95
<i>Epacris paludosa</i>	1185	0.98
<i>Acrotriche aggregata</i>	1203	0.99
<i>Acrotriche prostrata</i>	1214	1.00
<i>Epacris obtusifolia</i>	1226	1.01
<i>Sprengelia incarnata</i>	1333	1.10
<i>Epacris microphylla</i>	1383	1.14
<i>Lissanthe strigosa subulata</i>	1536	1.27
<i>Melichrus urceolatus</i>	1774	1.47
<i>Leucopogon ericoides</i>	1989	1.64
<i>Leucopogon parviflorus</i>	3082	2.55
<i>Astroloma conostephioides</i>	3454	2.85
<i>Brachyloma daphnoides</i>	3606	2.98
<i>Leucopogon lanceolatus</i>	4009	3.31
<i>Monotoca scoparia</i>	4295	3.55
<i>Leucopogon virgatus</i>	4817	3.98
<i>Astroloma humifusum</i>	6504	5.37
<i>Acrotriche serrulata</i>	6602	5.45
<i>Epacris impressa</i>	9937	8.21
Total	61318	50.65

One hundred and eleven species, approximately one quarter, had 30 or fewer individual site records in the ANHAT database (**Table 70**). Of these species, 11 are classified as threatened (including two species classified as critically endangered). These species have been excluded from analysis but are included here for reference. Exclusion of these poorly recorded species eliminates 1600 records. The species in the list are almost exclusively in the south-west and east of Australia, including Tasmania, and this family is a predominantly from southern Australia. They all have relatively small apparent ranges with only five having listed ranges greater than 2000km². Data has not been obtained on the vegetation associations of the species in the family Epacridae.

Table 70 Epacridaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Astroloma</i> sp. <i>tutanning</i>	1	0.00			100	NL
<i>Leucopogon atherolepis densiflorus</i>	1	100.00			100	NL
<i>Leucopogon</i> sp. <i>coujinup</i>	1	100.00			100	NL
<i>Leucopogon</i> sp. <i>es11</i>	1	0.00			100	NL
<i>Leucopogon</i> sp. <i>lake king</i>	1	100.00			100	NL
<i>Leucopogon</i> sp. <i>morseby range</i>	1	100.00			100	NL
<i>Styphelia laeta angustifolia</i>	1	0.00			100	NL
<i>Leucopogon glabellus pubescens</i>	10	30.00			400	NL
<i>Leucopogon juniperoides</i>	10	20.00	E SE		500	NL
<i>Andersonia longifolia</i>	11	54.55	SW		600	NL
<i>Leucopogon decussatus</i>	11	9.09			700	NL
<i>Lissanthe</i> sp. <i>diggers camp</i>	11	63.64			700	NL
<i>Monotoca aristata</i>	11	54.55	SW		300	NL
<i>Styphelia melaleucoides</i>	11	36.36	SW		800	NL
<i>Leucopogon acicularis</i>	12	100.00	SW		400	NL
<i>Conostephium es20</i>	13	0.00			1500	NL
<i>Leucopogon ozothamnoides</i>	13	7.69	SW W		800	NL
<i>Andersonia bifida</i>	15	0.00			400	NL
<i>Leucopogon oblongus</i>	16	43.75	W		700	NL
<i>Andersonia depressa</i>	17	0.00	SW		800	NL
<i>Leucopogon milliganii</i>	17	100.00	TAS		2000	NL
<i>Leucopogon pedicellatus</i>	17	41.18	E		1500	NL
<i>Sphenotoma parviflorum</i>	17	64.71	SW		1300	NL
<i>Astrotricha pauciflora</i>	18	55.56	E		200	NL
<i>Leucopogon obtectus</i>	18	61.11			600	EN

<i>Leucopogon</i> sp. <i>wessell</i> <i>islands</i>	18	0.00		900	NL
<i>Andersonia latiflora</i>	19	26.32	SW	1500	NL
<i>Dracophyllum</i> <i>macranthum</i>	19	47.37	E	300	NL
<i>Epacris hamiltonii</i>	19	63.16	E	400	EN
<i>Leucopogon lasiophyllus</i>	19	100.00		900	NL
<i>Leucopogon</i> <i>pogonocalyx</i>	19	84.21		1100	NL
<i>Styphelia longifolia</i>	19	10.53	E	1500	NL
<i>Astroloma pedicellatum</i>	2	0.00		100	NL
<i>Dracophyllum</i> <i>fitzgeraldii</i>	2	50.00		400	NL
<i>Leucopogon ramulosus</i>	2	0.00	SW	100	NL
<i>Leucopogon</i> sp. <i>bonnie</i> <i>hill</i>	2	0.00		100	NL
<i>Leucopogon</i> sp. <i>border</i> <i>island</i>	2	100.00		100	NL
<i>Leucopogon</i> sp. <i>bungulla</i>	2	0.00		100	NL
<i>Leucopogon</i> sp. <i>clyde</i> <i>hill</i>	2	100.00		200	NL
<i>Leucopogon</i> sp. <i>corrigin</i>	2	100.00		200	NL
<i>Leucopogon</i> sp. <i>helena</i> & <i>aurora</i> range	2	100.00		100	NL
<i>Leucopogon</i> sp. <i>kau rock</i>	2	0.00		200	NL
<i>Leucopogon</i> sp. <i>outer</i> <i>wheatbelt</i>	2	0.00		100	NL
<i>Leucopogon</i> sp. <i>toompup</i>	2	0.00		100	NL
<i>Leucopogon</i> sp. <i>twertup</i>	2	0.00		100	NL
<i>Trochocarpa parviflora</i>	2	0.00	SW	200	NL
<i>Astrotricha crassifolia</i>	20	75.00	E SE	1600	VU
<i>Conostephium</i> <i>uncinatum</i>	20	15.00	SW	900	NL
<i>Leucopogon minutifolius</i>	20	55.00	SW	1400	NL
<i>Cyathodes platystoma</i>	21	33.33	TAS	1200	NL
<i>Epacris sparsa</i>	21	100.00	E	300	VU
<i>Pentachondra dehiscens</i>	21	90.48	E	300	NL
<i>Styphelia exserta</i>	21	52.38	SW	1500	NL
<i>Dracophyllum</i> <i>oceanicum</i>	22	50.00	E	600	NL
<i>Leucopogon exolasius</i>	22	40.91	E	1300	VU
<i>Lissanthe powelliae</i>	22	9.09	W	900	NL
<i>Leucopogon confertus</i>	23	8.70		1500	EN
<i>Leucopogon hispidus</i>	23	52.17	W	1100	NL
<i>Sphenotoma</i> sp. <i>stirling</i> <i>range</i>	23	100.00		1200	NL
<i>Acrotriche plurilocularis</i>	25	4.00	SW	900	NL
<i>Rupicola decumbens</i>	25	24.00	E	700	NL
<i>Styphelia psiloclada</i>	25	88.00	E SE	600	NL
<i>Astroloma</i> sp. <i>grass</i>	26	23.08		2600	NL

<i>patch</i>					
<i>Leucopogon amplexans</i>	26	26.92	SW	1200	NL
<i>Leucopogon cochlearifolius</i>	26	23.08	SW	1500	NL
<i>Astroloma</i> sp. <i>nannup</i>	27	96.30		300	NL
<i>Epacris limbata</i>	27	55.56	TAS	400	CE
<i>Leucopogon bossiaea</i>	27	14.81	SW	1300	NL
<i>Leucopogon ovalifolius</i>	27	70.37	SW	1700	NL
<i>Leucopogon</i> sp. <i>lamington</i>	27	59.26		400	NL
<i>Rupicola ciliata</i>	27	44.44	E	600	NL
<i>Styphelia laeta latifolia</i>	27	22.22		1500	NL
<i>Andersonia pinaster</i>	28	64.29		400	VU
<i>Andersonia setifolia</i>	28	50.00		1400	NL
<i>Leucopogon multiflorus</i>	28	96.43	SW	700	NL
<i>Archeria comberi</i>	29	100.00	TAS	1700	NL
<i>Leucopogon blepharolepis</i>	29	13.79	SW	1400	NL
<i>Leucopogon elatior</i>	29	20.69	SW	2100	NL
<i>Monotoca ledifolia</i>	29	68.97	E	1700	NL
<i>Leucopogon inflexifolius</i>	3	66.67	SW	300	NL
<i>Leucopogon obtusatus elachophyllus</i>	3	100.00		100	NL
<i>Leucopogon</i> sp. <i>kalbarri</i>	3	66.67		200	NL
<i>Leucopogon teretostylus</i>	3	33.33	SW W	200	NL
<i>Melichrus</i> sp. <i>tara</i>	3	0.00		100	NL
<i>Astroloma microphyllum</i>	30	56.67	SW	2200	NL
<i>Conostephium magnum</i>	30	30.00	SW	1300	NL
<i>Epacris moscaliana</i>	30	26.67		1400	NL
<i>Leucopogon brevicuspis</i>	30	60.00	SW	2200	NL
<i>Leucopogon fletcheri fletcheri</i>	30	6.67		1000	NL
<i>Leucopogon mollis</i>	30	86.67	SW W	900	NL
<i>Leucopogon tenuis</i>	30	30.00	SW	2100	NL
<i>Styphelia perileuca</i>	30	86.67	E	600	VU
<i>Astroloma cataphractum</i>	4	50.00		300	NL
<i>Astroloma recurvum</i>	4	0.00	SW	300	NL
<i>Coleanthera coelophylla</i>	4	0.00		300	NL
<i>Leucopogon psammophilus</i>	4	75.00	SW	300	NL
<i>Astrotricha</i> 1 (<i>macintyre falls</i>)	5	40.00		200	NL
<i>Epacris stuartii</i>	5	40.00	TAS	300	CE
<i>Leucopogon corifolius</i>	5	0.00	SW	400	NL
<i>Leucopogon tenuicaulis</i>	5	0.00	SW	100	NL
<i>Acrotriche dura</i>	6	33.33		400	NL
<i>Astrotricha</i> aff. <i>linearis</i> (<i>suggan buggan</i>)	6	83.33		500	NL
<i>Epacris apiculata</i>	6	16.67	E	300	NL
<i>Leucopogon parvifolius</i>	6	83.33	SE TAS	400	NL

<i>Leucopogon</i> sp. <i>boolbunda</i> rock	6	16.67		200	NL
<i>Styphelia tenuifolia</i>	6	0.00	SW	500	NL
<i>Astroloma</i> sp. <i>cataby</i>	7	42.86		200	NL
<i>Leucopogon</i> <i>pleurandroides</i>	7	57.14	SW	600	NL
<i>Melichrus hirsutus</i>	7	85.71	E	800	EN
<i>Leucopogon</i> sp. <i>wheatbelt</i>	8	50.00		500	NL
<i>Richea pandanifolia</i> <i>ramulosa</i>	8	62.50		600	NL

Removal of extinct and poorly recorded species leaves 119441 records for 350 species (and subspecies). The mean number of records per species for species with greater than 30 records was 341, with a mean of 50.4 for the percent of records in the NRS.

One eighty and six species of Epacridaceae had 45% or greater of individual site records located within PAs (**).** **Five** species have all of their available records within the NRS.

Table 71). This is more than half of the species that have more than 30 records, indicating a relatively high level of reservation for the better-known species in this family. Of those 186 species, seven species are classified as threatened, including one species classified as critically endangered. These species are located throughout the southern half of Australia, with a relatively large number of species being endemic to Tasmania. Most of these well-reserved species do not have ranges greater than 10,000 km², but there are several species with large ranges (> 70,000 km²). Five species have all of their available records within the NRS.

Table 71 Epacridaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Dracophyllum</i> <i>sayeri</i>	109	109	100.00	NE		700	NL
<i>Sprengelia</i> <i>distichophylla</i>	36	36	100.00	TAS		2500	NL
<i>Planocarpa nitida</i>	37	37	100.00	TAS		800	NL
<i>Astroloma</i> sp. <i>Fitzgerald</i>	66	66	100.00			2600	NL
<i>Trochocarpa</i> <i>bellendenkerensis</i>	87	87	100.00	NE		700	NL
<i>Leucopogon</i> <i>corynocarpus</i>	27	60	45.00	SW		3500	NL
<i>Astrotricha cordata</i>	91	202	45.05	E,EI		5500	NL

<i>Leucopogon fraseri</i>	113	249	45.38	E,SE,TAS	22100	NL
<i>Monotoca scoparia</i>	1959	4295	45.61	E,SE	143900	NL
<i>Acrotriche</i>						
<i>divaricate</i>	48	105	45.71	E,SE	8100	NL
<i>Andersonia</i>						
<i>micrantha</i>	33	72	45.83	SW	4700	NL
<i>Astroloma baxteri</i>	50	109	45.87	SW	5400	NL
<i>Leucopogon</i>						
<i>clelandii</i>	91	198	45.96	SE	15700	NL
<i>Oligarrhena</i>						
<i>micrantha</i>	98	212	46.23	SW	10100	NL
<i>Astrotricha ledifolia</i>	150	324	46.30	E,SE	12600	NL
<i>Leucopogon</i>						
<i>amplexicaulis</i>	34	73	46.58	E	3400	NL
<i>Leucopogon</i>						
<i>grandiflorus</i>	48	103	46.60		2500	NL
<i>Acrotriche</i>						
<i>ramiflora</i>	38	81	46.91	SW	3800	NL
<i>Brachyloma nguba</i>	16	34	47.06	SW	2200	NL
<i>Leucopogon</i>						
<i>fletcheri</i>	16	34	47.06	E	2200	NL
<i>Epacris longiflora</i>	109	231	47.19	E	8800	NL
<i>Leucopogon</i>						
<i>margarodes</i>	116	245	47.35	E	8800	NL
<i>Astrotricha roddii</i>	34	71	47.89	E	1500	EN
<i>Astroloma foliosum</i>	23	48	47.92	SW	600	NL
<i>Andersonia simplex</i>	73	152	48.03	SW	5800	NL
<i>Brachyloma</i>						
<i>daphnoides</i>	1732	3606	48.03	E,SE	137100	NL
<i>Acrotriche patula</i>	552	1144	48.25	SW,CS	39000	NL
<i>Lissanthe sapida</i>	45	93	48.39	E	4100	NL
<i>Epacris gunnii</i>	244	504	48.41	E,SE,TAS	30500	NL
<i>Epacris apleyensis</i>	19	39	48.72	TAS	600	EN
<i>Leucopogon</i>				SW,E,SE,		
<i>parviflorus</i>	1516	3082	49.19	CS,TAS	92300	NL
<i>Dracophyllum</i>						
<i>secundum</i>	113	229	49.34	E	8600	NL
<i>Leucopogon setiger</i>	50	101	49.50	E,SE	6900	NL
<i>Leucopogon</i>						
<i>pilibundus</i>	112	226	49.56		8700	NL
<i>Woollsia pungens</i>	259	522	49.62	E,EI	16800	NL
<i>Leucopogon</i>						
<i>revolutus</i>	188	377	49.87	SW	13300	NL
<i>Leucopogon</i>						
<i>tamariscinus</i>	64	128	50.00	SW	5300	NL
<i>Astrotricha</i>						
<i>parvifolia</i>	17	34	50.00	SE	1300	NL

<i>Leucopogon appressus</i>	18	36	50.00	E,SE	4300	NL
<i>Leucopogon fletcheri</i>						
<i>Leucopogon brevisepalus</i>	199	398	50.00		15400	NL
<i>Leucopogon gracilis</i>	26	52	50.00	SW,SE	2100	NL
<i>Leucopogon distans</i>	78	155	50.32	SW	5600	NL
<i>Leucopogon neoanglicus</i>	157	312	50.32	E	9600	NL
<i>Leucopogon crassifolius</i>	71	141	50.35	SW	5900	NL
<i>Trochocarpa laurina</i>	469	926	50.65	E	45400	NL
<i>Leptecophylla pendulosa</i>	78	153	50.98	TAS	5600	NL
<i>Acrotriche halmaturina</i>	69	135	51.11		3100	NL
<i>Conostephium drummondii</i>	39	76	51.32	SW	4700	NL
<i>Acrotriche cordata</i>	468	911	51.37	SW,SE,C S,TAS	39100	NL
<i>Brachyloma saxicola</i>	17	33	51.52	E	2200	NL
<i>Leucopogon carinatus</i>	97	188	51.60	SW,W	7900	NL
<i>Leucopogon costatus</i>	286	552	51.81	SE,CS	20300	NL
<i>Leucopogon obovatus</i>	57	110	51.82	SW	7800	NL
<i>Brachyloma depressum</i>	42	81	51.85	SE,TAS	3100	NL
<i>Epacris coriacea</i>	27	52	51.92	E,SE	2800	NL
<i>Leucopogon gibbosus</i>	119	227	52.42	SW	9800	NL
<i>Andersonia carinata</i>	27	51	52.94	SW	3100	NL
<i>Epacris calvertiana</i>	84	157	53.50	E	4800	NL
<i>Epacris lanuginosa</i>	401	748	53.61	SE,TAS	41400	NL
<i>Leucopogon woodsii</i>	207	385	53.77	SW,SE,C S	21400	NL
<i>Monotoca glauca</i>	341	634	53.79	SE,TAS	46100	NL
<i>Astrotricha obovata</i>	35	65	53.85	E	2700	NL
<i>Leucopogon esquamatus</i>	97	178	54.49	E,SE,TAS	10300	NL
<i>Astroloma sp. baal gammon</i>	17	31	54.84		600	NL
<i>Lysinema fimbriatum</i>	28	51	54.90	SW	2100	NL

<i>Leucopogon rufus</i>	566	1025	55.22	E,SE,CS	36600	NL
<i>Brachyloma ciliatum</i>	285	514	55.45	SE,TAS	32600	NL
<i>Andersonia sprengelioides</i>	98	176	55.68	SW	8300	NL
<i>Leptecophylla juniperina</i>	117	210	55.71	TAS	33700	NL
<i>Epacris obtusifolia</i>	686	1226	55.95	E,SE,TAS	45200	NL
<i>Leucopogon cordifolius</i>	367	652	56.29	W,SE,CS	40600	NL
<i>Acrotriche affinis</i>	261	458	56.99	SE	32500	NL
<i>Sprengelia incarnata</i>	766	1333	57.46	E,SE,CS, TAS	67100	NL
<i>Leucopogon rupicola</i>	34	59	57.63		1100	NL
<i>Epacris microphylla</i>	804	1383	58.13	E,SE,TAS	50000	NL
<i>Leucopogon breviflorus</i>	21	36	58.33	SW,W	2000	NL
<i>Leucopogon cordatus</i>	28	48	58.33	SW	2300	NL
<i>Epacris muelleri</i>	45	77	58.44	E	2400	NL
<i>Brachyloma scortechinii</i>	65	111	58.56	E	3400	NL
<i>Astroloma conostephioides</i>	2038	3454	59.00	SE,CS	77600	NL
<i>Monotoca elliptica</i>	283	477	59.33	E,SE,TAS	34200	NL
<i>Leptecophylla juniperina parvifolia</i>	182	304	59.87		21200	NL
<i>Brachyloma concolor</i>	26	43	60.47	SW	2600	NL
<i>Sphenotoma squarrose</i>	33	54	61.11	SW	2900	NL
<i>Leucopogon gelidus</i>	344	562	61.21	E,SE	14000	NL
<i>Astroloma prostratum</i>	68	111	61.26	SW	5800	NL
<i>Acrotriche rigida</i>	54	87	62.07	E	8100	NL
<i>Epacris paludosa</i>	744	1185	62.78	E,SE,TAS	25600	NL
<i>Monotoca tamariscina</i>	41	65	63.08	SW	3500	NL
<i>Styphelia adscendens</i>	420	665	63.16	E,SE,CS, TAS	26000	NL
<i>Acrotriche leucocarpa</i>	86	136	63.24	E,SE	3800	NL
<i>Richea dracophylla</i>	55	86	63.95	TAS	3400	NL
<i>Leucopogon cucullatus</i>	27	42	64.29	SW	1900	NL
<i>Leucopogon</i>	59	91	64.84		1200	NL

<i>recurvisepalus</i>						
<i>Trochocarpa disticha</i>	34	52	65.38	TAS	2600	NL
<i>Leucopogon glacialis</i>	324	489	66.26	SE	13200	NL
<i>Leucopogon maccraei</i>	40	59	67.80	E,SE	2000	NL
<i>Epacris breviflora</i>	419	618	67.80	E,SE	19600	NL
<i>Richea acerosa</i>	89	131	67.94	TAS	6100	NL
<i>Leucopogon gilbertii</i>	92	135	68.15	SW	4300	NL
<i>Epacris curtisiae</i>	28	41	68.29	TAS	1900	NL
<i>Leptecophylla juniperina oxycedrus</i>	33	48	68.75		5000	NL
<i>Astroloma tectum</i>	49	71	69.01	SW	4500	NL
<i>Astrotricha asperifolia</i>	136	196	69.39	E,SE	7300	NL
<i>Leucopogon sp. burrum heads</i>	34	49	69.39		1200	NL
<i>Andersonia auriculate</i>	96	137	70.07	SW	2000	NL
<i>Archeria eriocarpa</i>	73	104	70.19	TAS	7600	NL
<i>Pentachondra involucrata</i>	73	104	70.19	TAS	5200	NL
<i>Leucopogon oppositifolius</i>	77	109	70.64	SW,W	3700	NL
<i>Richea milliganii</i>	53	75	70.67	TAS	3900	NL
<i>Astroloma pinifolium</i>	449	627	71.61	E,SE,TAS	17400	NL
<i>Leucopogon polystachyus</i>	101	141	71.63	SW	3000	NL
<i>Leucopogon spathaceus</i>	83	115	72.17	NE,E	3400	NL
<i>Monotoca linifolia algida</i>	24	33	72.73		2300	NL
<i>Lysinema lasianthum</i>	73	100	73.00	SW	2700	NL
<i>Leucopogon pilifer</i>	75	102	73.53	E,SE	6300	NL
<i>Richea gunnii</i>	103	140	73.57	SE,TAS	6800	NL
<i>Epacris myrtifolia</i>	51	69	73.91	TAS	2500	NL
<i>Monotoca oligarrhenoides</i>	29	39	74.36	SW	2000	NL
<i>Astroloma microcalyx</i>	67	90	74.44	SW,W	2700	NL
<i>Trochocarpa clarkei</i>	105	141	74.47	SE	2800	NL
<i>Leucopogon</i>	33	44	75.00	SW,W	1600	NL

strongylophyllus

<i>Epacris petrophila</i>	175	230	76.09	E,SE,TAS	6600	NL
<i>Leucopogon</i>						
<i>flavescens</i>	48	63	76.19	SW	2100	NL
<i>Leucopogon</i>						
<i>unilateralis</i>	126	165	76.36	SW	7800	NL
<i>Prionotes</i>						
<i>cerinthoides</i>	149	194	76.80	TAS	11500	NL
<i>Trochocarpa gunnii</i>	142	183	77.60	TAS	15300	NL
<i>Astrotricha</i>						
<i>brachyandra</i>	33	42	78.57		700	NL
<i>Monotoca</i>						
<i>submutica</i>	135	171	78.95	TAS	15100	NL
<i>Leptecophylla</i>						
<i>pogonocalyx</i>	88	111	79.28	TAS	5100	NL
<i>Leucopogon</i>						
<i>riparius</i>	27	34	79.41	SE	500	NL
<i>Monotoca oreophila</i>	44	55	80.00	SE	900	NL
<i>Styphelia hainesii</i>	29	36	80.56	SW	2500	NL
<i>Trochocarpa</i>						
<i>cunninghamii</i>	170	210	80.95	TAS	16400	NL
<i>Leptecophylla</i>						
<i>abietina</i>	34	42	80.95	TAS	4700	NL
<i>Astrotricha glabra</i>	51	63	80.95	E	1800	NL
<i>Epacris marginata</i>	50	61	81.97	TAS	1900	NL
<i>Richea continentis</i>	551	672	81.99	SE	8700	NL
<i>Leucopogon</i>						
<i>cicatricatus</i>	32	39	82.05	E	1300	NL
<i>Rupicola</i>						
<i>sprengelioides</i>	32	39	82.05	E	1400	NL
<i>Leucopogon</i>						
<i>sonderensis</i>	83	101	82.18	CI	1200	NL
<i>Archeria hirtella</i>	81	98	82.65	TAS	6100	NL
<i>Acrotriche</i>						
<i>baileyana</i>	34	41	82.93	NE	600	NL
<i>Sphenotoma</i>						
<i>drummondii</i>	45	54	83.33	SW	2000	EN
<i>Planocarpa sulcata</i>	38	45	84.44	TAS	2300	NL
<i>Epacris</i>						
<i>corymbiflora</i>	88	104	84.62	TAS	5500	NL
<i>Richea scoparia</i>	215	251	85.66	TAS	11300	NL
<i>Andersonia</i>						
<i>axilliflora</i>	37	43	86.05	SW	1800	EN
<i>Leucopogon</i>						
<i>compactus</i>	32	37	86.49	SW,W	1100	NL
<i>Sphenotoma</i>						
<i>dracophylloides</i>	109	126	86.51	SW	3800	NL

<i>Planocarpa</i>							
<i>petiolaris</i>	113	130	86.92	TAS	6600	NL	
<i>Epacris barbata</i>	55	63	87.30	TAS	1100	CE	
<i>Monotoca</i>							
<i>empetrifolia</i>	56	64	87.50	TAS	5200	NL	
<i>Richea pandanifolia</i>	100	114	87.72	TAS	8500	NL	
<i>Epacris celata</i>	109	124	87.90	SE	3500	NL	
<i>Epacris heteronema</i>	113	128	88.28	TAS	7800	NL	
<i>Trochocarpa</i>							
<i>thymifolia</i>	140	158	88.61	TAS	4200	NL	
<i>Pentachondra</i>							
<i>pumila</i>	351	395	88.86	SE,TAS	14200	NL	
<i>Andersonia</i>							
<i>redolens</i>	65	73	89.04		2900	NL	
<i>Richea</i>							
<i>sprengelioides</i>	176	197	89.34	TAS	10400	NL	
<i>Andersonia</i>							
<i>grandiflora</i>	35	39	89.74	SW,W	1100	NL	
<i>Leucopogon</i>							
<i>oreophilus</i>	29	32	90.63	TAS	2200	NL	
<i>Epacris serpyllifolia</i>	300	331	90.63	SE,TAS	13500	NL	
<i>Epacris robusta</i>	151	166	90.96	E,SE	3000	NL	
<i>Budawangia</i>							
<i>gnidioides</i>	51	56	91.07	E	1300	VU	
<i>Leucopogon</i>							
<i>plumuliflorus</i>	48	52	92.31	SW	700	NL	
<i>Epacris glacialis</i>	162	175	92.57	SE	2600	NL	
<i>Epacris grandis</i>	51	55	92.73	TAS	1000	EN	
<i>Leucopogon</i>							
<i>apiculatus</i>	71	76	93.42	SW	1800	NL	
<i>Monotoca</i>							
<i>billawinica</i>	93	99	93.94	SE	1000	NL	
<i>Dracophyllum</i>							
<i>minimum</i>	63	67	94.03	TAS	2700	NL	
<i>Leucopogon</i>							
<i>thymifolius</i>	185	196	94.39	SE	2300	NL	
<i>Leucopogon</i>							
<i>lasiostachyus</i>	51	54	94.44	SW	1500	NL	
<i>Leptecophylla</i>							
<i>straminea</i>	128	135	94.81		6400	NL	
<i>Leptecophylla</i>							
<i>dealbata</i>	75	79	94.94		3400	NL	
<i>Leucopogon</i>							
<i>malayanus</i>							
<i>novoguineensis</i>	40	42	95.24		800	NL	
<i>Leucopogon</i>							
<i>atherolepis</i>	60	63	95.24	SW	1500	NL	
<i>Andersonia</i>	88	92	95.65	SW	1700	NL	

<i>echinocephala</i>						
<i>Leucopogon rotundifolius</i>	266	278	95.68	SW	7900	NL
<i>Archeria serpyllifolia</i>	113	118	95.76	TAS	5600	NL
<i>Dracophyllum milliganii</i>	107	111	96.40	TAS	5000	NL
<i>Monotoca rotundifolia</i>	59	61	96.72	SE	900	NL
<i>Leucopogon neurophyllus</i>	126	129	97.67	SE	1500	NL
<i>Epacris navicularis</i>	42	43	97.67	TAS	1700	NL
<i>Andersonia mitchell river (bg</i>						
hammersley 925	58	59	98.31		700	NL
<i>Leucopogon interruptus</i>	334	339	98.53	SW	17400	NL

Nine species had less than 10% of ANHAT records located within PAs (**Table 72**). None of the nine species are classified as threatened. Two species have no record sites listed within a PA. Five of the six species with accurate range information are from Western Australia. All have relatively small ranges, indicating the locations in which they occur are not covered well, or at all, by PAs.

Table 72 Epacridaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Lissanthe brevistyla</i>	0	38	0.00			300	NL
<i>Leucopogon infuscatus</i>	0	53	0.00	SW		900	NL
<i>Conostephium marchantiorum</i>	1	35	2.86	SW		1300	NL
<i>Leucopogon squarrosus</i>	1	31	3.23	SW		1800	NL
<i>Astroloma macrocalyx</i>	2	42	4.76	SW		2400	NL
<i>Melichrus sp. inglewood</i>	3	59	5.08			3500	NL
<i>Rupicola apiculata</i>	2	36	5.56	E		700	NL
<i>Epacris purpurascens</i>	11	119	9.24			4400	NL
<i>Leucopogon allittii</i>	3	32	9.38	W		2100	NL

A total of 20 Epacridaceae species had records in more than 100 separate PAs (**Table 73**). Most species in this list had over 1000 records, with an average of 3003 records per species. No species were classified as threatened.

Table 73 Epacridaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Acrotriche aggregata</i>	1203	104	74	NL
<i>Epacris obtusifolia</i>	1226	108	90	NL
<i>Epacris microphylla</i>	1383	109	92	NL
<i>Trochocarpa laurina</i>	926	114	87	NL
<i>Sprengelia incarnata</i>	1333	115	89	NL
<i>Acrotriche cordata</i>	911	116	71	NL
<i>Acrotriche patula</i>	1144	123	71	NL
<i>Leucopogon interruptus</i>	339	127	39	NL
<i>Melichrus urceolatus</i>	1774	143	100	NL
<i>Lissanthe strigosa subulata</i>	1536	152	87	NL
<i>Leucopogon ericoides</i>	1989	163	107	NL
<i>Leucopogon lanceolatus</i>	4009	175	144	NL
<i>Leucopogon parviflorus</i>	3082	227	141	NL
<i>Brachyloma daphnoides</i>	3606	229	142	NL
<i>Astroloma conostephioides</i>	3454	258	83	NL
<i>Monotoca scoparia</i>	4295	293	200	NL
<i>Leucopogon virgatus</i>	4817	303	144	NL
<i>Epacris impressa</i>	9937	327	154	NL
<i>Acrotriche serrulata</i>	6602	366	150	NL
<i>Astroloma humifusum</i>	6504	510	192	NL

A total of 94 species had records in five or fewer PAs (

Table 74), again including the two species with no record sites in the NRS. Nine species were classified as threatened, including one species classified as critically endangered and seven classified as endangered. The majority of species in this list had fewer than 100 individual site records, and no species had more than 200 site records.

Table 74 Epacridaceae species recorded from five or fewer PAs.

Species	No. Records	No. reserves	EPBC status
<i>Lissanthe brevistyla</i>	38	0	NL
<i>Leucopogon infuscatus</i>	53	0	NL
<i>Leucopogon squarrosus</i>	31	1	NL
<i>Conostephium marchantiorum</i>	35	1	NL
<i>Rupicola apiculata</i>	36	1	NL
<i>Planocarpa nitida</i>	37	1	NL
<i>Leucopogon lasiostachyus</i>	54	1	NL
<i>Astroloma sp. fitzgerald</i>	66	1	NL
<i>Astrotricha hamptonii</i>	77	1	NL
<i>Leucopogon sonderensis</i>	101	1	NL

<i>Leucopogon allittii</i>	32	2	NL
<i>Leucopogon</i> sp. <i>coolmunda</i>	34	2	NL
<i>Styphelia hainesii</i>	36	2	NL
<i>Leucopogon tetragonus</i>	37	2	NL
<i>Epacris apslleyensis</i>	39	2	EN
<i>Acrotriche baileyana</i>	41	2	NL
<i>Leucopogon marginatus</i>	42	2	EN
<i>Astrotricha brachyandra</i>	42	2	NL
<i>Astroloma macrocalyx</i>	42	2	NL
<i>Epacris rigida</i>	43	2	NL
<i>Leucopogon opponens</i>	44	2	NL
<i>Astroloma foliosum</i>	48	2	NL
<i>Epacris glabella</i>	62	2	EN
<i>Leucopogon atherolepis</i>	63	2	NL
<i>Astrotricha glabra</i>	63	2	NL
<i>Leucopogon denticulatus</i>	64	2	NL
<i>Leucopogon blakei</i>	72	2	NL
<i>Sprengelia monticola</i>	73	2	NL
<i>Leucopogon trichostylus</i>	109	2	NL
<i>Epacris glacialis</i>	175	2	NL
<i>Astroloma</i> sp. <i>baal gammon</i>	31	3	NL
<i>Leucopogon rodwayi</i>	33	3	NL
<i>Leucopogon riparius</i>	34	3	NL
<i>Andersonia brevifolia</i>	34	3	NL
<i>Sprengelia distichophylla</i>	36	3	NL
<i>Leucopogon imbricatus</i>	36	3	NL
<i>Rupicola sprengelioides</i>	39	3	NL
<i>Andersonia grandiflora</i>	39	3	NL
<i>Epacris curtisiae</i>	41	3	NL
<i>Leucopogon cucullatus</i>	42	3	NL
<i>Leucopogon malayanus</i>			
<i>novoguineensis</i>	42	3	NL
<i>Richea victoriana</i>	52	3	NL
<i>Leucopogon plumuliflorus</i>	52	3	NL
<i>Epacris grandis</i>	55	3	EN
<i>Budawangia gnidioides</i>	56	3	VU
<i>Andersonia mitchell river</i> (bg hammersley 925	59	3	NL
<i>Melichrus</i> sp. <i>inglewood</i>	59	3	NL
<i>Epacris barbata</i>	63	3	CE
<i>Leucopogon flexifolius</i>	68	3	NL
<i>Astrotricha roddii</i>	71	3	EN
<i>Epacris muelleri</i>	77	3	NL
<i>Trochocarpa</i>			
<i>bellendenkerensis</i>	87	3	NL
<i>Monotoca billawinica</i>	99	3	NL
<i>Dracophyllum sayeri</i>	109	3	NL
<i>Astrotricha biddulphiana</i>	182	3	NL
<i>Lissanthe pleiosperma</i>	32	4	NL
<i>Epacris franklinii</i>	33	4	NL

<i>Leucopogon compactus</i>	37	4	NL
<i>Leucopogon alternifolius</i>	39	4	NL
<i>Leptecophylla abietina</i>	42	4	NL
<i>Epacris navicularis</i>	43	4	NL
<i>Styphelia laeta</i>	43	4	NL
<i>Leucopogon crassiflorus</i>	47	4	NL
<i>Leucopogon</i> sp. <i>burrum heads</i>	49	4	NL
<i>Lysinema fimbriatum</i>	51	4	NL
<i>Sphenotoma drummondii</i>	54	4	EN
<i>Andersonia macranthera</i>	63	4	NL
<i>Astrotricha obovata</i>	65	4	NL
<i>Leucopogon strictus</i>	71	4	NL
<i>Astroloma stomarrhena</i>	73	4	NL
<i>Astroloma microcalyx</i>	90	4	NL
<i>Epacris corymbiflora</i>	104	4	NL
<i>Leucopogon leptanthus</i>	36	5	NL
<i>Andersonia gracilis</i>	39	5	EN
<i>Brachyloma preissii</i>	40	5	NL
<i>Leucopogon strongylophyllus</i>	44	5	NL
<i>Andersonia involucrata</i>	48	5	NL
<i>Leucopogon cordatus</i>	48	5	NL
<i>Epacris mucronulata</i>	50	5	NL
<i>Trochocarpa disticha</i>	52	5	NL
<i>Leucopogon insularis</i>	55	5	NL
<i>Monotoca oreophila</i>	55	5	NL
<i>Leucopogon macraei</i>	59	5	NL
<i>Leucopogon corynocarpus</i>	60	5	NL
<i>Epacris marginata</i>	61	5	NL
<i>Monotoca rotundifolia</i>	61	5	NL
<i>Epacris myrtifolia</i>	69	5	NL
<i>Leucopogon apiculatus</i>	76	5	NL
<i>Lysinema elegans</i>	90	5	NL
<i>Andersonia echinocephala</i>	92	5	NL
<i>Epacris reclinata</i>	110	5	NL
<i>Brachyloma scortechinii</i>	111	5	NL
<i>Epacris purpurascens</i>	119	5	NL
<i>Leucopogon thymifolius</i>	196	5	NL

One hundred and nineteen species of Epacridaceae had records in five or fewer PAs greater than 1000 hectares, representing about one quarter of the species with over 30 records. This includes 12 species classified as threatened (

Table 75), with one listed as critically endangered and eight listed as endangered.

Table 75 Epacridaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs	EPBC status
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	>1000ha		
<i>Leucopogon squarrosus</i>	31	1	NL
<i>Leucopogon</i> sp.			
<i>Coolmunda</i>	34	1	NL
<i>Conostephium</i>			
<i>marchantiorum</i>	35	1	NL
<i>Rupicola apiculata</i>	36	1	NL
<i>Planocarpa nitida</i>	37	1	NL
<i>Epacris apsleyensis</i>	39	1	EN
<i>Astroloma foliosum</i>	48	1	NL
<i>Leucopogon lasiostachyus</i>	54	1	NL
<i>Leucopogon denticulatus</i>	64	1	NL
<i>Astroloma</i> sp. <i>fitzgerald</i>	66	1	NL
<i>Astrotricha hamptonii</i>	77	1	NL
<i>Leucopogon sonderensis</i>	101	1	NL
<i>Leucopogon trichostylus</i>	109	1	NL
<i>Leucopogon allittii</i>	32	2	NL
<i>Leucopogon imbricatus</i>	36	2	NL
<i>Styphelia hainesii</i>	36	2	NL
<i>Leucopogon tetragonus</i>	37	2	NL
<i>Acrotriche baileyana</i>	41	2	NL
<i>Astroloma macrocalyx</i>	42	2	NL
<i>Astrotricha brachyandra</i>	42	2	NL
<i>Leucopogon cucullatus</i>	42	2	NL
<i>Leucopogon florulentus</i>	42	2	NL
<i>Leucopogon marginatus</i>	42	2	EN
<i>Epacris rigida</i>	43	2	NL
<i>Leucopogon opponens</i>	44	2	NL
<i>Leucopogon crassiflorus</i>	47	2	NL
<i>Richea victoriana</i>	52	2	NL
<i>Andersonia mitchell river</i>			
(bg hammersley 925	59	2	NL
<i>Epacris glabella</i>	62	2	EN
<i>Astrotricha glabra</i>	63	2	NL
<i>Leucopogon atherolepis</i>	63	2	NL
<i>Leucopogon blakei</i>	72	2	NL
<i>Sprengelia monticola</i>	73	2	NL
<i>Epacris glacialis</i>	175	2	NL
<i>Astroloma</i> sp. <i>baal</i>			
<i>gammon</i>	31	3	NL
<i>Leucopogon rodwayi</i>	33	3	NL
<i>Andersonia brevifolia</i>	34	3	NL
<i>Leucopogon riparius</i>	34	3	NL
<i>Leucopogon glaucifolius</i>	36	3	NL
<i>Sprengelia distichophylla</i>	36	3	NL
<i>Andersonia gracilis</i>	39	3	EN
<i>Andersonia grandiflora</i>	39	3	NL
<i>Leucopogon alternifolius</i>	39	3	NL
<i>Rupicola sprengelioides</i>	39	3	NL
<i>Epacris curtisiae</i>	41	3	NL

<i>Leptecophylla abietina</i>	42	3	NL
<i>Leucopogon malayanus</i>			
<i>novoguineensis</i>	42	3	NL
<i>Lysinema fimbriatum</i>	51	3	NL
<i>Leucopogon plumuliflorus</i>	52	3	NL
<i>Epacris grandis</i>	55	3	EN
<i>Budawangia gnidioides</i>	56	3	VU
<i>Melichrus</i> sp. <i>inglewood</i>	59	3	NL
<i>Epacris barbata</i>	63	3	CE
<i>Leucopogon flexifolius</i>	68	3	NL
<i>Astrotricha roddii</i>	71	3	EN
<i>Epacris muelleri</i>	77	3	NL
<i>Trochocarpa</i>			
<i>bellendenkerensis</i>	87	3	NL
<i>Monotoca billawinica</i>	99	3	NL
<i>Dracophyllum sayeri</i>	109	3	NL
<i>Epacris virgata</i>	136	3	EN
<i>Astrotricha biddulphiana</i>	182	3	NL
<i>Acrotriche fasciculiflora</i>	339	3	NL
<i>Lissanthe pleiosperma</i>	32	4	NL
<i>Epacris franklinii</i>	33	4	NL
<i>Astrotricha parvifolia</i>	34	4	NL
<i>Leucopogon compactus</i>	37	4	NL
<i>Epacris navicularis</i>	43	4	NL
<i>Pentachondra ericifolia</i>	43	4	NL
<i>Styphelia laeta</i>	43	4	NL
<i>Leucopogon cordatus</i>	48	4	NL
<i>Leucopogon</i> sp. <i>burrum</i>			
<i>heads</i>	49	4	NL
<i>Epacris mucronulata</i>	50	4	NL
<i>Andersonia carinata</i>	51	4	NL
<i>Sphenotoma drummondii</i>	54	4	EN
<i>Monotoca oreophila</i>	55	4	NL
<i>Leucopogon rupicola</i>	59	4	NL
<i>Leucopogon corynocarpus</i>	60	4	NL
<i>Epacris marginata</i>	61	4	NL
<i>Monotoca rotundifolia</i>	61	4	NL
<i>Leucopogon elegans</i>	62	4	NL
<i>Andersonia macranthera</i>	63	4	NL
<i>Astrotricha obovata</i>	65	4	NL
<i>Epacris myrtifolia</i>	69	4	NL
<i>Leucopogon strictus</i>	71	4	NL
<i>Astroloma stomarrhena</i>	73	4	NL
<i>Leucopogon apiculatus</i>	76	4	NL
<i>Astroloma microcalyx</i>	90	4	NL
<i>Lysinema elegans</i>	90	4	NL
<i>Leucopogon</i>			
<i>recurvisepalus</i>	91	4	NL
<i>Epacris corymbiflora</i>	104	4	NL
<i>Brachyloma scortechinii</i>	111	4	NL

<i>Epacris purpurascens</i>	119	4	NL
<i>Acrotriche halmaturina</i>	135	4	NL
<i>Epacris acuminata</i>	141	4	VU
<i>Leucopogon thymifolius</i>	196	4	NL
<i>Leucopogon rotundifolius</i>	278	4	NL
<i>Leucopogon fletcheri</i>	34	5	NL
<i>Leucopogon leptanthus</i>	36	5	NL
<i>Brachyloma preissii</i>	40	5	NL
<i>Brachyloma concolor</i>	43	5	NL
<i>Leucopogon strongylophyllus</i>	44	5	NL
<i>Andersonia involucrata</i>	48	5	NL
<i>Trochocarpa disticha</i>	52	5	NL
<i>Leucopogon insularis</i>	55	5	NL
<i>Leucopogon maccraei</i>	59	5	NL
<i>Leucopogon gracillimus</i>	66	5	NL
<i>Lissanthe rubicunda</i>	70	5	NL
<i>Andersonia redolens</i>	73	5	NL
<i>Acrotriche ramiflora</i>	81	5	NL
<i>Leucopogon cymbiformis</i>	81	5	NL
<i>Astrotricha umbrosa</i>	88	5	NL
<i>Andersonia echinocephala</i>	92	5	NL
<i>Archeria hirtella</i>	98	5	NL
<i>Leucopogon oppositifolius</i>	109	5	NL
<i>Epacris reclinata</i>	110	5	NL
<i>Epacris celata</i>	124	5	NL
<i>Leucopogon neurophyllus</i>	129	5	NL
<i>Trochocarpa clarkei</i>	141	5	NL
<i>Leucopogon cuspidatus</i>	224	5	VU

Chenopodiaceae

The ANHAT database has 188712 records for 365 species and subspecies of Chenopodiaceae. No species of Chenopodiaceae are considered extinct.

Forty-eight species account for approximately 50% of the total species records in ANHAT (

Table 76). These species have over 1000 records each, and, in the case of the *Enchylaena tomentosa tomentosa*, over 9500 records.

Table 76 Chenopodiaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Maireana astrotricha</i>	1120	0.54
<i>Chenopodium desertorum</i>	1123	0.54
<i>Chenopodium cristatum</i>	1146	0.55
<i>Chenopodium curvispicatum</i>	1232	0.59
<i>Sclerolaena divaricata</i>	1262	0.61
<i>Sclerolaena convexula</i>	1279	0.62
<i>Chenopodium desertorum desertorum</i>	1298	0.62
<i>Maireana turbinata</i>	1302	0.63
<i>Atriplex paludosa</i>	1311	0.63
<i>Sclerolaena brachyptera</i>	1324	0.64
<i>Atriplex leptocarpa</i>	1337	0.64
<i>Maireana villosa</i>	1342	0.65
<i>Halosarcia indica leiostachya</i>	1351	0.65
<i>Einadia hastata</i>	1351	0.65
<i>Maireana triptera</i>	1360	0.65
<i>Chenopodium pumilio</i>	1373	0.66
<i>Atriplex stipitata</i>	1406	0.68
<i>Atriplex spongiosa</i>	1417	0.68
<i>Maireana aphylla</i>	1445	0.70
<i>Sclerolaena patentiuspis</i>	1464	0.70
<i>Sclerolaena uniflora</i>	1474	0.71
<i>Sclerolaena intricata</i>	1489	0.72
<i>Maireana pentatropis</i>	1535	0.74
<i>Rhagodia crassifolia</i>	1615	0.78
<i>Sarcocornia quinqueflora</i>	1662	0.80
<i>Suaeda australis</i>	1688	0.81
<i>Maireana erioclada</i>	1690	0.81
<i>Maireana sedifolia</i>	1714	0.82
<i>Maireana trichoptera</i>	1998	0.96
<i>Atriplex holocarpa</i>	2039	0.98
<i>Maireana pyramidata</i>	2069	1.00
<i>Rhagodia parabolica</i>	2106	1.01
<i>Maireana enchylaenoides</i>	2124	1.02
<i>Threlkeldia diffusa</i>	2128	1.02

<i>Sclerolaena lanicuspis</i>	2191	1.05
<i>Eriochiton sclerolaenoides</i>	2259	1.09
<i>Dissocarpus paradoxus</i>	2355	1.13
<i>Enchylaena tomentosa</i>	2360	1.14
<i>Maireana georgei</i>	2521	1.21
<i>Maireana brevifolia</i>	2552	1.23
<i>Atriplex semibaccata</i>	2797	1.35
<i>Sclerolaena obliquicuspis</i>	3041	1.46
<i>Rhagodia candolleana candolleana</i>	3072	1.48
<i>Rhagodia spinescens</i>	3731	1.80
<i>Atriplex vesicaria</i>	4535	2.18
<i>Einadia nutans nutans</i>	5293	2.55
<i>Sclerolaena diacantha</i>	6227	3.00
<i>Enchylaena tomentosa tomentosa</i>	9555	4.60
Total	104063	50.08

Forty-seven species had 30 or fewer individual site records in the ANHAT database (**Table 77**). Of those species, three species are classified as vulnerable. The majority of these species are from Western Australia, few are from northern Australia, just over half have known ranges of less than 1000 km² and none have a known range of greater than 3600 km². These species have been excluded from analysis but are included here for reference. Exclusion of these poorly recorded species eliminates 674 records.

Table 77 Chenopodiaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Atriplex humilis</i>	1	0.00	CN		100	NL
<i>Halosarcia koobabbiensis</i>	1	0.00	W		100	NL
<i>Threlkeldia salsuginosa</i>	1	0.00			100	NL
<i>Halosarcia pterygosperma denticulata</i>	10	0.00				NL
<i>Maireana murrayana</i>	10	0.00			400	NL
<i>Atriplex vesicaria incompta</i>	11	18.18			800	NL
<i>Rhagodia candolleana argentea</i>	11	63.64			1000	NL
<i>Atriplex cornigera</i>	12	0.00	EI		400	NL
<i>Halosarcia entrichoma</i>	13	84.62	SW		400	NL
<i>Halosarcia halocnemoides catenulata</i>	13	15.38				NL
<i>Sclerolaena walkeri</i>	13	46.15			400	VU
<i>Halosarcia leptoclada</i>	14	21.43	W		1400	NL

<i>Sclerolaena</i>					
<i>medicaginoides</i>	14	0.00	W	600	NL
<i>Halosarcia lake moore</i>	15	6.67		1600	NL
<i>Sclerolaena stylosa</i>	16	25.00	W	700	NL
<i>Dysphania glandulosa</i>	17	23.53		1300	NL
<i>Sarcocornia</i>					
<i>quinqueflora tasmanica</i>	17	41.18		3000	NL
<i>Halosarcia fontinalis</i>	18	38.89			NL
<i>Rhagodia latifolia</i>					
<i>latifolia</i>	18	27.78		2100	NL
<i>Atriplex vesicaria minor</i>	19	10.53		1000	NL
<i>Rhagodia latifolia</i>	19	21.05		1900	NL
<i>Atriplex canescens</i>	2	0.00	W	200	NL
<i>Salicornia quinqueflora</i>	2	0.00	SE	3600	NL
<i>Chenopodium hubbardii</i>	20	0.00	EI	900	NL
<i>Eremophea aggregata</i>	20	20.00	W	800	NL
<i>Atriplex spinulosa</i>	23	0.00	W	700	NL
<i>Halosarcia fimbriata</i>	23	13.04	W	800	NL
<i>Atriplex flabelliformis</i>	24	0.00	W	1400	NL
<i>Halosarcia</i>					
<i>halocnemoides caudata</i>	24	16.67			NL
<i>Maireana</i>					
<i>prosthecochaeta</i>	24	41.67	W	1500	NL
<i>Atriplex lindleyi</i>					
<i>quadripartita</i>	25	8.00		1400	NL
<i>Chenopodium erosum</i>	25	52.00	E,SE	1300	NL
<i>Rhagodia acicularis</i>	25	8.00	SW	500	VU
<i>Einadia nutans oxycarpa</i>	26	7.69		1800	NL
<i>Sclerolaena alata</i>	26	30.77	W	1500	NL
<i>Halosarcia</i>					
<i>pterygosperma</i>	27	22.22	W		NL
<i>Atriplex paludosa</i>					
<i>moquiniana</i>	3	66.67		800	NL
<i>Rhagodia latifolia recta</i>	3	0.00		500	NL
<i>Atriplex morrisii</i>	30	0.00	CS	1000	NL
<i>Halosarcia chartacea</i>	4	0.00		100	NL
<i>Rhagodia baccata dioica</i>	6	0.00		1300	NL
<i>Sclerolaena forrestiana</i>	7	0.00	W	600	NL
<i>Atriplex infrequens</i>	8	0.00		700	VU
<i>Einadia trigonos</i>					
<i>leiocarpa</i>	8	12.50		600	NL
<i>Halosarcia bulbosa</i>	8	0.00	W	400	VU
<i>Dysphania valida</i>	9	0.00		300	NL
<i>Osteocarpum</i>					
<i>scleropterum</i>	9	0.00		500	NL

Removal of extinct and poorly recorded species leaves 188038 records in ANHAT for 318 species (and subspecies). The mean number of records per species for species

with greater than 30 records was 591, with a mean of 19.4 for the percent of records in the NRS.

Eighteen species of Chenopodiaceae had 45% or greater of individual site records located within PAs (

Table 78). None of those 18 species were listed as threatened under the EPBC Act. A relatively large number of these species occur in the central southern or central inland parts of Australia. Several have ranges greater than 50000 km². None have more than 80% of their record sites within the NRS.

Table 78 Chenopodiaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Rhagodia candolleana</i>	1413	3072	46.00			85000	NL
<i>Halosarcia halocnemoides</i>	234	498	46.99				NL
<i>Chenopodium desertorum</i>	528	1123	47.02	E,CS		63800	NL
<i>Atriplex billarderei</i>	19	40	47.50			4900	NL
<i>Sclerolaena symoniana</i>	48	101	47.52	CI,CS,WI		2900	NL
<i>Sclerostegia moniliformis</i>	29	61	47.54	SW,W		3600	NL
<i>Sclerolaena stelligera</i>	228	468	48.72	E		22100	NL
<i>Halosarcia pluriflora</i>	45	90	50.00	CI,CS		2800	NL
<i>Rhagodia crassifolia</i>	828	1615	51.27	SW,CS		68500	NL
<i>Dissocarpus latifolius</i>	40	77	51.95	CI		3300	NL
<i>Tegicornia uniflora</i>	37	71	52.11	SW SW,CI,C		1600	NL
<i>Maireana oppositifolia</i>	501	934	53.64	S		34500	NL
<i>Atriplex paludosa cordata</i>	280	508	55.12			14500	NL
<i>Sclerochlamys brachyptera</i>	360	649	55.47			17700	NL
<i>Threlkeldia diffusa</i>	1259	2128	59.16	NW,SW, W,SE,CS		68200	NL
<i>Atriplex papillata</i>	77	130	59.23			4300	NL
<i>Sclerolaena fontinalis</i>	22	35	62.86	CI		1900	NL
<i>Atriplex paludosa</i>	1040	1311	79.33	SW,CS		27100	NL

Seventy-three species had less than 10% of ANHAT records located within PAs (**Table 79**), with four having no records in a PA. This is a bit less than one quarter of

all species with more than 30 records and is a much greater proportion than have reservation levels greater than 45%. Two of the 73 species are classified as threatened, including one endangered species. A relatively large proportion of these species come from inland areas of Australia, from where species of this family are well known. The known range areas vary quite widely in size.

Table 79 Chenopodiaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Atriplex kochiana</i>	0	39	0.00	CI,CS		1500	NL
<i>Roycea spinescens</i>	0	41	0.00	SW,W		1400	NL
<i>Malacocera biflora</i>	0	72	0.00	CI		3300	NL
<i>Dissocarpus biflorus</i>	0	133	0.00			6700	NL
<i>cephalocarpus</i>							
<i>Atriplex quadrivalvata</i>		72	1.39			3700	NL
<i>quadrivalvata</i>	1						
<i>Einadia nutans</i>							
<i>linifolia</i>	5	357	1.40			33100	NL
<i>Atriplex eichleri</i>	2	97	2.06	CI,CS		4400	NL
<i>Sclerolaena tridens</i>	1	46	2.17	W		3100	NL
<i>Maireana marginata</i>	3	137	2.19	SW		9300	NL
<i>Chenopodium</i>							
<i>desertorum virosum</i>	1	44	2.27			3400	NL
<i>Sclerolaena urceolata</i>	2	88	2.27	CI		3100	NL
<i>Dissocarpus fontinalis</i>	2	86	2.33	CI,CS		4200	NL
<i>Sclerolaena</i>							
<i>fimbriolata</i>	2	86	2.33	W,WI		3700	NL
<i>Sclerolaena bicornis</i>							
<i>horrida</i>	7	240	2.92			14900	NL
<i>Halosarcia auriculata</i>	1	34	2.94	NW,W		2400	NL
<i>Atriplex cordifolia</i>	3	102	2.94	CI,CS		4500	NL
<i>Maireana</i>							
<i>melanocarpa</i>	2	65	3.08	CI,CS		2800	VU
<i>Sclerolaena minuta</i>	2	65	3.08	CI		2700	NL
<i>Sclerolaena bicuspis</i>	1	32	3.13	CI,CS		1500	NL
<i>Halosarcia</i>							
<i>pergranulata</i>							
<i>queenslandica</i>	1	31	3.23				NL
<i>Sclerolaena</i>							
<i>napiformis</i>	4	117	3.42	SE		3200	EN
<i>Einadia polygonoides</i>	9	207	4.35	E		26200	NL
<i>Sclerolaena blackiana</i>	8	180	4.44	CI		5700	NL
<i>Atriplex amnicola</i>	7	149	4.70	SW,W		8000	NL

<i>Maireana atkinsiana</i>	5	104	4.81	W	5100	NL
<i>Atriplex obconica</i>	4	83	4.82	CI	4400	NL
<i>Einadia trigonos</i> <i>stellulata</i>	8	164	4.88		10900	NL
<i>Sclerolaena tatei</i>	9	180	5.00	CI,CS	7800	NL
<i>Sclerolaena birchii</i>	36	691	5.21	E,EI,CI	61300	NL
<i>Maireana convexa</i>	10	186	5.38	W,WI	9200	NL
<i>Atriplex quadrivalvata</i> <i>sessilifolia</i>	2	37	5.41		2000	NL
<i>Sclerolaena</i> <i>recurvuspis</i>	4	73	5.48	W	4400	NL
<i>Atriplex turbinata</i>	6	108	5.56	CI,CS	4800	NL
<i>Maireana diffusa</i>	2	35	5.71	SW,W	1300	NL
<i>Halosarcia calyptrata</i>	3	52	5.77	W,CI,WI	2700	NL
<i>Dissocarpus biflorus</i>	5	83	6.02	CI,CS	7800	NL
<i>Sclerolaena</i> <i>anisacanthoides</i>	13	210	6.19	E,EI	9700	NL
<i>Roycea divaricata</i>	2	32	6.25	SW,W	1700	NL
<i>Atriplex nummularia</i> <i>omissa</i>	11	172	6.40		9800	NL
<i>Sclerolaena</i> <i>drummondii</i>	5	78	6.41	SW,W	5600	NL
<i>Atriplex quadrivalvata</i>	6	90	6.67		6300	NL
<i>Sclerolaena ramulosa</i>	9	134	6.72	EI	5000	NL
<i>Maireana platycarpa</i>	9	132	6.82	SW,W,WI	7300	NL
<i>Enchylaena lanata</i>	15	214	7.01	SW	13900	NL
<i>Maireana microphylla</i>	47	658	7.14	E,EI	60300	NL
<i>Atriplex quinii</i>	24	335	7.16	CI,CS	15000	NL
<i>Maireana microcarpa</i>	21	286	7.34	E,CI	13900	NL
<i>Maireana eriantha</i>	27	365	7.40	CI,CS	15700	NL
<i>Atriplex incrassata</i>	10	132	7.58	CI,CS	6100	NL
<i>Sclerolaena</i> <i>tetracuspis</i>	14	184	7.61	E	9900	NL
<i>Chenopodium</i> <i>auricomiforme</i>	3	39	7.69	E	2000	NL
<i>Maireana glomerifolia</i>	12	152	7.89	SW,W,WI	9300	NL
<i>Maireana lanosa</i>	8	101	7.92	EI,W,CI	6000	NL
<i>Atriplex vesicaria</i> <i>calcicola</i>	8	100	8.00		5200	NL
<i>Sclerolaena</i> <i>eurotioides</i>	15	185	8.11	SW,W,WI	11000	NL
<i>Sclerostegia medullosa</i>	15	185	8.11	CI,CS SW,EI,W,CI	6900	NL
<i>Maireana carnososa</i>	43	498	8.63	,WI	27800	NL

<i>Atriplex vesicaria sphaerocarpa</i>	7	80	8.75		3900	NL
<i>Maireana astrotricha</i>	98	1120	8.75	CI,CS	58800	NL
<i>Sclerolaena ventricosa</i>	97	1107	8.76	E,EI,CI,CS	50000	NL
<i>Dissocarpus biflorus villosus</i>	3	34	8.82		2200	NL
<i>Halosarcia indica julacea</i>	3	34	8.82			NL
<i>Atriplex nessorhina</i>	12	133	9.02		4400	NL
<i>Maireana schistocarpa</i>	17	186	9.14	CI	8300	NL
<i>Threlkeldia inchoata</i>	11	118	9.32	CI	6100	NL
<i>Sclerolaena limbata</i>	33	352	9.38	CI,CS	19000	NL
<i>Maireana aphylla</i>	136	1445	9.41	E,W,CI,CS	88500	NL
<i>Sclerolaena muricata semiglabra</i>	20	209	9.57		17400	NL
<i>Halosarcia peltata</i>	7	73	9.59	SW,W	4500	NL
<i>Halosarcia leptoclada inclusa</i>	3	31	9.68		2000	NL
<i>Atriplex fissivalvis</i>	37	378	9.79	CI,CS	17800	NL
<i>Sclerolaena bicornis</i>	66	667	9.90		51300	NL
<i>Sclerolaena muricata villosa</i>	45	450	10.00		25200	NL

A total of 22 Chenopodiaceae species had records in more than 100 separate PAs (Act.

Table 80). All species in this list had over 1000 records, with an average of 2791 records per species. No species were listed as threatened under the EPBC Act.

Table 80 Chenopodiaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Chenopodium desertorum microphyllum</i>	1037	101	41	NL
<i>Maireana trichoptera</i>	1998	101	75	NL
<i>Chenopodium curvispicatum</i>	1232	111	54	NL
<i>Eriochiton sclerolaenoides</i>	2259	111	68	NL
<i>Einadia hastata</i>	1351	113	78	NL
<i>Suaeda australis</i>	1688	114	64	NL
<i>Maireana erioclada</i>	1690	114	65	NL
<i>Chenopodium pumilio</i>	1373	118	70	NL
<i>Chenopodium desertorum</i>	1123	120	50	NL
<i>Rhagodia crassifolia</i>	1615	131	67	NL
<i>Enchylaena tomentosa</i>	2360	135	108	NL
<i>Sarcocornia quinqueflora</i>	1662	137	76	NL
<i>Atriplex semibaccata</i>	2797	140	44	NL

<i>Rhagodia spinescens</i>	3731	140	91	NL
<i>Threlkeldia diffusa</i>	2128	141	87	NL
<i>Atriplex vesicaria</i>	4535	143	102	NL
<i>Maireana brevifolia</i>	2552	149	58	NL
<i>Maireana enchylaenoides</i>	2124	155	47	NL
<i>Rhagodia candolleana candolleana</i>	3072	198	107	NL
<i>Sclerolaena diacantha</i>	6227	319	153	NL
<i>Einadia nutans nutans</i>	5293	335	143	NL
<i>Enchylaena tomentosa tomentose</i>	9555	409	165	NL

A total of 85 species had records in five or fewer PAs (

Table 81), which is just over 25% of all of the better-known species. Two species are listed as threatened, including one species classified as endangered. The majority of species in this list had fewer than 100 individual site records and no species had more than 400 site records.

Table 81 Chenopodiaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Atriplex kochiana</i>	39	0	NL
<i>Roycea spinescens</i>	41	0	NL
<i>Malacocera biflora</i>	72	0	NL
<i>Dissocarpus biflorus cephalocarpus</i>	133	0	NL
<i>Halosarcia pergranulata queenslandica</i>	31	1	NL
<i>Sclerolaena bicuspis</i>	32	1	NL
<i>Halosarcia auriculata</i>	34	1	NL
<i>Dissocarpus biflorus villosus</i>	34	1	NL
<i>Maireana diffusa</i>	35	1	NL
<i>Sclerolaena muelleri</i>	36	1	NL
<i>Atriplex quadrivalvata sessilifolia</i>	37	1	NL
<i>Sclerolaena hostilis</i>	37	1	NL
<i>Chenopodium desertorum virosum</i>	44	1	NL
<i>Sclerolaena tridens</i>	46	1	NL
<i>Sclerolaena minuta</i>	65	1	NL
<i>Atriplex quadrivalvata quadrivalvata</i>	72	1	NL
<i>Atriplex vesicaria sphaerocarpa</i>	80	1	NL
<i>Dissocarpus fontinalis</i>	86	1	NL
<i>Sclerolaena fimbriolata</i>	86	1	NL
<i>Atriplex eichleri</i>	97	1	NL
<i>Threlkeldia inchoata</i>	118	1	NL
<i>Atriplex acutiloba</i>	31	2	NL
<i>Roycea divaricata</i>	32	2	NL
<i>Osteocarpum pentapterum</i>	33	2	NL
<i>Chenopodium auricomiforme</i>	39	2	NL
<i>Maireana cannonii</i>	50	2	NL
<i>Halosarcia calyptrata</i>	52	2	NL
<i>Malacocera gracilis</i>	53	2	NL
<i>Maireana dichoptera</i>	56	2	NL

<i>Atriplex cryptocarpa</i>	63	2	NL
<i>Maireana melanocarpa</i>	65	2	VU
<i>Sclerolaena recurvicauspis</i>	73	2	NL
<i>Atriplex obconica</i>	83	2	NL
<i>Sclerolaena articulata</i>	86	2	NL
<i>Sclerolaena urceolata</i>	88	2	NL
<i>Atriplex cordifolia</i>	102	2	NL
<i>Atriplex turbinata</i>	108	2	NL
<i>Sclerolaena napiformis</i>	117	2	EN
<i>Atriplex nessorhina</i>	133	2	NL
<i>Maireana marginata</i>	137	2	NL
<i>Halosarcia leptoclada inclusa</i>	31	3	NL
<i>Halosarcia indica julacea</i>	34	3	NL
<i>Sclerolaena fontinalis</i>	35	3	NL
<i>Halosarcia cupuliformis</i>	38	3	NL
<i>Maireana polypterygia</i>	41	3	NL
<i>Tecticornia arborea</i>	58	3	NL
<i>Sclerolaena crenata</i>	67	3	NL
<i>Maireana tomentosa urceolata</i>	68	3	NL
<i>Dissocarpus biflorus</i>	83	3	NL
<i>Maireana eriosphaera</i>	85	3	NL
<i>Sclerolaena everistiana</i>	86	3	NL
<i>Sclerolaena symoniana</i>	101	3	NL
<i>Sclerolaena ramulosa</i>	134	3	NL
<i>Sclerolaena blackiana</i>	180	3	NL
<i>Sclerolaena bicornis horrida</i>	240	3	NL
<i>Einadia nutans linifolia</i>	357	3	NL
<i>Atriplex paludosa baudinii</i>	35	4	NL
<i>Sclerolaena burbridgeae</i>	35	4	NL
<i>Halosarcia nitida</i>	51	4	NL
<i>Atriplex sturtii</i>	70	4	NL
<i>Sclerolaena drummondii</i>	78	4	NL
<i>Chenopodium saxatile</i>	79	4	NL
<i>Atriplex quadrivalvata</i>	90	4	NL
<i>Atriplex macropterocarpha</i>	91	4	NL
<i>Atriplex vesicaria calcicola</i>	100	4	NL
<i>Maireana atkinsiana</i>	104	4	NL
<i>Atriplex humifusa</i>	106	4	NL
<i>Atriplex lobativalvis</i>	140	4	NL
<i>Atriplex amnicola</i>	149	4	NL
<i>Atriplex nummularia omissa</i>	172	4	NL
<i>Sclerolaena tatei</i>	180	4	NL
<i>Sclerostegia medullosa</i>	185	4	NL
<i>Einadia polygonoides</i>	207	4	NL
<i>Maireana stipitata</i>	37	5	NL
<i>Atriplex crassipes crassipes</i>	47	5	NL
<i>Atriplex hypoleuca</i>	56	5	NL
<i>Halosarcia pergranulata elongata</i>	58	5	NL
<i>Halosarcia peltata</i>	73	5	NL
<i>Maireana ovata</i>	121	5	NL

<i>Atriplex incrassata</i>	132	5	NL
<i>Maireana platycarpa</i>	132	5	NL
<i>Einadia trigonos stellulata</i>	164	5	NL
<i>Atriplex intermedia</i>	184	5	NL
<i>Sclerolaena anisacanthoides</i>	210	5	NL
<i>Atriplex quinii</i>	335	5	NL

Ninety-six species of Chenopodiaceae had records in five or fewer PAs greater than 1000 hectares, including five species classified as threatened. Two of these are listed as endangered (**Table 82**). Six species do not have records in any of these larger PAs. **Table 82** Chenopodiaceae species recorded in five or fewer PAs greater than 1000 ha

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Atriplex kochiana</i>	39	0	NL
<i>Roycea spinescens</i>	41	0	NL
<i>Chenopodium desertorum virosum</i>	44	0	NL
<i>Malacocera biflora</i>	72	0	NL
<i>Sclerolaena napiformis</i>	117	0	EN
<i>Dissocarpus biflorus cephalocarpus</i>	133	0	NL
<i>Atriplex acutiloba</i>	31	1	NL
<i>Halosarcia leptoclada inclusa</i>	31	1	NL
<i>Halosarcia pergranulata queenslandica</i>	31	1	NL
<i>Sclerolaena bicuspis</i>	32	1	NL
<i>Dissocarpus biflorus villosus</i>	34	1	NL
<i>Halosarcia auriculata</i>	34	1	NL
<i>Maireana diffusa</i>	35	1	NL
<i>Sclerolaena muelleri</i>	36	1	NL
<i>Atriplex quadrivalvata sessilifolia</i>	37	1	NL
<i>Sclerolaena hostilis</i>	37	1	NL
<i>Chenopodium auricomiforme</i>	39	1	NL
<i>Sclerolaena tridens</i>	46	1	NL
<i>Sclerolaena minuta</i>	65	1	NL
<i>Atriplex quadrivalvata quadrivalvata</i>	72	1	NL
<i>Atriplex vesicaria sphaerocarpa</i>	80	1	NL
<i>Dissocarpus fontinalis</i>	86	1	NL
<i>Sclerolaena fimbriolata</i>	86	1	NL
<i>Atriplex eichleri</i>	97	1	NL
<i>Threlkeldia inchoata</i>	118	1	NL
<i>Maireana cheelii</i>	125	1	VU
<i>Roycea divaricata</i>	32	2	NL
<i>Osteocarpum pentapterum</i>	33	2	NL
<i>Halosarcia indica julacea</i>	34	2	NL
<i>Maireana cannonii</i>	50	2	NL
<i>Halosarcia calyptrata</i>	52	2	NL
<i>Malacocera gracilis</i>	53	2	NL
<i>Maireana dichoptera</i>	56	2	NL
<i>Atriplex cryptocarpa</i>	63	2	NL
<i>Maireana melanocarpa</i>	65	2	VU

<i>Sclerolaena recurvicauspis</i>	73	2	NL
<i>Atriplex obconica</i>	83	2	NL
<i>Sclerolaena articulata</i>	86	2	NL
<i>Sclerolaena everistiana</i>	86	2	NL
<i>Sclerolaena urceolata</i>	88	2	NL
<i>Atriplex cordifolia</i>	102	2	NL
<i>Atriplex turbinata</i>	108	2	NL
<i>Atriplex nessorhina</i>	133	2	NL
<i>Sclerolaena ramulosa</i>	134	2	NL
<i>Maireana marginata</i>	137	2	NL
<i>Einadia nutans linifolia</i>	357	2	NL
<i>Atriplex paludosa baudinii</i>	35	3	NL
<i>Sclerolaena fontinalis</i>	35	3	NL
<i>Halosarcia cupuliformis</i>	38	3	NL
<i>Maireana polypterygia</i>	41	3	NL
<i>Tecticornia arborea</i>	58	3	NL
<i>Sclerolaena crenata</i>	67	3	NL
<i>Maireana tomentosa urceolata</i>	68	3	NL
<i>Sclerolaena drummondii</i>	78	3	NL
<i>Dissocarpus biflorus</i>	83	3	NL
<i>Maireana eriosphaera</i>	85	3	NL
<i>Atriplex quadrivalvata</i>	90	3	NL
<i>Atriplex macropterocarpa</i>	91	3	NL
<i>Sclerolaena symoniana</i>	101	3	NL
<i>Sclerolaena blackiana</i>	180	3	NL
<i>Sclerolaena tetracuspis</i>	184	3	NL
<i>Sclerolaena bicornis horrida</i>	240	3	NL
<i>Sclerolaena burbidgeae</i>	35	4	NL
<i>Maireana stipitata</i>	37	4	NL
<i>Halosarcia nitida</i>	51	4	NL
<i>Halosarcia indica indica</i>	66	4	NL
<i>Roycea pycnophylloides</i>	66	4	EN
<i>Atriplex sturtii</i>	70	4	NL
<i>Halosarcia peltata</i>	73	4	NL
<i>Chenopodium saxatile</i>	79	4	NL
<i>Atriplex vesicaria calcicola</i>	100	4	NL
<i>Maireana atkinsiana</i>	104	4	NL
<i>Atriplex humifusa</i>	106	4	NL
<i>Maireana ovata</i>	121	4	NL
<i>Atriplex incrassata</i>	132	4	NL
<i>Atriplex lobativalvis</i>	140	4	NL
<i>Atriplex amnicola</i>	149	4	NL
<i>Atriplex nummularia omissa</i>	172	4	NL
<i>Sclerolaena tatei</i>	180	4	NL
<i>Sclerostegia medullosa</i>	185	4	NL
<i>Einadia polygonoides</i>	207	4	NL
<i>Atriplex quinii</i>	335	4	NL
<i>Atriplex exilifolia</i>	40	5	NL
<i>Atriplex crassipes crassipes</i>	47	5	NL
<i>Atriplex hypoleuca</i>	56	5	NL

<i>Atriplex acutibractea</i>	57	5	NL
<i>Halosarcia pergranulata elongata</i>	58	5	NL
<i>Atriplex nana</i>	76	5	NL
<i>Dissocarpus latifolius</i>	77	5	NL
<i>Maireana suaedifolia</i>	83	5	NL
<i>Halosarcia flabelliformis</i>	130	5	VU
<i>Maireana platycarpa</i>	132	5	NL
<i>Einadia trigonos stellulata</i>	164	5	NL
<i>Suaeda arbusculoides</i>	181	5	NL
<i>Atriplex intermedia</i>	184	5	NL
<i>Sclerolaena anisacanthoides</i>	210	5	NL

Stylidiaceae

The ANHAT database has 22832 records for 278 species and subspecies of Stylidiaceae. No species of Stylidiaceae are considered extinct.

Thirty-one species account for approximately 50% of the total species records in ANHAT (**Table 83**). These species have over 100 record sites each and, in the case of *Stylidium graminifolium*, over 2000 records.

Table 83 Stylidiaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Stylidium leptophyllum</i>	177	0.78
<i>Stylidium crossocephalum</i>	178	0.78
<i>Stylidium debile</i>	188	0.82
<i>Stylidium leptorrhizum</i>	190	0.83
<i>Stylidium muscicola</i>	203	0.89
<i>Stylidium ecorne</i>	209	0.92
<i>Stylidium perpusillum</i>	212	0.93
<i>Stylidium androsaceum</i>	219	0.96
<i>Stylidium despectum</i>	221	0.97
<i>Stylidium tenerum</i>	223	0.98
<i>Levenhookia stipitata</i>	243	1.06
<i>Stylidium dichotomum</i>	244	1.07
<i>Stylidium rotundifolium</i>	244	1.07
<i>Stylidium schoenoides</i>	253	1.11
<i>Stylidium adenophorum</i>	261	1.14
<i>Stylidium semipartitum</i>	271	1.19
<i>Stylidium scandens</i>	272	1.19
<i>Stylidium amoenum</i>	286	1.25
<i>Stylidium floodii</i>	300	1.31
<i>Stylidium piliferum</i>	313	1.37
<i>Stylidium eglandulosum</i>	330	1.45
<i>Stylidium eriorhizum</i>	338	1.48
<i>Stylidium repens</i>	359	1.57
<i>Stylidium armeria</i>	371	1.62
<i>Stylidium schizanthum</i>	402	1.76
<i>Levenhookia pusilla</i>	442	1.94
<i>Stylidium laricifolium</i>	456	2.00
<i>Stylidium calcaratum</i>	516	2.26
<i>Stylidium inundatum</i>	518	2.27
<i>Levenhookia dubia</i>	1025	4.49
<i>Stylidium graminifolium</i>	2050	8.98
Total	11514	50.44

One hundred and fifteen species, nearly half of all species with records, had 30 or fewer individual record sites available in the ANHAT database (**Table 84**). Of these,

two species are classified as threatened under the EPBC Act, including one species classified as endangered. Species in this category generally are not well enough identified to assign them a species range location in Australia, but the majority of the species that have such information are found in the western half of the continent. Information on the vegetation associations of each species has not been obtained and so patterns are not able to be considered. The known or predicted range areas are relatively small, with very few even exceeding 2500 km². The data from these species have been excluded from further analysis. Exclusion of these poorly recorded species eliminates 1559 records.

Table 84 Stylidiaceae species with 30 or fewer individual record sites.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Stylidium coroniforme</i>						
<i>amblyphyllum</i>	1	0.00			100	NL
<i>Stylidium hygrophilum</i>	1	0.00			200	NL
<i>Stylidium reduplicatum</i>	1	0.00			100	NL
<i>Stylidium roseoalatum</i>	1	0.00			100	NL
<i>Stylidium thryonides</i>	1	0.00			100	NL
<i>Stylidium aquaticum</i>	2	50.00			200	NL
<i>Stylidium ferricola</i>	2	0.00			200	NL
<i>Stylidium hesperium</i>	2	0.00			500	NL
<i>Stylidium korijekup</i>	2	0.00			100	NL
<i>Stylidium nymphaeum</i>	2	50.00			300	NL
<i>Stylidium paludicola</i>	2	0.00			200	NL
		100.0				
<i>Stylidium rosulatum</i>	2	0			200	NL
<i>Stylidium symonii</i>	2	0.00			100	NL
<i>Stylidium aceratum</i>	3	33.00			300	NL
<i>Stylidium applanatum</i>	3	0.00			200	NL
		100.0				
<i>Stylidium bellum</i>	3	0			100	NL
<i>Stylidium amabile</i>	4	0.00			200	NL
<i>Stylidium diceratum</i>	4	25.00			200	NL
<i>Stylidium neurophyllum</i>	4	0.00	SW		400	NL
<i>Stylidium araeophyllum</i>	5	0.00			500	NL
<i>Stylidium acuminatum</i>	6	33.00			600	NL
<i>Stylidium adnatum</i> var. <i>abbreviatum</i>	6	33.00			800	NL
		100.0				
<i>Stylidium clavatum</i>	6	0			400	NL
<i>Stylidium corymbosum</i>						
<i>proliferum</i>	6	17.00			300	NL
<i>Stylidium edentatum</i>	6	17.00			400	NL
<i>Stylidium simulans</i>	6	0.00	CN		200	NL
<i>Stylidium spinulosum</i>		100.0				
<i>montanum</i>	6	0			500	NL
<i>Stylidium thylax</i>	6	33.00	SW		500	NL

<i>Stylidium xanthopis</i>	6	0.00	SW	400	NL
<i>Stylidium diplotrichum</i>	7	86.00		300	NL
		100.0			
<i>Stylidium divergens</i>	7	0	CN	400	NL
<i>Stylidium emarginatum</i>					
<i>exappendiculatum</i>	7	43.00		400	NL
<i>Stylidium ensatum</i>	7	29.00		500	NL
<i>Stylidium fimbriatum</i>	7	57.00		500	NL
<i>Stylidium foveolatum</i>	7	0.00		200	NL
<i>Stylidium glabrifolium</i>	7	57.00		400	NL
		100.0			
<i>Stylidium glandulosum</i>	7	0	SW	500	NL
<i>Stylidium rubricalyx</i>	7	0.00		600	NL
<i>Stylidium semaphorum</i>	7	14.00		300	NL
<i>Stylidium sidjamesii</i>	7	14.00		400	NL
<i>Stylidium tinkeri</i>	7	29.00		400	NL
<i>Stylidium trudgenii</i>	7	29.00		400	NL
<i>Stylidium validum</i>	7	0.00	SW	300	NL
<i>Stylidium</i>					
<i>chiddarcoopingense</i>	8	75.00		400	NL
<i>Stylidium perizostera</i>	8	50.00		700	NL
<i>Stylidium prophyllum</i>	8	50.00		600	NL
<i>Stylidium purpureum</i>	8	38.00	W	800	NL
<i>Stylidium diuroides nanum</i>	9	22.00		700	NL
<i>Stylidium pendulum</i>	9	0.00	W	500	NL
<i>Stylidium pseudosacculatum</i>	9	22.00		300	NL
<i>Stylidium amoenum</i> var.					
<i>caulescens</i>	10	10.00		800	NL
<i>Stylidium cymiferum</i>	10	0.00		300	NL
<i>Stylidium daphne</i>	10	0.00		600	NL
<i>Stylidium keigheryi</i>	10	90.00		300	NL
		100.0			
<i>Stylidium longissimum</i>	10	0		300	NL
<i>Stylidium nominatum</i>	10	10.00		600	NL
<i>Stylidium stenophyllum</i>	10	60.00	CN	100	NL
<i>Stylidium costulatum</i>	12	25.00		1000	NL
<i>Stylidium hymenocraspedum</i>	12	33.00	SW	500	NL
<i>Stylidium mucronatum</i>	12	17.00		900	NL
<i>Stylidium angustifolium</i>	13	54.00		1000	NL
<i>Stylidium diademum</i>	13	46.00		900	NL
<i>Stylidium udusicola</i>	13	15.00		1100	NL
<i>Stylidium accedens</i>	14	71.00	CN	900	NL
<i>Stylidium marradongense</i>	14	0.00	SW	400	NL
<i>Stylidium roseonanum</i>	14	21.00	SW	1100	NL
<i>Stylidium wilroyense</i>	14	50.00	W	900	NL
<i>Stylidium rubriscapum</i>	16	50.00	NW	1300	NL
<i>Stylidium articulatum</i>	17	29.00	SW	700	NL
<i>Stylidium diplectroglossum</i>	17	18.00		700	NL
<i>Stylidium gloeophyllum</i>	17	18.00	SW	700	NL
<i>Stylidium periscelianthum</i>	17	18.00		1300	NL

<i>Stylidium ricao</i>	17	0.00		900	NL
<i>Stylidium falcatum</i>	18	17.00	SW	800	NL
<i>Stylidium insensitivum</i>	19	5.00	SW	1300	NL
<i>Stylidium rivulosum</i>	19	16.00		1400	NL
<i>Stylidium bicolor</i>	20	25.00		1600	NL
<i>Stylidium confertum</i>	20	85.00		700	NL
<i>Stylidium inversiflorum</i>	20	45.00	SW	1200	NL
<i>Stylidium leiophyllum</i>	20	0.00		800	NL
<i>Stylidium lowrieianum</i>	20	30.00		1200	NL
<i>Stylidium sejunctum</i>	20	5.00	SW	1100	NL
<i>Stylidium trichopodium</i>	20	20.00		700	NL
<i>Levenhookia pulcherrima</i>	21	10.00	SW	1100	NL
<i>Stylidium burbidgeanum</i>	21	24.00	SW W	1300	NL
<i>Stylidium coatesianum</i>	22	64.00		900	NL
<i>Stylidium merrallii</i>	22	45.00	SW	1100	VU
<i>Stylidium</i>					
<i>pseudocaespitosum</i>	22	23.00	W	1000	NL
<i>Stylidium coroniforme</i>	23	52.00		600	EN
<i>Stylidium leptocalyx</i>	23	48.00	SW	1200	NL
<i>Stylidium perula</i>	23	4.00	SW	1100	NL
<i>Stylidium pygmaeum</i>	23	43.00		2000	NL
<i>Stylidium sacculatum</i>	23	30.00		1500	NL
<i>Stylidium weeliwolli</i>	23	70.00	W	1100	NL
<i>Stylidium drummondianum</i>	24	12.00	W	1400	NL
<i>Stylidium paulineae</i>	24	29.00	SW	900	NL
<i>Stylidium pritzelianum</i>	24	38.00	SW	1200	NL
<i>Stylidium pseudohirsutum</i>	24	25.00	SW	1600	NL
<i>Stylidium ramosissimum</i>	24	0.00		800	NL
<i>Stylidium warriedareense</i>	24	29.00	W	1300	NL
<i>Stylidium obtusatum</i>	25	20.00		2400	NL
		100.0			
<i>Phyllachne colensoi</i>	26	0	TAS	1600	NL
<i>Stylidium humphreysii</i>	26	15.00		2100	NL
<i>Stylidium aeonioides</i>	27	44.00	SW	1400	NL
<i>Stylidium austrocapense</i>	27	11.00		1000	NL
<i>Stylidium barleei</i>	27	30.00	SW	1300	NL
<i>Stylidium planirosulum</i>	27	59.00	SW	1400	NL
<i>Stylidium squamellosum</i>	27	19.00	SW	1900	NL
<i>Stylidium diffusum</i>	28	18.00	E	1000	NL
<i>Stylidium glandulosissimum</i>	28	39.00	SW	1600	NL
<i>Stylidium lineatum</i>	28	25.00		2300	NL
<i>Levenhookia octomaculata</i>	29	52.00		2200	NL
<i>Stylidium arenicola</i>	29	17.00	SW	2100	NL
<i>Stylidium rhipidium</i>	29	34.00	SW	2000	NL
<i>Stylidium albolilacinum</i>	30	20.00	SW	2200	NL

Removal of extinct and poorly recorded species leaves 21273 records in ANHAT for only 163 species (and subspecies). The mean number of records per species for

species with greater than 30 records was 131, with a mean of 32.4 for the percent of records in the NRS.

Thirty-four species of Stylidiaceae have 45% or greater of individual record sites located within PAs (**Table 85**). This is just over 20% of the remaining species. One species is classified as vulnerable. These species generally are found in the south-west or south-east of Australia, but, notably, a few are found in the central northern parts of Australia. The range areas are usually less than 5000 km². Two species have 96% of their record sites falling within PAs.

Table 85 Stylidiaceae species with >45% of site records within PAs.

<i>Species</i>	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Stylidium torticarpum</i>	22	49	45.00			2800	NL
<i>Stylidium albomontis</i>	23	51	45.00	SW		2400	NL
<i>Stylidium laricifolium</i>	206	456	45.00	E SE		18800	NL
<i>Stylidium tenuicarpum</i>	32	69	46.00	SW		2000	NL
<i>Stylidium macranthum</i>	33	72	46.00	SW		4200	NL
<i>Stylidium productum</i>	43	94	46.00	E		6700	NL
<i>Stylidium lineare</i>	52	112	46.00	E		7100	NL
<i>Stylidium adnatum</i>	56	118	47.00	SW		7300	NL
<i>Stylidium turbinatum</i>	38	80	48.00			5200	NL
				W SE			
				CS			
<i>Stylidium perpusillum</i>	101	212	48.00	TAS		15500	NL
<i>Stylidium semipartitum</i>	131	271	48.00	NW CN		15100	NL
<i>Stylidium dunlopianum</i>	22	45	49.00	CN		3200	NL
<i>Stylidium muscicola</i>	99	203	49.00	NW CN		9700	NL
<i>Stylidium kalbarriense</i>	26	52	50.00	W		3400	NL
<i>Stylidium glaucum</i>	16	31	52.00	SW W		2600	NL
<i>Stylidium pulviniforme</i>	22	42	52.00	SW		2200	NL
<i>Stylidium fasciculatum</i>	27	50	54.00	SW		3400	NL
<i>Stylidium candelabrum</i>	44	81	54.00			5400	NL
<i>Stylidium montanum</i>	26	47	55.00	SE		4600	NL
<i>Stylidium lobuliflorum</i>	42	76	55.00	CN		4600	NL
<i>Stylidium nonscandens</i>	28	50	56.00	SW		1900	NL
<i>Stylidium hortiorum</i>	21	36	58.00	SW		1000	NL
<i>Stylidium leeuwinense</i>	26	43	60.00			2300	NL
<i>Stylidium glaucifolium</i>	25	37	68.00			2900	NL
<i>Stylidium scabridum</i>	41	59	69.00	SW		1500	NL
<i>Stylidium expeditionis</i>	37	52	71.00	SW		1400	NL

<i>Stylidium carlquistii</i>	34	46	74.00			800	NL
<i>Stylidium laciniatum</i>	26	31	84.00	SW		1800	NL
<i>Stylidium tylosum</i>	41	47	87.00			900	NL
<i>Stylidium soboliferum</i>	91	104	88.00	SE		2200	NL
<i>Donatia novae-zelandiae</i>	64	71	90.00	TAS		4400	NL
<i>Stylidium galioides</i>	49	53	92.00	SW		500	VU
<i>Stylidium verticillatum</i>	46	48	96.00	SW		1000	NL
<i>Forstera bellidifolia</i>	52	54	96.00	TAS		3900	NL

Twelve species had less than 10% of ANHAT records located within PAs (

Table 86). None of the 12 species are classified as threatened. All species are found in at least one PA and nearly all are found in WA.

Table 86 Stylidiaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Stylidium cilium</i>	1	36	3.00	SW		1600	NL
<i>Stylidium confluens</i>	4	81	5.00	SW W		4500	NL
<i>Stylidium utricularioides</i>	4	82	5.00	SW		3700	NL
<i>Stylidium oviflorum</i>	4	48	8.00	NE		1500	NL
<i>Stylidium divaricatum</i>	5	60	8.00	SW		2700	NL
<i>Stylidium uniflorum</i>	10	129	8.00	SW		8100	NL
<i>Stylidium desertorum</i>	13	173	8.00	NW CN W CI WI		9900	NL
<i>Stylidium plantagineum</i>	3	32	9.00	SW		1800	NL
<i>Levenhookia chippendalei</i>	7	75	9.00	CI WI		4800	NL
<i>Stylidium caricifolium</i>	16	175	9.00	SW W		12300	NL
<i>Stylidium longibracteatum</i>	6	61	10.00	W CS		4500	NL
<i>Stylidium stowardii</i>	8	77	10.00			5900	NL

Only three Stylidiaceae species have records in more than 100 separate PAs (**Table 87**). Two have over 1000 records, with an average of 1198 records per species. None of the three species are classified as threatened.

Table 87 Stylidiaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs		EPBC status
			>1000ha		
<i>Levenhookia dubia</i>	1025	160	82		NL
<i>Stylidium graminifolium</i>	2050	247	166		NL
<i>Stylidium inundatum</i>	518	106	69		NL

A total of 50 species had records in five or fewer PAs (**Table 88**), which is over a quarter of the species with more than 30 records. One species is classified as vulnerable. The majority of species in this list had fewer than 100 individual site records and no species had more than 110 site records.

Table 88 Stylidiaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Stylidium ireneae</i>	31	1	NL
<i>Stylidium plantagineum</i>	32	1	NL
<i>Stylidium cilium</i>	36	1	NL
<i>Stylidium albomontis</i>	51	1	NL
<i>Stylidium galioides</i>	53	1	VU
<i>Stylidium tenerrimum</i>	34	2	NL
<i>Stylidium imbricatum</i>	41	2	NL
<i>Stylidium claytonioides</i>	42	2	NL
<i>Stylidium oviflorum</i>	48	2	NL
<i>Stylidium verticillatum</i>	48	2	NL
<i>Stylidium clarksonii</i>	55	2	NL
<i>Stylidium delicatum</i>	58	2	NL
<i>Stylidium utricularioides</i>	82	2	NL
<i>Stylidium dispernum</i>	31	3	NL
<i>Stylidium pingrupense</i>	39	3	NL
<i>Stylidium yilgarnense</i>	42	3	NL
<i>Stylidium carlquistii</i>	46	3	NL
<i>Stylidium tylosum</i>	47	3	NL
<i>Stylidium septentrionale</i>	59	3	NL
<i>Stylidium scabridum</i>	59	3	NL
<i>Stylidium divaricatum</i>	60	3	NL
<i>Levenhookia chippendalei</i>	75	3	NL
<i>Stylidium velleioides</i>	75	3	NL
<i>Stylidium lobuliflorum</i>	76	3	NL
<i>Stylidium confluens</i>	81	3	NL
<i>Stylidium maritimum</i>	31	4	NL
<i>Stylidium megacarpum</i>	35	4	NL
<i>Stylidium lepidum</i>	40	4	NL
<i>Stylidium paniculatum</i>	43	4	NL
<i>Stylidium ericksoniae</i>	44	4	NL
<i>Stylidium floribundum</i>	44	4	NL

<i>Stylidium pubigerum</i>	46	4	NL
<i>Stylidium turleyae</i>	61	4	NL
<i>Stylidium longibracteatum</i>	61	4	NL
<i>Stylidium pedunculatum</i>	77	4	NL
<i>Stylidium turbinatum</i>	80	4	NL
<i>Stylidium candelabrum</i>	81	4	NL
<i>Stylidium cordifolium</i>	83	4	NL
<i>Stylidium soboliferum</i>	104	4	NL
<i>Stylidium diuroides paucifoliatum</i>	31	5	NL
<i>Stylidium hortiorum</i>	36	5	NL
<i>Stylidium thesioides</i>	40	5	NL
<i>Stylidium dunlopianum</i>	45	5	NL
<i>Stylidium miniatum</i>	49	5	NL
<i>Stylidium carnosum</i>	51	5	NL
<i>Stylidium expeditionis</i>	52	5	NL
<i>Stylidium longicornu</i>	53	5	NL
<i>Stylidium pilosum</i>	56	5	NL
<i>Stylidium macranthum</i>	72	5	NL
<i>Stylidium capillare</i>	80	5	NL

Sixty-five species of Stylidiaceae had records in five or fewer PAs greater than 1000 hectares, including one species classified as vulnerable (

Table 89). All species occur in at least one of these larger PAs.

Table 89 Stylidiaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Stylidium plantagineum</i>	32	1	NL
<i>Stylidium oviflorum</i>	48	1	NL
<i>Stylidium albomontis</i>	51	1	NL
<i>Stylidium galioides</i>	53	1	VU
<i>Stylidium scabridum</i>	59	1	NL
<i>Stylidium septentrionale</i>	59	1	NL
<i>Stylidium divaricatum</i>	60	1	NL
<i>Stylidium confluens</i>	81	1	NL
<i>Stylidium ireneae</i>	31	2	NL
<i>Stylidium tenerrimum</i>	34	2	NL
<i>Stylidium pingrupense</i>	39	2	NL
<i>Stylidium imbricatum</i>	41	2	NL
<i>Stylidium yilgarnense</i>	42	2	NL
<i>Stylidium claytonioides</i>	42	2	NL
<i>Stylidium carlquistii</i>	46	2	NL
<i>Stylidium verticillatum</i>	48	2	NL
<i>Stylidium clarksonii</i>	55	2	NL
<i>Stylidium delicatum</i>	58	2	NL

<i>Stylidium turbinatum</i>	80	2	NL
<i>Stylidium utricularioides</i>	82	2	NL
<i>Stylidium dispernum</i>	31	3	NL
<i>Stylidium megacarpum</i>	35	3	NL
<i>Stylidium hortiorum</i>	36	3	NL
<i>Stylidium thesioides</i>	40	3	NL
<i>Stylidium lepidum</i>	40	3	NL
<i>Levenhookia sonderi</i>	43	3	NL
<i>Stylidium pubigerum</i>	46	3	NL
<i>Stylidium tylosum</i>	47	3	NL
<i>Stylidium miniatum</i>	49	3	NL
<i>Stylidium nungarinense</i>	59	3	NL
<i>Stylidium velleioides</i>	75	3	NL
<i>Levenhookia chippendalei</i>	75	3	NL
<i>Stylidium lobuliflorum</i>	76	3	NL
<i>Stylidium diuroides paucifoliatum</i>	31	4	NL
<i>Stylidium maritimum</i>	31	4	NL
<i>Stylidium pycnostachyum</i>	31	4	NL
<i>Stylidium paniculatum</i>	43	4	NL
<i>Stylidium floribundum</i>	44	4	NL
<i>Stylidium ericksoniae</i>	44	4	NL
<i>Stylidium flagellum</i>	46	4	NL
<i>Stylidium torticarpum</i>	49	4	NL
<i>Stylidium nonscandens</i>	50	4	NL
<i>Stylidium expeditionis</i>	52	4	NL
<i>Stylidium longibracteatum</i>	61	4	NL
<i>Stylidium turleyae</i>	61	4	NL
<i>Stylidium tenuicarpum</i>	69	4	NL
<i>Stylidium macranthum</i>	72	4	NL
<i>Stylidium pedunculatum</i>	77	4	NL
<i>Stylidium candelabrum</i>	81	4	NL
<i>Stylidium cordifolium</i>	83	4	NL
<i>Stylidium soboliferum</i>	104	4	NL
<i>Stylidium zeicolor</i>	123	4	NL
<i>Stylidium longitubum</i>	36	5	NL
<i>Stylidium tepperianum</i>	45	5	NL
<i>Stylidium dunlopianum</i>	45	5	NL
<i>Stylidium carnosum</i>	51	5	NL
<i>Stylidium longicornu</i>	53	5	NL
<i>Stylidium corymbosum</i>	53	5	NL
<i>Stylidium pilosum</i>	56	5	NL
<i>Stylidium neglectum</i>	72	5	NL
<i>Stylidium stowardii</i>	77	5	NL
<i>Stylidium capillare</i>	80	5	NL
<i>Stylidium tenue</i>	88	5	NL
<i>Stylidium uniflorum</i>	129	5	NL
<i>Stylidium caricifolium</i>	175	5	NL

Sterculiaceae

The ANHAT database has 29919 records for 252 species and subspecies of Sterculiaceae. One species of Sterculiaceae is considered extinct and therefore excluded from analysis. This species is presented in **Table 90**.

Table 90 Sterculiaceae species considered extinct

Species	Common name	No. of records
<i>Thomasia gardneri</i>	Mt Holland Thomasia	2

Twenty-five species account for approximately 50% of the total species records in ANHAT (**Table 91**). These species have over 300 records each and *Waltheria indica* over 1800 records.

Table 91 Sterculiaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Keraudrenia collina</i>	316	1.06
<i>Lasiopetalum macrophyllum</i>	321	1.07
<i>Argyrodendron peralatum</i>	327	1.09
<i>Brachychiton bidwillii</i>	329	1.10
<i>Brachychiton gregorii</i>	337	1.13
<i>Rulingia dasyphylla</i>	348	1.16
<i>Heritiera littoralis</i>	376	1.26
<i>Melochia corchorifolia</i>	396	1.32
<i>Brachychiton rupestris</i>	408	1.36
<i>Lasiopetalum schulzenii</i>	409	1.37
<i>Thomasia petalocalyx</i>	410	1.37
<i>Brachychiton populneus trilobus</i>	441	1.47
<i>Rulingia loxophylla</i>	455	1.52
<i>Argyrodendron polyandrum</i>	460	1.54
<i>Brachychiton australis</i>	502	1.68
<i>Argyrodendron trifoliolatum</i>	503	1.68
<i>Commersonia bartramia</i>	588	1.97
<i>Lasiopetalum discolour</i>	628	2.10
<i>Keraudrenia nephrosperma</i>	660	2.21
<i>Lasiopetalum behrii</i>	673	2.25
<i>Lasiopetalum baueri</i>	855	2.86
<i>Brachychiton populneus</i>	876	2.93
<i>Sterculia quadrifida</i>	1161	3.88
<i>Melhania oblongifolia</i>	1399	4.68
<i>Waltheria indica</i>	1814	6.06
Total	14992	50.12

Ninety species (over 35%) had 30 or fewer individual site records in the ANHAT database (**Table 92**). Of those species, eight species are classified as threatened (including four species classified as endangered). The major proportion of the species in this category come from the south-west of Australia. No vegetation association information is available for this family for this report, but, as is usual for species in the poorly recorded categories, their ranges tend to be small and most are less than 2000 km². Exclusion of these poorly recorded species eliminates 1294 records.

Table 92 Sterculiaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Argyrodendron</i> sp.						
<i>whitsundays</i>	1	100.00			100	NL
<i>Lasiopetalum</i> sp. <i>coorow</i>	1	0.00			100	NL
<i>Lasiopetalum</i> sp. <i>watheroo</i>	1	0.00			100	NL
<i>Thomasia</i> sp. <i>vasse</i>	1	100.00			100	NL
<i>Argyrodendron</i> sp.						
<i>whyanbeel</i>	2	100.00			100	NL
<i>Commersonia amystia</i>	2	0.00			200	NL
<i>Commersonia breviseta</i>	2	50.00			200	NL
<i>Rulingia</i> sp. <i>trigwell bridge</i>	2	0.00			200	NL
<i>Lasiopetalum</i>						
<i>rosmarinifolium</i> var.						
<i>latifolium</i>	3	33.33	SW		300	NL
<i>Thomasia dielsii</i>	3	33.33			200	NL
<i>Argyrodendron</i> sp. <i>mt haig</i>	4	100.00			200	NL
<i>Brachychiton</i> sp. <i>ormeau</i>	4	0.00			100	NL
<i>Commersonia multiloba</i>	4	25.00			200	NL
<i>Commersonia perkinsiana</i>	4	100.00			100	NL
<i>Guichenotia anota</i>	4	0.00			100	NL
<i>Lasiopetalum</i> sp. <i>proston</i>	4	0.00			100	NL
<i>Lysiosepalum aromaticum</i>	4	0.00	SW		100	NL
<i>Thomasia brachystachys</i>	4	50.00	SW		400	NL
<i>Helicteres</i> sp. <i>douglas springs</i>	5	100.00			400	NL
<i>Keraudrenia cacaobrunnea undulata</i>	5	0.00			300	NL
<i>Lasiopetalum</i> sp. <i>cordate-leaved</i>	5	80.00			700	NL
<i>Thomasia purpurea</i> var.						
<i>undulata</i>	5	0.00	SW		500	NL
<i>Thomasia multiflora</i>	6	0.00	SW		400	NL
<i>Lasiopetalum</i>						
<i>membraniflorum</i>	7	100.00			300	NL
<i>Lasiopetalum cordifolium</i>	8	25.00	SW		600	NL
<i>Lasiopetalum dielsii</i>	8	87.50			500	NL
<i>Commersonia rosea</i>	9	22.22	E		400	EN

<i>Guichenotia glandulosa</i>	9	0.00	SW	100	NL
<i>Helicteres</i> sp. linear leaves	9	100.00		200	NL
<i>Helicteres</i> sp. litchfield	9	100.00		300	NL
<i>Lasiopetalum pterocarpum</i>	9	77.78		200	EN
<i>Lysiosepalum abollatum</i>	9	0.00		200	NL
<i>Commersonia microphylla</i>	10	0.00	SW	600	NL
<i>Rulingia platycalyx</i>	10	30.00	SW	500	NL
<i>Thomasia rhyncocarpa</i>	10	20.00	SW	500	NL
<i>Thomasia rilingioides</i>	10	50.00	SW	800	NL
<i>Thomasia triloba</i>	10	10.00	SW,W	700	NL
<i>Commersonia</i> <i>inglewoodensis</i>	11	0.00	E	100	NL
<i>Lasiopetalum</i> <i>longistamineum</i>	11	18.18	E	800	VU
<i>Lasiopetalum</i> sp. <i>badgingarra</i>	11	90.91		800	NL
<i>Guichenotia intermedia</i>	12	66.67	W	600	NL
<i>Keraudrenia exastia</i>	12	16.67	NW	400	NL
<i>Commersonia pearnii</i>	13	92.31		300	NL
<i>Guichenotia seorsiflora</i>	13	0.00	SW	400	NL
<i>Keraudrenia</i> sp. north west	13	46.15		900	NL
<i>Thomasia formosa</i>	13	7.69	SW,W	500	NL
<i>Indagator fordii</i>	15	0.00	NE	100	NL
<i>Kleinhovia hospita</i>	15	0.00		400	NL
<i>Lasiopetalum maxwellii</i>	15	93.33	SW	700	NL
<i>Commersonia stowardii</i>	16	37.50	W	1100	NL
<i>Helicteres dentata</i> var. <i>procumbens</i>	16	0.00	CN	900	NL
<i>Keraudrenia adenogyna</i>	17	23.53		1300	NL
<i>Lasiopetalum monticola</i>	17	88.24	SW	600	NL
<i>Commersonia echinata</i>	18	22.22	E	2100	NL
<i>Guichenotia astropletha</i>	18	16.67	SW,W	800	NL
<i>Thomasia pygmaea</i>	18	22.22	SW,WI	900	NL
<i>Guichenotia impudica</i>	19	5.26	SW,W	1100	NL
<i>Keraudrenia corollata</i> var. <i>denticulata</i>	19	36.84	E	1100	NL
<i>Lasiopetalum</i> <i>ferrarcollinum</i>	19	10.53		800	NL
<i>Rulingia rugosa</i>	19	52.63	E	1000	NL
<i>Helicteres</i> sp. glenluckie creek	20	10.00		600	EN
<i>Keraudrenia katatona</i>	20	10.00	NW	1200	NL
<i>Thomasia discolor</i>	20	30.00	SW	1000	NL
<i>Brachychiton obtusilobus</i>	21	23.81	W	1100	NL
<i>Guichenotia asteriskos</i>	21	14.29	SW	900	NL
<i>Lasiopetalum ogilvieanum</i>	21	42.86	SW,W	1600	NL
<i>Commersonia leiperi</i>	22	0.00		500	NL
<i>Helicteres</i> sp. many stems	22	45.45		1400	NL
<i>Lasiopetalum parvuliflorum</i>	22	45.45	SW	1400	NL
<i>Hildegardia australiensis</i>	23	95.65	CN	700	NL

<i>Lasiopetalum rotundifolium</i>	23	47.83	SW	600	EN
<i>Brachychiton tridentatus</i>	24	50.00	NW	2100	NL
<i>Commersonia melanopetala</i>	24	37.50	SW,CI,WI	1700	NL
<i>Commersonia rossii</i>	24	4.17		1400	NL
<i>Guichenotia quasicalva</i>	24	33.33	W	700	NL
<i>Thomasia stelligera</i>	24	54.17	SW	1400	NL
<i>Thomasia tenuivestita</i>	24	45.83	SW	1500	NL
<i>Lasiopetalum cardiophyllum</i>	25	0.00	SW	1000	NL
<i>Commersonia procumbens</i>	27	37.04		3100	VU
<i>Commersonia reticulata</i>	27	44.44	E	400	NL
<i>Hannafordia quadrivalvis</i>					
<i>recurve</i>	27	11.11		1800	NL
<i>Thomasia rugosa</i>	27	7.41	SW	1900	NL
<i>Abroma fastuosa</i>	28	35.71		2700	NL
<i>Commersonia beeronensis</i>	28	100.00		300	NL
<i>Thomasia glabripetala</i>	28	10.71	SW	1000	VU
<i>Thomasia laxiflora</i>	28	17.86	SW	1300	NL
<i>Guichenotia tuberculata</i>	29	0.00	SW	1300	NL
<i>Helicteres sp. kakadu</i>	29	58.62		1900	NL
<i>Rulingia borealis</i>	29	41.38		2400	NL
<i>Lasiopetalum joyceae</i>	30	50.00	E	1600	VU

Removal of extinct and poorly recorded species leaves 28623 records in ANHAT for 161 species (and subspecies). The mean number of records per species for species with greater than 30 records was 178, with a mean of 29 for the percent of records in the NRS.

Twenty-six species of Sterculiaceae had 45% or greater of individual site records located within PAs (

Table 93). Only one species is classified as threatened, being listed as vulnerable under the EPBC Act. It appears that species in this category are slightly more likely to be found in eastern Australia than would be expected compared to the species with few records. The ranges are not generally large, but are notably larger than for the species with 30 or fewer records.

Table 93 Sterculiaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Lasiopetalum ferrugineum</i> var. <i>cordatum</i>	37	82	45.12	E,SE		4800	NL
<i>Keraudrenia lanceolata</i>	96	212	45.28	E		6500	NL
<i>Lasiopetalum macrophyllum</i>	146	321	45.48	E,SE,TAS		14800	NL
<i>Argyrodendron</i>	150	327	45.87	NE		5300	NL

<i>peralatum</i>						
<i>Rulingia magniflora</i>	103	221	46.61	SW,CI	6500	NL
<i>Brachychiton acerifolius</i>	124	256	48.44	NE,E	21100	NL
<i>Brachychiton tuberculatus</i>	36	69	52.17	NW	3800	NL
<i>Lasiopetalum schulzenii</i>	223	409	54.52	SE,CS	9500	NL
<i>Brachychiton spectabilis</i>	52	95	54.74	CN	2800	NL
<i>Argyrodendron actinophyllum</i>	68	123	55.28	E	13500	NL
<i>Lasiopetalum parviflorum</i>	25	45	55.56	E	3700	NL
<i>Lasiopetalum membranaceum</i>	37	66	56.06	SW	2100	NL
<i>Lasiopetalum rufum</i>	22	39	56.41	E	2800	NL
<i>Thomasia montana</i>	23	40	57.50	SW	800	VU
<i>Lasiopetalum discolor</i>	372	628	59.24	SW,W,SE, CS,TAS	20200	NL
<i>Commersonia viscidula</i>	54	87	62.07	E	1700	NL
<i>Helicteres dentata</i> var. <i>flagellaris</i>	35	54	64.81	CN	3600	NL
<i>Lasiopetalum lineare</i>	36	54	66.67	SW,W	3000	NL
<i>Franciscodendron laurifolium</i>	123	178	69.10	NE	4400	NL
<i>Helicteres</i> sp. <i>elongate</i>	39	53	73.58		3200	NL
<i>Keraudrenia adenolasia</i>	52	68	76.47	CN	1800	NL
<i>Lasiopetalum oppositifolium</i>	34	42	80.95	W	1700	NL
<i>Lasiopetalum oldfieldii</i>	27	33	81.82	W	1700	NL
<i>Commersonia johnsonii</i>	46	49	93.88		300	NL
<i>Thomasia</i> sp. <i>arthur</i> <i>river</i>	40	41	97.56		2800	NL
<i>Lasiopetalum</i> sp. <i>hill</i> <i>river</i>	132	135	97.78		3700	NL

Twenty-one species had less than 10% of ANHAT records located within PAs (**Table 94**). One species is classified as threatened, being listed as vulnerable. The proportion of species in this category is not as high as has been for many of the other families assessed, being less than 15%. There is no obvious pattern in their distributions around Australia. None of these species have ranges greater than 10000 km². Three species in this category currently have no records available from the NRS.

Table 94 Sterculiaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Guichenotia apetala</i>	0	46	0.00	SW		500	NL
<i>Brachychiton multicaulis</i>	0	58	0.00	CN,CI		3900	NL
<i>Commersonia pedleyi</i>	0	102	0.00	E		2200	NL
<i>Lysiosepalum rugosum</i>	1	72	1.39	SW,W		4600	NL
<i>Brachychiton garrawayae</i>	4	140	2.86	NE		5400	NL
<i>Melhania ovata</i>	3	89	3.37	E,EI,CI		3300	NL
<i>Melhania incana</i>	2	51	3.92	NE,NW,CN,E,EI,W,CI		2900	NL
<i>Thomasia microphylla</i>	4	62	6.45	SW		2000	NL
<i>Commersonia argentea</i>	3	45	6.67			900	NL
<i>Guichenotia angustifolia</i>	4	54	7.41	SW,W		3100	NL
<i>Brachychiton chillagoensis</i>	12	162	7.41	NE,E,EI		3600	NL
<i>Brachychiton vitifolius</i>	13	175	7.43	NE		3500	VU
<i>Brachychiton incanus</i>	3	38	7.89	NW		1900	NL
<i>Thomasia macrocarpa</i>	3	38	7.89	SW		1500	NL
<i>Thomasia tremandroides</i>	3	38	7.89	SW,W		2500	NL
<i>Waltheria virgata</i>	12	151	7.95	NW,W,CI,WI		9000	NL
<i>Gilesia biniflora</i>	6	70	8.57	CI		4300	NL
<i>Thomasia sarotes</i>	3	34	8.82	SW		2200	NL
<i>Brachychiton grandiflorus</i>	6	65	9.23	NE		1300	NL
<i>Lasiopetalum microcardium</i>	4	41	9.76	SW		1900	NL

<i>Guichenotia macrantha</i>	14	140	10.00	SW,W	8900	NL
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Two Sterculiaceae species had records in more than 100 separate reserves (

Table 95). Neither species is classified as threatened.

Table 95 Sterculiaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Brachychiton populneus</i>	876	104	83	NL
<i>Sterculia quadrifida</i>	1161	120	84	NL

A total of 71 species had records in five or fewer PAs (**Table 96**), which is slightly under half of all species with more than 30 record sites and so represents a relatively large proportion of the “well known” species in this family. Two species were listed as threatened, both species classified as vulnerable. The majority of species in this list had fewer than 100 individual site records and no species had more than 250 site records.

Table 96 Sterculiaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Guichenotia apetala</i>	46	0	NL
<i>Brachychiton multicaulis</i>	58	0	NL
<i>Commersonia pedleyi</i>	102	0	NL
<i>Sterculia shillinglawii</i>	33	1	NL
<i>Brachychiton incanus</i>	38	1	NL
<i>Lasiopetalum glabratum</i>	40	1	NL
<i>Lasiopetalum oppositifolium</i>	42	1	NL
<i>Commersonia argentea</i>	45	1	NL
<i>Lysiosepalum rugosum</i>	72	1	NL
<i>Melhania ovata</i>	89	1	NL
<i>Dicarpidium monoicum</i>	40	2	NL
<i>Thomasia montana</i>	40	2	VU
<i>Argyrodendron actinophyllum diversifolium</i>	49	2	NL
<i>Commersonia johnsonii</i>	49	2	NL
<i>Melhania incana</i>	51	2	NL
<i>Brachychiton velutinosus</i>	57	2	NL
<i>Melhania brachycarpa</i>	57	2	NL
<i>Brachychiton grandiflorus</i>	65	2	NL
<i>Brachychiton acuminatus</i>	79	2	NL
<i>Brachychiton muellerianus</i>	99	2	NL
<i>Brachychiton garrawayae</i>	140	2	NL

<i>Guichenotia basivirida</i>	32	3	NL
<i>Lasiopetalum oldfieldii</i>	33	3	NL
<i>Thomasia sarotes</i>	34	3	NL
<i>Thomasia solanacea</i>	35	3	NL
<i>Firmiana papuana</i>	36	3	NL
<i>Helicteres rhynchocarpa</i>	37	3	NL
<i>Thomasia macrocarpa</i>	38	3	NL
<i>Thomasia tremandroides</i>	38	3	NL
<i>Commersonia leichhardtii</i>	45	3	NL
<i>Lysiosepalum involucratum</i>	45	3	NL
<i>Brachychiton xanthophyllus</i>	47	3	NL
<i>Brachychiton compactus</i>	53	3	NL
<i>Helicteres</i> sp. <i>elongate</i>	53	3	NL
<i>Guichenotia angustifolia</i>	54	3	NL
<i>Helicteres dentata</i> var. <i>flagellaris</i>	54	3	NL
<i>Helicteres</i> sp. <i>darwin</i>	56	3	NL
<i>Keraudrenia adenolasia</i>	68	3	NL
<i>Helicteres hirsuta</i>	85	3	NL
<i>Brachychiton spectabilis</i>	95	3	NL
<i>Brachychiton collinus</i>	108	3	NL
<i>Hannafordia shanesii</i>	159	3	NL
<i>Brachychiton chillagoensis</i>	162	3	NL
<i>Brachychiton vitifolius</i>	175	3	VU
<i>Brachychiton diversifolius orientalis</i>	199	3	NL
<i>Brachychiton paradoxus</i>	230	3	NL
<i>Pentapetes phoenicea</i>	32	4	NL
<i>Commersonia macrostipulata</i>	39	4	NL
<i>Lasiopetalum microcardium</i>	41	4	NL
<i>Rulingia rotundifolia</i>	46	4	NL
<i>Sterculia holtzei</i>	48	4	NL
<i>Lysiosepalum hexandrum</i>	51	4	NL
<i>Thomasia microphylla</i>	62	4	NL
<i>Brachychiton tuberculatus</i>	69	4	NL
<i>Melochia umbellata</i>	83	4	NL
<i>Rulingia densiflora</i>	94	4	NL
<i>Helicteres dentata</i>	100	4	NL
<i>Brachychiton albidus</i>	114	4	NL
<i>Waltheria virgata</i>	151	4	NL
<i>Keraudrenia hookeriana</i>	152	4	NL
<i>Rulingia grandiflora</i>	31	5	NL
<i>Lasiopetalum angustifolium</i>	35	5	NL
<i>Thomasia cognata</i>	38	5	NL
<i>Rulingia cuneata</i>	41	5	NL
<i>Lasiopetalum bracteatum</i>	42	5	NL
<i>Keraudrenia hillii</i>	44	5	NL
<i>Thomasia glutinosa</i> var. <i>latifolia</i>	45	5	NL
<i>Brachychiton viridiflorus</i>	50	5	NL
<i>Commersonia crispa</i>	62	5	NL
<i>Hannafordia bissillii latifolia</i>	67	5	NL
<i>Gilesia biniflora</i>	70	5	NL

Seventy-nine species of Sterculiaceae had records in five or fewer PAs greater than 1000 hectares, including four species classified as threatened. One species is listed as endangered (**Table 97**). All species are represented by records in at least one PA.

Table 97 Sterculiaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Sterculia shillinglawii</i>	33	1	NL
<i>Firmiana papuana</i>	36	1	NL
<i>Brachychiton incanus</i>	38	1	NL
<i>Lasiopetalum glabratum</i>	40	1	NL
<i>Lasiopetalum oppositifolium</i>	42	1	NL
<i>Commersonia argentea</i>	45	1	NL
<i>Lysiosepalum rugosum</i>	72	1	NL
<i>Melhania ovata</i>	89	1	NL
<i>Thomasia solanacea</i>	35	2	NL
<i>Thomasia tremandroides</i>	38	2	NL
<i>Dicarpidium monoicum</i>	40	2	NL
<i>Thomasia montana</i>	40	2	VU
<i>Commersonia johnsonii</i>	49	2	NL
<i>Argyrodendron actinophyllum diversifolium</i>	49	2	NL
<i>Melhania incana</i>	51	2	NL
<i>Melhania brachycarpa</i>	57	2	NL
<i>Brachychiton velutinosus</i>	57	2	NL
<i>Brachychiton grandiflorus</i>	65	2	NL
<i>Brachychiton acuminatus</i>	79	2	NL
<i>Brachychiton muellerianus</i>	99	2	NL
<i>Brachychiton garrawayae</i>	140	2	NL
<i>Hannafordia shanesii</i>	159	2	NL
<i>Guichenotia basivirida</i>	32	3	NL
<i>Lasiopetalum oldfieldii</i>	33	3	NL
<i>Thomasia sarotes</i>	34	3	NL
<i>Helicteres rhynchocarpa</i>	37	3	NL
<i>Thomasia macrocarpa</i>	38	3	NL
<i>Rulingia cuneata</i>	41	3	NL
<i>Lasiopetalum microcardium</i>	41	3	NL
<i>Lasiopetalum bracteatum</i>	42	3	NL
<i>Commersonia leichhardtii</i>	45	3	NL
<i>Lysiosepalum involucreatum</i>	45	3	NL
<i>Brachychiton xanthophyllus</i>	47	3	NL
<i>Lysiosepalum hexandrum</i>	51	3	NL
<i>Brachychiton compactus</i>	53	3	NL
<i>Helicteres sp. elongate</i>	53	3	NL
<i>Helicteres dentata</i> var. <i>flagellaris</i>	54	3	NL
<i>Helicteres sp. darwin</i>	56	3	NL
<i>Keraudrenia adenolasia</i>	68	3	NL
<i>Lasiopetalum molle</i>	70	3	NL

<i>Helicteres hirsuta</i>	85	3	NL
<i>Brachychiton spectabilis</i>	95	3	NL
<i>Brachychiton collinus</i>	108	3	NL
<i>Lasiopetalum</i> sp. hill river	135	3	NL
<i>Brachychiton chillagoensis</i>	162	3	NL
<i>Brachychiton vitifolius</i>	175	3	VU
<i>Brachychiton diversifolius orientalis</i>	199	3	NL
<i>Brachychiton paradoxus</i>	230	3	NL
<i>Pentapetes phoenicea</i>	32	4	NL
<i>Thomasia cognata</i>	38	4	NL
<i>Commersonia macrostipulata</i>	39	4	NL
<i>Keraudrenia hillii</i>	44	4	NL
<i>Rulingia rotundifolia</i>	46	4	NL
<i>Sterculia holtzei</i>	48	4	NL
<i>Thomasia microphylla</i>	62	4	NL
<i>Hannafordia bissillii latifolia</i>	67	4	NL
<i>Brachychiton tuberculatus</i>	69	4	NL
<i>Lasiopetalum micranthum</i>	82	4	VU
<i>Melochia umbellata</i>	83	4	NL
<i>Rulingia densiflora</i>	94	4	NL
<i>Commersonia pulchella</i>	95	4	NL
<i>Helicteres dentata</i>	100	4	NL
<i>Brachychiton albidus</i>	114	4	NL
<i>Waltheria virgata</i>	151	4	NL
<i>Keraudrenia hookeriana</i>	152	4	NL
<i>Rulingia grandiflora</i>	31	5	NL
<i>Lasiopetalum angustifolium</i>	35	5	NL
<i>Hannafordia quadrivalvis</i>	38	5	NL
<i>Thomasia quercifolia</i>	38	5	NL
<i>Thomasia glutinosa</i> var. <i>latifolia</i>	45	5	NL
<i>Guichenotia alba</i>	48	5	NL
<i>Brachychiton viridiflorus</i>	50	5	NL
<i>Lasiopetalum lineare</i>	54	5	NL
<i>Commersonia crispa</i>	62	5	NL
<i>Gilesia biniflora</i>	70	5	NL
<i>Lasiopetalum indutum</i>	87	5	NL
<i>Rulingia prostrata</i>	90	5	EN
<i>Guichenotia macrantha</i>	140	5	NL
<i>Helicteres isora</i>	150	5	NL

Sapindaceae

The ANHAT database has 71201 records for 233 species and subspecies of Sapindaceae. No species of Sapindaceae are considered extinct.

Twenty-five species account for approximately 50% of the total species records in ANHAT (**Table 98**). *Dodonaea viscosa angustissima* is the most commonly recorded species accounting for over 5000 records.

Table 98 Sapindaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Dodonaea microzyga</i>	681	0.96
<i>Alectryon diversifolius</i>	763	1.07
<i>Dodonaea triangularis</i>	788	1.11
<i>Ganophyllum falcatum</i>	797	1.12
<i>Dodonaea baueri</i>	813	1.14
<i>Elattostachys xylocarpa</i>	877	1.23
<i>Dodonaea physocarpa</i>	881	1.24
<i>Dodonaea viscosa mucronata</i>	952	1.34
<i>Arytera divaricata</i>	957	1.34
<i>Dodonaea lanceolata</i>	971	1.36
<i>Alectryon connatus</i>	977	1.37
<i>Dodonaea hexandra</i>	1001	1.41
<i>Dodonaea stenozyga</i>	1040	1.46
<i>Dodonaea triquetra</i>	1096	1.54
<i>Dodonaea viscosa cuneata</i>	1278	1.79
<i>Jagera pseudorhus</i>	1300	1.83
<i>Dodonaea lobulata</i>	1421	2.00
<i>Distichostemon hispidulus</i>	1535	2.16
<i>Dodonaea bursariifolia</i>	1551	2.18
<i>Dodonaea viscosa</i>	1592	2.24
<i>Cupaniopsis anacardioides</i>	2112	2.97
<i>Alectryon oleifolius canescens</i>	2116	2.97
<i>Dodonaea viscosa spatulata</i>	2438	3.42
<i>Atalaya hemiglauca</i>	3077	4.32
<i>Dodonaea viscosa angustissima</i>	5135	7.21
Total	36149	50.78

Twenty-eight species, slightly over 10% of all species, have 30 or fewer individual record sites in the ANHAT database (**Table 99**). One species is classified as endangered. Only six species in this category have suitable information on their ranges in Australia and all come from northern Australia. Vegetation associations are not available for this family in this report. The ranges, as usual for this category, are small, with none being recorded from an area larger than 2000 km². Exclusion of these poorly recorded species eliminates 423 records.

Table 99 Sapindaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Guioa comesperma</i>	1	0.00			100	NL
<i>Arytera lineosquamulata</i>	2	100.00	NE		100	NL
<i>Atalaya</i> sp. <i>chillagoe</i>	2	0.00			200	NL
<i>Atalaya</i> sp. <i>elizabeth river</i>	4	0.00			100	NL
<i>Guioa crenifoliola</i>	4	75.00			300	NL
<i>Lepisanthes senegalensis</i>	7	85.71	NE		200	NL
<i>Toechima</i> sp. <i>east alligator</i>	7	0.00			100	NL
<i>Lepidopetalum subdichotomum</i>	8	75.00			700	NL
<i>Mischarytera megaphylla</i>	8	0.00			200	NL
<i>Lepiderema</i> sp. <i>impulse creek</i>	9	0.00			100	NL
<i>Tristiropsis canarioides</i>	10	0.00			200	NL
<i>Cupaniopsis papillosa</i>	11	27.27			200	NL
<i>Rhysotoechia florulenta</i>	11	100.00	NE		400	NL
<i>Arytera</i> sp. <i>dryander creek</i>	12	0.00			400	NL
<i>Alectryon repandodentatus</i>	14	0.00			200	NL
<i>Diplopeltis stuartii glandulosa</i>	15	0.00			900	NL
<i>Atalaya oligoclada</i>	16	0.00			200	NL
<i>Tristiropsis acutangula</i>	17	5.88			700	NL
<i>Guioa sarcopterifructa</i>	21	85.71			500	NL
<i>Distichostemon filamentosus</i>	24	45.83	CN		1900	NL
<i>Arytera pseudofoveolata</i>	25	12.00			700	NL
<i>Mischocarpus albescens</i>	25	76.00	NE		800	NL
<i>Cupaniopsis diploglottoides</i>	27	74.07			700	NL
<i>Lepisanthes rubiginosa</i>	27	48.15	NW		1400	NL
<i>Rhysotoechia bifoliolata nitida</i>	28	0.00			300	NL
<i>Diploglottis pedleyi</i>	29	68.97			600	NL
<i>Diplopeltis intermedia incana</i>	29	27.59			1700	NL
<i>Atalaya collina</i>	30	0.00			200	EN

Removal of the poorly recorded species leaves 70778 records in ANHAT for 205 species (and subspecies). The mean number of records for these species is 345, with a mean of 35.1% of records being present in the NRS.

Fifty-nine species of Sapindaceae have 45% or greater of their individual record sites located within PAs (**Table 103**). None are classified as threatened. Nearly all of these species are found in north-eastern Australia and there are varying range sizes. Five species have over 90% of their records within the NRS.

Table 100 Sapindaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
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<i>Atalaya sericopetala</i>	39	86	45.35	NE	3100	NL
<i>Alectryon coriaceus</i>	78	171	45.61	E	9700	NL
<i>Alectryon kimberleyanus</i>	34	72	47.22	NW,CN	3200	NL
<i>Dimocarpus australianus</i>	54	113	47.79	NE	2400	NL
<i>Mischarytera macrobotrys</i>	26	54	48.15		1100	NL
<i>Dodonaea viscosa</i>	769	1592	48.30	Aust	119600	NL
<i>Sarcopteryx martyana</i>	113	228	49.56	NE	6500	NL
<i>Sarcotoechia protracta</i>	38	76	50.00		2100	NL
<i>Cupaniopsis fleckeri</i>	33	65	50.77	NE	2700	NL
<i>Guioa lasioneura</i>	126	248	50.81	NE	5200	NL
<i>Diploglottis harpullioides</i>	22	43	51.16	NE	1200	NL
<i>Sarcopteryx stipata</i>	197	385	51.17	NE,E	18700	NL
<i>Cupaniopsis foveolata</i>	78	152	51.32	NE,E	7100	NL
<i>Cupaniopsis dallachyi</i>	19	37	51.35		1200	NL
<i>Cupaniopsis baileyana</i>	16	31	51.61		2600	NL
<i>Dodonaea megazyga</i>	63	119	52.94	E	6700	NL
<i>Harpullia leichhardtii</i>	45	84	53.57		3900	NL
<i>Mischocarpus exangulatus</i>	240	444	54.05	NE,E	10000	NL
<i>Synima macrophylla</i>	108	199	54.27	NE	3600	NL
<i>Mischocarpus macrocarpus</i>	100	183	54.64	NE,E	3700	NL
<i>Lepiderema punctulata</i>	61	111	54.95		3200	NL
<i>Jagera madida</i>	27	49	55.10		1000	NL
<i>Jagera pseudorhus integerrima</i>	25	45	55.56		1200	NL
<i>Elattostachys macrocarpa</i>	80	143	55.94	NE	3300	NL
<i>Diploglottis bracteata</i>	62	110	56.36	NE	1500	NL
<i>Lepidopetalum fructoglabrum</i>	25	44	56.82	NE	1000	NL
<i>Arytera dictyoneura</i>	56	97	57.73		2000	NL
<i>Dodonaea humilis</i>	391	673	58.10	SE,CS	17200	NL
<i>Harpullia alata</i>	79	135	58.52	E	3300	NL
<i>Arytera pauciflora</i>	140	238	58.82	NE	5300	NL
<i>Diploglottis smithii</i>	60	101	59.41	NE	2400	NL
<i>Harpullia ramiflora</i>	45	75	60.00	NE	1500	NL
<i>Synima cordieri</i>	133	218	61.01		5500	NL
<i>Harpullia frutescens</i>	83	136	61.03	NE	4600	NL
<i>Distichostemon arnhemicus</i>	76	123	61.79	CN	6100	NL
<i>Synima reynoldsiae</i>	25	40	62.50		900	NL
<i>Lepiderema ixiocarpa</i>	35	56	62.50	NE	1400	NL
<i>Sarcotoechia villosa</i>	38	60	63.33	NE	900	NL
<i>Sarcopteryx reticulata</i>	59	93	63.44	NE	2200	NL

<i>Elattostachys megalantha</i>	71	111	63.96	NE	3100	NL
<i>Lepiderema sericolignis</i>	38	59	64.41	NE	1700	NL
<i>Toechima erythrocarpum</i>	167	255	65.49	NE,E	6200	NL
<i>Rhysotoechia mortoniana</i>	94	142	66.20	NE	3100	NL
<i>Rhysotoechia flavescens</i>	49	71	69.01	NE	1700	NL
<i>Harpullia rhyticarpa</i>	295	425	69.41	NE	7900	NL
<i>Mischocarpus grandissimus</i>	44	63	69.84	NE	3200	NL
<i>Toechima monticola</i>	44	62	70.97	NE	900	NL
<i>Sarcotoechia lanceolata</i>	101	142	71.13	NE	2900	NL
<i>Dodonaea rhombifolia</i>	152	210	72.38	E,SE	5500	NL
<i>Sarcotoechia serrata</i>	64	87	73.56	NE	1000	NL
<i>Dodonaea serratifolia</i>	26	35	74.29	E	1500	NL
<i>Cnesmocarpon dasyantha</i>	133	163	81.60	NE	3900	NL
<i>Guioa Montana</i>	111	131	84.73	NE,E	3000	NL
<i>Sarcopteryx acuminata</i>	65	75	86.67	NE	1500	NL
<i>Sarcopteryx montana</i>	85	93	91.40	NE	800	NL
<i>Sarcotoechia cuneata</i>	156	169	92.31	NE	2800	NL
<i>Lepiderema hirsuta</i>	42	45	93.33	NE	700	NL
<i>Lepiderema largiflorens</i>	30	32	93.75		600	NL
<i>Mischocarpus pyriformis retusus</i>	46	47	97.87		900	NL

Twenty-one species had less than 10% of ANHAT records located within PAs (**Table 101**), representing about 10% of species with more than 30 records. Four of the 21 species are classified as endangered. One species does not have a record within the NRS. There is a notably larger proportion of species from the western part of Australia in the list of species with poor reservation levels, but there are still a number of species from eastern Australia. Again, range sizes vary quite widely.

Table 101 Sapindaceae species with <10% of ANHAT records located within PAs.

<i>Species</i>	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Dodonaea biloba</i>	0	187	0.00	E		3700	NL
<i>Dodonaea hackettiana</i>	1	50	2.00	SW		1100	NL
<i>Toechima pterocarpum</i>	1	50	2.00	NE		500	EN
<i>Diploglottis campbellii</i>	3	98	3.06	E		2500	EN
<i>Dodonaea macrossanii</i>	9	248	3.63	E		5500	NL
<i>Dodonaea sinuolata acrodentata</i>	5	136	3.68			5000	NL

<i>Distichostemon hispidulus aridus</i>	3	72	4.17		5000	NL
<i>Dodonaea subglandulifera</i>	3	61	4.92	CS NW,CN,E	2900	EN
<i>Dodonaea coriacea</i>	28	510	5.49	I,W,CI,WI	25600	NL
<i>Distichostemon barklyanus</i>	6	103	5.83	CN,EI,CI	4400	NL
<i>Cossinia australiana</i>	8	124	6.45		2500	EN
<i>Diplopeltis petiolaris</i>	3	46	6.52	W	2500	NL
<i>Alectryon tropicus</i>	5	71	7.04	NE,E	2000	NL
<i>Atalaya angustifolia</i>	9	127	7.09	NE	2700	NL
<i>Dodonaea glandulosa</i>	3	39	7.69	SW	1300	NL
<i>Dodonaea divaricata</i>	5	60	8.33	SW,W	3500	NL
<i>Dodonaea concinna</i>	9	103	8.74	SW	5200	NL
<i>Alectryon oleifolius</i>	32	344	9.30	CS	65500	NL
<i>Alectryon pubescens</i>	6	63	9.52	E	2400	NL
<i>Dodonaea larreoides</i>	7	70	10.00	SW,W	3600	NL
<i>Dodonaea humifusa</i>	9	90	10.00	SW	4700	NL

A total of 10 Sapindaceae species had records in more than 100 separate PAs (**Table 102**). Most species in this list had over 1000 records, with an average of 1948 records per species. No species were classified as threatened.

Table 102 Sapindaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Alectryon oleifolius canescens</i>	2116	102	63	NL
<i>Dodonaea hexandra</i>	1001	107	49	NL
<i>Arytera divaricata</i>	957	119	79	NL
<i>Dodonaea viscosa cuneata</i>	1278	119	71	NL
<i>Cupaniopsis anacardioides</i>	2112	128	83	NL
<i>Jagera pseudorhus</i>	1300	133	79	NL
<i>Dodonaea bursariifolia</i>	1551	155	88	NL
<i>Dodonaea viscosa</i>	1592	170	117	NL
<i>Dodonaea viscosa spatulata</i>	2438	215	138	NL
<i>Dodonaea viscosa angustissima</i>	5135	282	190	NL

A total of 52 species, around a quarter of all species with more than 30 records, are recorded from five or fewer PAs (**Table 103**). Seven species were listed as threatened, including five species classified as endangered. The majority of species in this list had fewer than 100 individual site records and no species had more than 250 site records.

As noted before, one species is not represented in a PA and another 10 are found in only one PA.

Table 103 Sapindaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Dodonaea biloba</i>	187	0	NL
<i>Cupaniopsis cooperorum</i>	33	1	NL
<i>Dodonaea glandulosa</i>	39	1	NL
<i>Sarcotoechia heterophylla</i>	42	1	NL
<i>Dodonaea trifida</i>	43	1	NL
<i>Diplopeltis petiolaris</i>	46	1	NL
<i>Alectryon ramiflorus</i>	49	1	EN
<i>Dodonaea hackettiana</i>	50	1	NL
<i>Toechima pterocarpum</i>	50	1	EN
<i>Dodonaea rupicola</i>	60	1	VU
<i>Dodonaea sinuolata acrodentata</i>	136	1	NL
<i>Lepiderema largiflorens</i>	32	2	NL
<i>Alectryon forsythia</i>	33	2	NL
<i>Lepidopetalum fructoglabrum</i>	44	2	NL
<i>Jagera madida</i>	49	2	NL
<i>Mischarytera macrobotrys</i>	54	2	NL
<i>Cupaniopsis tomentella</i>	59	2	VU
<i>Dodonaea subglandulifera</i>	61	2	EN
<i>Alectryon pubescens</i>	63	2	NL
<i>Alectryon tropicus</i>	71	2	NL
<i>Distichostemon hispidulus aridus</i>	72	2	NL
<i>Dodonaea uncinata</i>	74	2	NL
<i>Dodonaea humifusa</i>	90	2	NL
<i>Distichostemon barklyanus</i>	103	2	NL
<i>Dodonaea macrossanii</i>	248	2	NL
<i>Diploglottis harpullioides</i>	43	3	NL
<i>Dictyoneura obtuse</i>	59	3	NL
<i>Harpullia ramiflora</i>	75	3	NL
<i>Harpullia leichhardtii</i>	84	3	NL
<i>Sarcotoechia serrata</i>	87	3	NL
<i>Diploglottis campbellii</i>	98	3	EN
<i>Dodonaea concinna</i>	103	3	NL
<i>Diploglottis bracteata</i>	110	3	NL
<i>Distichostemon arnhemicus</i>	123	3	NL
<i>Atalaya angustifolia</i>	127	3	NL
<i>Dodonaea serratifolia</i>	35	4	NL
<i>Cupaniopsis dallachyi</i>	37	4	NL
<i>Lepiderema hirsute</i>	45	4	NL
<i>Cupaniopsis fleckeri</i>	65	4	NL
<i>Dodonaea larreoides</i>	70	4	NL
<i>Atalaya calcicola</i>	116	4	NL
<i>Diplopeltis huegelii subintegra</i>	140	4	NL
<i>Diplopeltis intermedia</i>	31	5	NL
<i>Dodonaea ericoides</i>	58	5	NL
<i>Diploglottis obovata</i>	59	5	NL

<i>Dodonaea divaricata</i>	60	5	NL
<i>Sarcotoechia villosa</i>	60	5	NL
<i>Harpullia arborea</i>	63	5	NL
<i>Atalaya Australiana</i>	71	5	NL
<i>Alectryon kimberleyanus</i>	72	5	NL
<i>Dodonaea hirsute</i>	119	5	NL
<i>Cossinia Australiana</i>	124	5	EN

Fifty-eight species of Sapindaceae had records in five or fewer PAs greater than 1000 hectares, including seven species classified as threatened, with five listed as endangered (**Table 104**). The species with no records in a PA, *Dodonaea biloba*, remains the only species without a record in a PA greater than 1000 ha (it is not included in **Table 104**).

Table 104 Sapindaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Cupaniopsis cooperorum</i>	33	1	NL
<i>Dodonaea glandulosa</i>	39	1	NL
<i>Sarcotoechia heterophylla</i>	42	1	NL
<i>Dodonaea trifida</i>	43	1	NL
<i>Diplopeltis petiolaris</i>	46	1	NL
<i>Alectryon ramiflorus</i>	49	1	EN
<i>Dodonaea hackettiana</i>	50	1	NL
<i>Toechima pterocarpum</i>	50	1	EN
<i>Cupaniopsis tomentella</i>	59	1	VU
<i>Diploglottis obovata</i>	59	1	NL
<i>Dodonaea larreoides</i>	70	1	NL
<i>Distichostemon hispidulus aridus</i>	72	1	NL
<i>Dodonaea humifusa</i>	90	1	NL
<i>Dodonaea sinuolata acrodentata</i>	136	1	NL
<i>Dodonaea macrossanii</i>	248	1	NL
<i>Lepiderema largiflorens</i>	32	2	NL
<i>Alectryon forsythia</i>	33	2	NL
<i>Lepidopetalum fructoglabrum</i>	44	2	NL
<i>Jagera madida</i>	49	2	NL
<i>Mischarytera macrobotrys</i>	54	2	NL
<i>Dodonaea divaricata</i>	60	2	NL
<i>Dodonaea subglandulifera</i>	61	2	EN
<i>Alectryon pubescens</i>	63	2	NL
<i>Alectryon tropicus</i>	71	2	NL
<i>Dodonaea uncinata</i>	74	2	NL
<i>Sarcotoechia serrata</i>	87	2	NL
<i>Diploglottis campbellii</i>	98	2	EN
<i>Distichostemon barklyanus</i>	103	2	NL
<i>Diploglottis bracteata</i>	110	2	NL

<i>Cupaniopsis dallachyi</i>	37	3	NL
<i>Diploglottis harpullioides</i>	43	3	NL
<i>Lepiderema hirsute</i>	45	3	NL
<i>Dodonaea ericoides</i>	58	3	NL
<i>Dictyoneura obtuse</i>	59	3	NL
<i>Harpullia ramiflora</i>	75	3	NL
<i>Harpullia leichhardtii</i>	84	3	NL
<i>Dodonaea concinna</i>	103	3	NL
<i>Atalaya calcicola</i>	116	3	NL
<i>Distichostemon arnhemicus</i>	123	3	NL
<i>Cossinia australiana</i>	124	3	EN
<i>Atalaya angustifolia</i>	127	3	NL
<i>Diplopeltis huegelii subintegra</i>	140	3	NL
<i>Dodonaea serratifolia</i>	35	4	NL
<i>Sarcotoechia villosa</i>	60	4	NL
<i>Harpullia arborea</i>	63	4	NL
<i>Cupaniopsis fleckeri</i>	65	4	NL
<i>Diplopeltis intermedia</i>	31	5	NL
<i>Jagera pseudorhus integerrima</i>	45	5	NL
<i>Cupaniopsis simulate</i>	66	5	NL
<i>Atalaya Australiana</i>	71	5	NL
<i>Alectryon kimberleyanus</i>	72	5	NL
<i>Dodonaea filiformis</i>	85	5	NL
<i>Dodonaea tepperi</i>	96	5	NL
<i>Dodonaea ptarmicifolia</i>	100	5	NL
<i>Dodonaea hirsute</i>	119	5	NL
<i>Toechima dasyrrhache</i>	135	5	NL
<i>Diploglottis macrantha</i>	156	5	NL
<i>Dodonaea procumbens</i>	205	5	VU

Solanaceae

The ANHAT database has 53203 records for 228 species and subspecies of Solanaceae. No species of Solanaceae are considered extinct.

Ninety-eight species account for approximately 50% of the total species records in ANHAT (

Table 105). These species have a minimum of 80 records. *Solanum ellipticum* is represented by over 3500 record sites.

Table 105 Solanaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Nicotiana amplexicaulis</i>	81	0.08
<i>Solanum beaugleholei</i>	81	0.08
<i>Solanum gympiense</i>	81	0.08
<i>Solanum hamulosum</i>	83	0.08
<i>Cyphanthera albicans tomentose</i>	84	0.08
<i>Solanum galbanum</i>	86	0.09
<i>Solanum cunninghamii</i>	86	0.09
<i>Solanum karsense</i>	87	0.09
<i>Solanum papaverifolium</i>	90	0.09
<i>Solanum silvestre</i>	91	0.09
<i>Cyphanthera albicans albicans</i>	92	0.09
<i>Cyphanthera racemosa</i>	92	0.09
<i>Solanum multiglochidiatum</i>	94	0.09
<i>Anthocercis fasciculata</i>	96	0.10
<i>Anthotroche walcottii</i>	96	0.10
<i>Anthocercis sylvicola</i>	98	0.10
<i>Solanum gabriellae</i>	99	0.10
<i>Nicotiana rosulata</i>	100	0.10
<i>Anthocercis viscosa</i>	101	0.10
<i>Solanum nobile</i>	102	0.10
<i>Anthotroche myoporoides</i>	106	0.11
<i>Solanum dimorphispinum</i>	106	0.11
<i>Solanum physalifolium</i> var. <i>nitidibaccatum</i>	108	0.11
<i>Solanum rixosum</i>	111	0.11
<i>Solanum gilesii</i>	113	0.11
<i>Solanum orbiculatum macrophyllum</i>	114	0.12
<i>Cyphanthera anthocercidea</i>	115	0.12
<i>Anthocercis anisantha</i>	115	0.12
<i>Solanum limitare</i>	124	0.13
<i>Solanum clarkiae</i>	130	0.13
<i>Solanum ditrichum</i>	130	0.13
<i>Cyphanthera microphylla</i>	131	0.13
<i>Solanum pugiunculiferum</i>	131	0.13
<i>Solanum magnifolium</i>	136	0.14

<i>Nicotiana rotundifolia</i>	137	0.14
<i>Solanum inaequilaterum</i>	139	0.14
<i>Solanum hystrix</i>	139	0.14
<i>Solanum tetrandrum</i>	151	0.15
<i>Solanum mitchellianum</i>	151	0.15
<i>Solanum amblymerum</i>	153	0.15
<i>Solanum semiarmatum</i>	156	0.16
<i>Nicotiana megalosiphon</i>	157	0.16
<i>Solanum horridum</i>	162	0.16
<i>Solanum eburneum</i>	163	0.16
<i>Solanum furfuraceum</i>	163	0.16
<i>Solanum plicatile</i>	165	0.17
<i>Nicotiana occidentalis</i>	168	0.17
<i>Solanum capsiciforme</i>	170	0.17
<i>Solanum lacunarium</i>	170	0.17
<i>Anthocercis anisantha collina</i>	175	0.18
<i>Anthocercis angustifolia</i>	175	0.18
<i>Nicotiana forsteri</i>	179	0.18
<i>Solanum tetrathecum</i>	189	0.19
<i>Solanum tumulicola</i>	190	0.19
<i>Nicotiana rosulata rosulata</i>	193	0.19
<i>Solanum nummularium</i>	193	0.19
<i>Anthotroche pannosa</i>	199	0.20
<i>Anthocercis genistoides</i>	200	0.20
<i>Solanum asymmetriphyllum</i>	201	0.20
<i>Solanum eardleyae</i>	202	0.20
<i>Solanum oldfieldii</i>	209	0.21
<i>Solanum phlomoides</i>	212	0.21
<i>Solanum hoplopetalum</i>	220	0.22
<i>Nicotiana megalosiphon megalosiphon</i>	226	0.23
<i>Solanum macoorai</i>	234	0.24
<i>Solanum linearifolium</i>	244	0.25
<i>Nicotiana gossei</i>	247	0.25
<i>Grammosolen truncates</i>	249	0.25
<i>Nicotiana megalosiphon sessilifolia</i>	250	0.25
<i>Nicotiana suaveolens</i>	252	0.25
<i>Solanum symonii</i>	259	0.26
<i>Solanum jucundum</i>	262	0.26
<i>Solanum pungetium</i>	263	0.27
<i>Solanum brownie</i>	277	0.28
<i>Solanum corifolium</i>	282	0.28
<i>Solanum orbiculatum orbiculatum</i>	287	0.29
<i>Anthocercis littorea</i>	290	0.29
<i>Nicotiana rosulata ingulba</i>	314	0.32
<i>Grammosolen dixonii</i>	316	0.32
<i>Solanum lucani</i>	326	0.33
<i>Nicotiana benthamiana</i>	326	0.33
<i>Solanum opacum</i>	333	0.34
<i>Solanum chenopodium</i>	338	0.34
<i>Solanum diversiflorum</i>	339	0.34

<i>Nicotiana maritima</i>	349	0.35
<i>Solanum viride</i>	363	0.37
<i>Physalis minima</i>	372	0.38
<i>Solanum cinereum</i>	374	0.38
<i>Solanum vescum</i>	380	0.38
<i>Solanum oligacanthum</i>	384	0.39
<i>Solanum parvifolium</i>	388	0.39
<i>Solanum densevestitum</i>	390	0.39
<i>Solanum orbiculatum</i>	408	0.41
<i>Cyphanthera myosotidea</i>	427	0.43
<i>Nicotiana occidentalis obliqua</i>	428	0.43
<i>Solanum cleistogamum</i>	487	0.49
<i>Solanum nemophilum</i>	512	0.52
<i>Physalis angulata</i>	622	0.63
<i>Solanum ferocissimum</i>	648	0.65
<i>Duboisia myoporoides</i>	651	0.66
<i>Solanum dioicum</i>	654	0.66
<i>Nicotiana simulans</i>	655	0.66
<i>Datura leichhardtii</i>	665	0.67
<i>Solanum simile</i>	701	0.71
<i>Nicotiana goodspeedii</i>	715	0.72
<i>Solanum chippendalei</i>	760	0.77
<i>Solanum echinatum</i>	762	0.77
<i>Solanum laciniatum</i>	820	0.83
<i>Solanum prinophyllum</i>	822	0.83
<i>Solanum centrale</i>	883	0.89
<i>Solanum aviculare</i>	1023	1.03
<i>Solanum stelligerum</i>	1144	1.16
<i>Solanum americanum</i>	1155	1.17
<i>Duboisia hopwoodii</i>	1262	1.27
<i>Solanum lasiophyllum</i>	1284	1.30
<i>Lycium australe</i>	1294	1.31
<i>Solanum coactiliferum</i>	1299	1.31
<i>Solanum sturtianum</i>	1347	1.36
<i>Solanum quadriloculatum</i>	1355	1.37
<i>Solanum petrophilum</i>	1442	1.46
<i>Solanum esuriale</i>	1745	1.76
<i>Nicotiana velutina</i>	2379	2.40
<i>Solanum ellipticum</i>	3628	3.67
Total	49462	49.91

Fifty-six species are represented by 30 or fewer individual record sites in the ANHAT database (

Table 106). This represents 25% of the species from this family in the ANHAT database. Three of these species are classified as threatened (including two species classified as endangered). Exclusion of these poorly recorded species eliminates 906 records. Relatively few species have accurate information on their ranges within Australia and the species that do are scattered across the continent and show no

specific patterns. Due to time constraints, there is no information available on their vegetation associations. Range sizes are mostly less than 1000 km².

Table 106 Solanaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Anthocercis albicans</i>	1	100.00			100	NL
<i>Anthocercis frondosa</i>	1	100.00			100	NL
<i>Grammosolen archeri</i>	1	0.00	SW		100	NL
<i>Nicotiana wuttkei</i>	10	0.00	NE		400	NL
<i>Solanum francisii</i>	10	30.00			300	NL
<i>Solanum retroflexum</i>	10	70.00	CS		500	NL
<i>Solanum versicolor</i>	10	0.00			200	NL
<i>Solanum lasiocarpum</i>	11	0.00			400	NL
<i>Solanum mt brockman</i>	12	83.33			400	NL
<i>Solanum pusillum</i>	13	0.00			500	NL
<i>Nicotiana debneyi debneyi</i>	14	14.29			900	NL
<i>Solanum cataphractum</i>	14	14.29	NW		1000	NL
<i>Solanum graniticum</i>	14	7.14			400	NL
<i>Solanum ultimum</i>	15	53.33			300	NL
<i>Solanum crebrispinum</i>	16	0.00			400	NL
<i>Solanum dryanderense</i>	16	50.00			200	NL
<i>Solanum tudununggae</i>	16	0.00	NW		300	NL
<i>Solanum dumicola</i>	17	82.35			600	NL
<i>Solanum longissimum</i>	17	17.65			700	NL
<i>Nicotiana occidentalis occidentalis</i>	18	16.67			2000	NL
<i>Solanum lythrocarpum</i>	18	0.00			300	NL
<i>Solanum mentiense</i>	18	16.67			400	NL
<i>Cyphanthera scabrella</i>	19	68.42	E		400	NL
<i>Solanum dunalianum</i>	19	0.00	NE		500	VU
<i>Solanum ferox</i>	2	0.00			200	NL
<i>Nicotiana burbridgei</i>	20	95.00	CI		1000	NL
<i>Solanum eminense</i>	20	100.00	NE		200	NL
<i>Cyphanthera miersiana</i>	21	14.29	W		1200	NL
<i>Cyphanthera odgersii odgersii</i>	22	45.45			1100	NL
<i>Nicotiana umbratica</i>	22	4.55	W WI		700	NL
<i>Nicotiana debneyi monoschizocarpa</i>	23	26.09			600	NL
<i>Solanum terraneum</i>	23	0.00	W		1600	NL
<i>Nicotiana occidentalis hesperis</i>	24	16.67			2100	NL
<i>Solanum cocosoides</i>	25	20.00			600	NL
<i>Solanum adenophorum</i>	26	46.15	E		1200	NL
<i>Solanum vansittartense</i>	26	23.08	NW		600	NL
<i>Solanum argopetalum</i>	27	0.00	E		600	NL
<i>Solanum crassitomentosum</i>	27	77.78			500	NL
<i>Solanum dissectum</i>	27	0.00			900	NL
<i>Solanum elegans</i>	27	22.22			8300	NL
<i>Solanum fervens</i>	27	22.22	NE		700	NL

<i>Solanum neoanglicum</i>	27	44.44	E	1200	NL
<i>Solanum angustum</i>	28	17.86	NE	900	NL
<i>Anthocercis ilicifolia caldariola</i>	29	34.48		600	NL
<i>Solanum johnsonianum</i>	29	0.00		1400	NL
<i>Solanum dysprosium</i>	3	100.00		100	NL
<i>Solanum yirrkalense</i>	30	90.00	NE CN	900	NL
<i>Solanum stuartianum</i>	4	0.00	W	200	NL
<i>Duboisia arenitensis</i>	5	0.00	CN	100	NL
<i>Cyphanthera odgersii occidentalis</i>	6	0.00		100	EN
<i>Solanum litchfield</i>	6	100.00		100	NL
<i>Anthocercis ilicifolia</i>	7	28.57		400	NL
<i>Symonanthus bancroftii</i>	7	0.00		700	EN
<i>Cyphanthera albicans</i>	8	0.00	E	2000	NL
<i>Solanum armourense</i>	9	100.00	E	500	NL
<i>Solanum rantonnei</i>	9	0.00	SE CS	600	NL

Removal of extinct and poorly recorded species leaves 52297 records in ANHAT for 172 species (and subspecies). The mean number of records per species for species with greater than 30 records was 304, with a mean of 27.5 for the percent of records in the NRS.

Twenty-seven species of Solanaceae had 45% or greater of individual site records located within PAs (**Table 107**). Only one species is listed as threatened (vulnerable) under the EPBC Act. Four species had more than 95% of their record sites falling within PAs. Species in this category tend to be found in eastern Australia, but there are representatives from other parts of the continent. Vegetation type information has not been obtained for this family. The size of ranges varies, but there are no species with even moderately large range sizes, with the largest being just 23000 km².

Table 107 Solanaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Solanum clarkiae</i>	59	130	45.38	CN		3600	NL
<i>Solanum limitare</i>	57	124	45.97	E		3800	NL
<i>Cyphanthera albicans albicans</i>	43	92	46.74			3600	NL
<i>Solanum serpens</i>	23	48	47.92	E		1000	NL
<i>Grammosolen truncatus</i>	120	249	48.19	CS		10300	NL
<i>Cyphanthera tasmanica</i>	29	60	48.33	TAS		3000	NL
<i>Cyphanthera myosotideia</i>	211	427	49.41	SE CS		18200	NL
<i>Solanum ditrichum</i>	66	130	50.77	E		5300	NL
<i>Solanum nobile</i>	52	102	50.98	E		4100	NL
<i>Anthotroche walcottii</i>	49	96	51.04	W		3800	NL
<i>Solanum asymmetriphyllum</i>	103	201	51.24	CN CS		3500	NL

<i>Solanum leopoldense</i>	38	74	51.35	NW	2300	NL
<i>Solanum densevestitum</i>	204	390	52.31	E	23000	NL
<i>Solanum orbiculatum macrophyllum</i>	61	114	53.51		4100	NL
<i>Solanum silvestre</i>	50	91	54.95	E SE	3800	NL
<i>Solanum vicinum</i>	43	76	56.58	E	3900	NL
<i>Solanum celatum</i>	29	49	59.18	E	1400	NL
<i>Solanum macoorai</i>	144	234	61.54	NE	4500	NL
<i>Solanum carduiforme</i>	48	74	64.86	EI	2000	VU
<i>Solanum hamulosum</i>	54	83	65.06	NE	1000	NL
<i>Solanum intonsum</i>	24	35	68.57		1200	NL
<i>Cyphanthera anthocercidea</i>	80	115	69.57	SE	1800	NL
<i>Solanum magnifolium</i>	96	136	70.59	NE	3900	NL
<i>Solanum dimorphispinum</i>	101	106	95.28	NE	1600	NL
<i>Anthocercis sylvicola</i>	94	98	95.92	SW	2600	NL
<i>Anthocercis fasciculata</i>	93	96	96.88	SW	2900	NL
<i>Nicotiana burbidgeae</i>	43	44	97.73	CI	1700	NL

Thirty-two species (< 20%) have 10% or less of their record sites located within the NRS (

Table 108). This includes five species with no records currently in a PA. The species in this category are found across Australia and have varying range areas. No species are classified as threatened.

Table 108 Solanaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPB C
<i>Crenidium spinescens</i>	0	34	0.00	W WI		1300	NL
<i>Nicotiana megalosiphon megalosiphon</i>	0	226	0.00			11300	NL
<i>Nicotiana truncata</i>	0	39	0.00	CI		1000	NL
<i>Solanum abutiloides</i>	0	31	0.00	E		300	NL
<i>Solanum coracinum</i>	0	45	0.00			1600	NL
<i>Solanum innoxium</i>	0	32	0.00	E		900	NL
<i>Solanum latens</i>	0	71	0.00	E		1500	NL
<i>Solanum oedipus</i>	0	31	0.00	NW		500	NL
<i>Solanum papaverifolium</i>	0	90	0.00	E		3500	NL
<i>Solanum pugiunculiferum</i>	0	131	0.00	CN		4200	NL
<i>Solanum stenopterum</i>	0	44	0.00	E		1000	NL

<i>Solanum ammophilum</i>	1	45	2.22		2400	NL
<i>Solanum melanospermum</i>	2	79	2.53	CN EI	3700	NL
<i>Solanum tumulicola</i>	7	190	3.68	CN E CI	7100	NL
<i>Solanum stupefactum</i>	2	50	4.00	E	1000	NL
<i>Solanum nemophilum</i>	21	512	4.10	E	17100	NL
<i>Nicotiana megalosiphon</i>	7	157	4.46	E EI	6700	NL
<i>Solanum eremophilum</i>	2	41	4.88	E	2700	NL
<i>Solanum eardleyae</i>	10	202	4.95	CI	5400	NL
<i>Solanum dianthophorum</i>	3	58	5.17		5200	NL
<i>Solanum jucundum</i>	14	262	5.34	E	8500	NL
<i>Solanum tetrathecum</i>	13	189	6.88	E	10300	NL
<i>Solanum senticosum</i>	3	43	6.98	EI	1300	NL
<i>Solanum chippendalei</i>	54	760	7.11	NW CN EI CI WI	28400	NL
<i>Solanum amblymerum</i>	12	153	7.84	E	6500	NL
<i>Solanum ferocissimum</i>	51	648	7.87	SW CN E EI W CI	48800	NL
<i>Nicotiana heterantha</i>	3	37	8.11	NW	1100	NL
<i>Solanum cunninghamii</i>	7	86	8.14	NW	5700	NL
<i>Symonanthus aromaticus</i>	6	68	8.82	SW	1900	NL
<i>Solanum chenopodium</i>	30	338	8.88	CI CS	16300	NL
<i>Solanum physalifolium</i> var. <i>nitidibaccatum</i>	10	108	9.26	SW E SE CS	6800	NL
<i>Solanum hoplopetalum</i>	22	220	10.0 0	SW W WI	13700	NL

A total of two Solanaceae species had records in more than 100 PAs (**Table 109**). Both species in this list are represented by more than 1000 records, with a mean of 1083 records. Neither species was listed as threatened under the EPBC Act.

Table 109 Solanaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Solanum aviculare</i>	1023	112	86	NL
<i>Solanum stelligerum</i>	1144	120	94	NL

A total of 60 species had records in five or fewer PAs (

Table 110), which represents more than one-third of all species with more than 30 records. One species was listed as threatened, it was listed as vulnerable. The majority of species in this list had fewer than 100 individual site records and no species had more than 300 site records.

Table 110 Solanaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Solanum oedipus</i>	31	0	NL
<i>Solanum abutiloides</i>	31	0	NL
<i>Solanum innoxium</i>	32	0	NL
<i>Crenidium spinescens</i>	34	0	NL
<i>Nicotiana truncata</i>	39	0	NL
<i>Solanum stenopterum</i>	44	0	NL
<i>Solanum coracinum</i>	45	0	NL
<i>Solanum latens</i>	71	0	NL
<i>Solanum papaverifolium</i>	90	0	NL
<i>Solanum pugiunculiferum</i>	131	0	NL
<i>Nicotiana megalosiphon megalosiphon</i>	226	0	NL
<i>Solanum lachnophyllum</i>	37	1	NL
<i>Solanum senticosum</i>	43	1	NL
<i>Solanum ammophilum</i>	45	1	NL
<i>Solanum elachophyllum</i>	48	1	NL
<i>Solanum stupefactum</i>	50	1	NL
<i>Symonanthus aromaticus</i>	68	1	NL
<i>Solanum melanospermum</i>	79	1	NL
<i>Anthocercis fasciculata</i>	96	1	NL
<i>Solanum gilesii</i>	113	1	NL
<i>Solanum asymmetriphyllum</i>	201	1	NL
<i>Cyphanthera albicans notabilis</i>	31	2	NL
<i>Nicotiana heterantha</i>	37	2	NL
<i>Solanum heteropodium</i>	39	2	NL
<i>Solanum eremophilum</i>	41	2	NL
<i>Anthocercis intricata</i>	42	2	NL
<i>Nicotiana burbridgeae</i>	44	2	NL
<i>Solanum leopoldense</i>	74	2	NL
<i>Solanum galbinum</i>	86	2	NL
<i>Solanum eburneum</i>	163	2	NL
<i>Solanum tumulicola</i>	190	2	NL
<i>Duboisia leichhardtii</i>	195	2	NL
<i>Solanum dianthophorum</i>	58	3	NL

<i>Solanum defensum</i>	74	3	NL
<i>Solanum karsense</i>	87	3	VU
<i>Cyphanthera racemosa</i>	92	3	NL
<i>Anthotroche walcottii</i>	96	3	NL
<i>Cyphanthera anthocercidea</i>	115	3	NL
<i>Solanum eardleyae</i>	202	3	NL
<i>Anthocercis ilicifolia ilicifolia</i>	32	4	NL
<i>Solanum serpens</i>	48	4	NL
<i>Solanum hamulosum</i>	83	4	NL
<i>Solanum multiglochidiatum</i>	94	4	NL
<i>Solanum gabriellae</i>	99	4	NL
<i>Solanum clarkiae</i>	130	4	NL
<i>Solanum tetrandrum</i>	151	4	NL
<i>Nicotiana megalosiphon</i>	157	4	NL
<i>Solanum hesperium</i>	43	5	NL
<i>Solanum celatum</i>	49	5	NL
<i>Solanum ashbyae</i>	58	5	NL
<i>Solanum petraeum</i>	64	5	NL
<i>Anthocercis anisantha anisantha</i>	69	5	NL
<i>Nicotiana amplexicaulis</i>	81	5	NL
<i>Cyphanthera albicans tomentosa</i>	84	5	NL
<i>Solanum cunninghamii</i>	86	5	NL
<i>Anthotroche myoporoides</i>	106	5	NL
<i>Solanum physalifolium</i> var. <i>nitidibaccatum</i>	108	5	NL
<i>Anthocercis angustifolia</i>	175	5	NL
<i>Solanum tetrahecum</i>	189	5	NL
<i>Solanum jucundum</i>	262	5	NL

Fifty-two species of Solanaceae had records in five or fewer PAs greater than 1000 hectares, including one species classified as vulnerable (**Table 111**).

Table 111 Solanaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Nicotiana heterantha</i>	37	1	NL
<i>Solanum lachnophyllum</i>	37	1	NL
<i>Anthocercis intricata</i>	42	1	NL
<i>Solanum senticosum</i>	43	1	NL
<i>Solanum ammophilum</i>	45	1	NL
<i>Solanum elachophyllum</i>	48	1	NL
<i>Solanum stupefactum</i>	50	1	NL
<i>Symonanthus aromaticus</i>	68	1	NL
<i>Solanum melanospermum</i>	79	1	NL
<i>Anthocercis fasciculata</i>	96	1	NL
<i>Solanum gilesii</i>	113	1	NL

<i>Solanum asymmetriphyllum</i>	201	1	NL
<i>Cyphanthera albicans notabilis</i>	31	2	NL
<i>Solanum heteropodium</i>	39	2	NL
<i>Solanum eremophilum</i>	41	2	NL
<i>Nicotiana burbidgeae</i>	44	2	NL
<i>Solanum serpens</i>	48	2	NL
<i>Solanum leopoldense</i>	74	2	NL
<i>Solanum galbinum</i>	86	2	NL
<i>Anthotroche walcottii</i>	96	2	NL
<i>Solanum eburneum</i>	163	2	NL
<i>Solanum tumulicola</i>	190	2	NL
<i>Duboisia leichhardtii</i>	195	2	NL
<i>Solanum dianthophorum</i>	58	3	NL
<i>Solanum defensum</i>	74	3	NL
<i>Solanum hamulosum</i>	83	3	NL
<i>Solanum karsense</i>	87	3	VU
<i>Cyphanthera racemosa</i>	92	3	NL
<i>Cyphanthera anthocercidea</i>	115	3	NL
<i>Solanum tetrandrum</i>	151	3	NL
<i>Anthocercis angustifolia</i>	175	3	NL
<i>Solanum eardleyae</i>	202	3	NL
<i>Anthocercis ilicifolia ilicifolia</i>	32	4	NL
<i>Solanum celatum</i>	49	4	NL
<i>Solanum multiglochidiatum</i>	94	4	NL
<i>Solanum gabriellae</i>	99	4	NL
<i>Solanum physalifolium</i> var. <i>nitidibaccatum</i>	108	4	NL
<i>Solanum clarkiae</i>	130	4	NL
<i>Nicotiana megalosiphon</i>	157	4	NL
<i>Anthocercis anisantha collina</i>	175	4	NL
<i>Solanum tetrathecum</i>	189	4	NL
<i>Solanum jucundum</i>	262	4	NL
<i>Solanum hesperium</i>	43	5	NL
<i>Solanum ashbyae</i>	58	5	NL
<i>Solanum discolor</i>	63	5	NL
<i>Solanum petraeum</i>	64	5	NL
<i>Anthocercis anisantha anisantha</i>	69	5	NL
<i>Solanum cookii</i>	72	5	NL
<i>Nicotiana amplexicaulis</i>	81	5	NL
<i>Cyphanthera albicans tomentosa</i>	84	5	NL
<i>Solanum cunninghamii</i>	86	5	NL
<i>Anthotroche myoporoides</i>	106	5	NL

Dilleniaceae

The ANHAT database has 43146 records for 221 species and subspecies of Dilleniaceae. No species of Dilleniaceae are considered extinct.

Ten species account for approximately 50% of the total species records in ANHAT (

Table 112). These species have over 900 records and, in the case of the *Hibbertia riparia*, over 3500 records.

Table 112 Dilleniaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Hibbertia aspera</i>	937	2.17
<i>Hibbertia acicularis</i>	1028	2.38
<i>Hibbertia scandens</i>	1144	2.65
<i>Hibbertia exutiacies</i>	1879	4.35
<i>Hibbertia stricta</i>	1990	4.61
<i>Hibbertia empetrifolia</i>	2096	4.86
<i>Hibbertia sericea</i>	2623	6.08
<i>Hibbertia linearis obtusifolia</i>	2767	6.41
<i>Hibbertia fasciculata prostrata</i>	3417	7.92
<i>Hibbertia riparia</i>	3839	8.90
Total	21720	50.33

Eighty-six species had 30 or fewer individual site records in the ANHAT database (**Table 113**). This represents more than one-third of all species in the database. Four of these species are classified as threatened, including one species classified as endangered. The majority of species with location information come from Western Australia, with few species being present in the east or the north of Australia. There is no information provided on vegetation types with which these species are associated, due to time constraints. The sizes of the ranges of these species are mostly below 1000 km². These species have been excluded from analysis but are included here for reference. Exclusion of these poorly recorded species eliminates 143 records.

Table 113 Dilleniaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Hibbertia decumbens</i>	1	100.00			200	NL
<i>Hibbertia empetrifolia uncinata</i>	1	0.00			100	NL
<i>Hibbertia montana confertifolia</i>	1	0.00			100	NL
<i>Hibbertia notabilis</i>	1	100.00			100	NL
<i>Hibbertia oenotheroides</i>	1	0.00			100	NL
<i>Hibbertia puberula</i>	1	0.00			100	NL

<i>Hibbertia bracteosa</i>	2	100.00	SW	100	NL
<i>Hibbertia covenyana</i>	2	100.00		2400	NL
<i>Hibbertia leptopus</i>	2	0.00	CI	100	NL
<i>Hibbertia subexcisa</i>	2	0.00	SW	100	NL
<i>Hibbertia tetrandra</i>	2	100.00	SW	100	NL
<i>Hibbertia villifera</i>	2	50.00		200	NL
<i>Hibbertia bennettii</i>	3	33.33		300	NL
<i>Hibbertia humifusa debilis</i>	3	100.00		300	VU
<i>Hibbertia platyphylla halmaturina</i>	3	100.00		200	NL
<i>Hibbertia rhynchocalyx</i>	3	100.00	E	300	NL
<i>Hibbertia cymosa</i>	4	0.00		100	NL
<i>Hibbertia glomerosa bistrata</i>	4	0.00		300	NL
<i>Hibbertia stricta fruticosa</i>	4	0.00		100	NL
<i>Hibbertia vestita thymifolia</i>	4	0.00		200	NL
<i>Hibbertia aspera pilosifolia</i>	5	60.00		500	NL
<i>Hibbertia chartacea</i>	5	0.00	SW	300	NL
<i>Hibbertia linearis grandiflora</i>	5	60.00		500	NL
<i>Hibbertia millari</i>	5	0.00		200	NL
<i>Hibbertia obtusibracteata</i>	5	100.00		800	NL
<i>Hibbertia superans</i>	5	0.00		600	NL
<i>Hibbertia basaltica</i>	6	0.00		200	EN
<i>Hibbertia acuminata</i>	7	71.43	E	1600	NL
<i>Hibbertia axillibarba</i>	7	0.00	SW	200	NL
<i>Hibbertia cistiflora rostrata</i>	7	85.71		400	NL
<i>Hibbertia lepidocalyx tuberculata</i>	7	100.00		300	NL
<i>Hibbertia patens</i>	7	0.00	E	400	NL
<i>Hibbertia tenuis</i>	7	0.00		200	NL
<i>Hibbertia charlesii</i>	8	100.00	SW	100	NL
<i>Hibbertia selkii</i>	8	75.00	NW	500	NL
<i>Hibbertia carinata</i>	9	22.22		600	NL
<i>Hibbertia pachyphylla</i>	9	33.33		700	NL
<i>Hibbertia tenuifolia</i>	9	33.33		300	NL
<i>Tetracera nordtiana moluccana</i>	9	0.00		700	NL
<i>Hibbertia marginata</i>	10	20.00	E	1200	VU
<i>Hibbertia glomerata ginginensis</i>	11	36.36		400	NL
<i>Hibbertia melhanioides baileyana</i>	11	27.27		400	NL
<i>Hibbertia lepidocalyx</i>	12	8.33	SW	600	NL
<i>Hibbertia priceana</i>	12	0.00	SW	400	NL
<i>Hibbertia ledifolia</i>	13	30.77	NW	1000	NL
<i>Hibbertia uncinata</i>	13	0.00	SW	700	NL
<i>Hibbertia ancistrotricha</i>	14	7.14	SW	600	NL
<i>Hibbertia hamata</i>	14	14.29		1000	NL
<i>Hibbertia oligantha</i>	15	40.00	SW	900	NL
<i>Hibbertia turleyana</i>	15	80.00	SW	400	NL
<i>Hibbertia villosa</i>	15	86.67	E	1800	NL
<i>Hibbertia hibbertioides meridionalis</i>	16	37.50		800	NL
<i>Hibbertia muelleri</i>	16	0.00	CN	800	NL
<i>Hibbertia acrotrichion</i>	17	70.59	SW	500	NL
<i>Hibbertia papillata</i>	17	100.00	SW	300	NL

<i>Hibbertia hamulosa</i>	18	55.56	SW	1100	NL
<i>Hibbertia hendersonii</i>	18	94.44		500	NL
<i>Hibbertia kaputarensis</i>	18	83.33	E	1000	NL
<i>Hibbertia porongurupensis</i>	18	77.78		500	NL
<i>Hibbertia pulchra crassinervia</i>	18	27.78		1000	NL
<i>Hibbertia andrewsiana</i>	19	57.89	SW	1700	NL
<i>Hibbertia fitzgeraldensis</i>	19	100.00	SW	300	NL
<i>Hibbertia synandra</i>	19	15.79	NE,E	500	NL
<i>Hibbertia ulicifolia</i>	19	68.42	SW	900	NL
<i>Hibbertia glomerata wandoo</i>	21	57.14		900	NL
<i>Hibbertia graniticola</i>	21	47.62	SW	500	NL
<i>Hibbertia nymphaea</i>	21	42.86	SW	1400	NL
<i>Hibbertia pholidota</i>	21	100.00		500	NL
<i>Hibbertia spathulata</i>	21	71.43	SE	600	NL
<i>Hibbertia glabrisepala</i>	22	13.64	W	1700	NL
<i>Hibbertia helianthemoides</i>	23	60.87	SW,W	1100	NL
<i>Hibbertia hibbertioides pedunculata</i>	23	17.39		800	NL
<i>Hibbertia humifusa erigens</i>	23	0.00		800	VU
<i>Hibbertia oblongata brevifolia</i>	23	60.87		1700	NL
<i>Hibbertia pulchra acutibractea</i>	23	65.22		1300	NL
<i>Hibbertia glomerata darlingensis</i>	25	12.00		800	NL
<i>Hibbertia lividula</i>	25	8.00	SW	1400	NL
<i>Hibbertia sessiliflora</i>	25	28.00		1400	NL
<i>Hibbertia hirsuta</i>	27	7.41	TAS	13400	NL
<i>Hibbertia nutans</i>	27	29.63	SW,W	1600	NL
<i>Hibbertia laurana</i>	28	10.71		1000	NL
<i>Hibbertia scabra</i>	28	32.14	CN	1600	NL
<i>Tetracera nordtiana wuthiana</i>	28	42.86		1600	NL
<i>Hibbertia arnhemica</i>	30	46.67	CN	1800	NL
<i>Hibbertia hooglandii</i>	30	3.33	NW	1400	NL
<i>Hibbertia pulchra</i>	30	50.00	SW	2400	NL

Removal of extinct and poorly recorded species leaves 42038 records in ANHAT for 135 species (and subspecies). The mean number of records per species for species with greater than 30 records was 311, with a mean of 36 for the percent of records in the NRS.

Forty-seven species of Dilleniaceae had 45% or greater of individual site records located within PAs (

Table 114). This is over one-third of the species with more than 30 records. None of these species are classified as threatened under the EPBC Act. There are few species from inland Australia in this category. The range areas vary substantially with two species with ranges greater than 100000 km². No species has more than 83% of its record sites within PAs.

Table 114 Dilleniaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Pachynema sphenandrum</i>	64	141	45.39	NW,CN		6600	NL
<i>Hibbertia crinita</i>	244	536	45.52	SE		16400	NL
<i>Hibbertia salicifolia</i>	103	222	46.40	E		7600	NL
<i>Hibbertia acicularis</i>	478	1028	46.50	E,SE, TAS		47700	NL
<i>Pachynema junceum</i>	135	285	47.37	CN		10000	NL
<i>Hibbertia notibractea</i>	19	40	47.50	SW		2200	NL
<i>Hibbertia platyphylla</i>	47	98	47.96			5600	NL
<i>Hibbertia stricta</i>	961	1990	48.29	SW,E, SE,CS, TAS		73800	NL
<i>Hibbertia appressa</i>	18	37	48.65			2200	NL
<i>Hibbertia silvestris</i>	23	47	48.94	SW		2600	NL
<i>Hibbertia sericea</i>	1288	2623	49.10	E,SE,CS TAS		88700	NL
<i>Hibbertia glaberrima</i>	192	389	49.36	SW,W,C I		8300	NL
<i>Hibbertia riparia</i>	1909	3839	49.73	E,SE,CS TAS		152200	NL
<i>Hibbertia exutiacies</i>	941	1879	50.08	E,SE,CS		22400	NL
<i>Hibbertia pedunculata</i>	67	133	50.38	E,SE		9200	NL
<i>Hibbertia linearis floribunda</i>	81	160	50.63			4200	NL
<i>Hibbertia scandens</i>	586	1144	51.22	NE,E,SE		67600	NL
<i>Hibbertia humifusa</i>	16	31	51.61	SE		1400	NL
<i>Hibbertia fasciculata prostrate</i>	1765	3417	51.65			114900	NL
<i>Hibbertia aspera</i>	490	937	52.29	E,SE,CS TAS		57200	NL
<i>Hibbertia trichocalyx</i>	20	38	52.63	SW		1900	NL
<i>Hibbertia saligna</i>	29	55	52.73	E,SE		2400	NL
<i>Hibbertia pallidiflora</i>	60	113	53.10			6200	NL
<i>Hibbertia platyphylla major</i>	17	32	53.13			2300	NL
<i>Hibbertia brownii</i>	113	205	55.12	NE,CN, CS		8400	NL
<i>Hibbertia rufa</i>	41	74	55.41	E,SE		3700	NL
<i>Hibbertia elata</i>	24	43	55.81	E		1100	NL
<i>Tetracera nordtiana</i>	134	230	58.26	NE,E		8600	NL
<i>Hibbertia argentea</i>	28	47	59.57	SW,W		1700	NL
<i>Pachynema praestans</i>	61	101	60.40	CN		3400	NL
<i>Hibbertia melhanioides</i>	107	177	60.45	NE,E		4200	NL
<i>Hibbertia dealbata</i>	118	195	60.51	NE,CN		9300	NL
<i>Hibbertia grossulariifolia</i>	70	115	60.87	SW		4800	NL

<i>Hibbertia mucronata</i>	45	73	61.64	SW,W	2300	NL
<i>Hibbertia monogyna</i>	55	89	61.80	E,SE NE,E,SE	7600	NL
<i>Hibbertia cistiflora</i>	68	108	62.96	TAS	4900	NL
<i>Hibbertia circumdans</i>	29	46	63.04	E,SE	5900	NL
<i>Hibbertia hermanniifolia</i>	56	88	63.64	E,SE	3200	NL
<i>Hibbertia monticola</i>	34	53	64.15	E	1000	NL
<i>Pachynema diffusum</i>	43	64	67.19	CN	2300	NL
<i>Hibbertia truncata</i>	21	31	67.74		500	NL
<i>Hibbertia tomentosa</i>	45	66	68.18	CN	4300	NL
<i>Hibbertia australis</i>	195	281	69.40	SE	9500	NL
<i>Hibbertia hexandra</i>	58	83	69.88	NW,E	1900	NL
<i>Hibbertia spicata leptotheca</i>	63	82	76.83		2100	NL
<i>Pachynema hooglandii</i>	46	59	77.97	CN	1800	NL
<i>Hibbertia hirticalyx</i>	32	39	82.05		3700	NL

Ten species have less 10% or less of their ANHAT records located within PAs (**Table 115**). This is less than 10% of the species with more than 30 records and is a relatively low percentage of poorly conserved species compared to most of the other families assessed. No species are classified as threatened. One species has no records present in the NRS. Seven of the eight species with recognised locations come from south-west Western Australia. Their ranges are not particularly small with all but one being greater than 1000 km².

Table 115 Dilleniaceae species with <10% of ANHAT records located within PAs.

<i>Species</i>	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Hibbertia mulligana</i>	0	31	0.00			400	NL
<i>Hibbertia goyderi</i>	1	40	2.50	CN		1200	NL
<i>Hibbertia avonensis</i>	1	33	3.03	SW		1700	NL
<i>Hibbertia diamesogenos</i>	1	32	3.13			1600	NL
<i>Hibbertia miniata</i>	2	56	3.57	SW		1400	NL
<i>Hibbertia stowardii</i>	2	38	5.26	SW		1800	NL
<i>Hibbertia drummondii</i>	3	47	6.38	SW,W		2200	NL
<i>Hibbertia ancistrophylla</i>	3	46	6.52	SW,W		2600	NL
<i>Hibbertia lasiopus</i>	8	110	7.27	SW		5400	NL
<i>Hibbertia stenophylla</i>	4	54	7.41	SW		3700	NL

A total of eight Dilleniaceae species had records in more than 100 PAs (

Table 116). Species in this category have a mean of 2325 record sites. No species were classified as threatened.

Table 116 Dilleniaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Hibbertia exutiacies</i>	1879	130	40	NL
<i>Hibbertia scandens</i>	1144	137	107	NL
<i>Hibbertia aspera</i>	937	144	105	NL
<i>Hibbertia stricta</i>	1990	182	121	NL
<i>Hibbertia linearis obtusifolia</i>	2767	187	133	NL
<i>Hibbertia fasciculata prostrate</i>	3417	235	136	NL
<i>Hibbertia sericea</i>	2623	265	114	NL
<i>Hibbertia riparia</i>	3839	355	162	NL

A total of 36 species had records in five or fewer PAs (**Table 117**). This is slightly over one-quarter of species with more than 30 record sites. One species is threatened, being listed as vulnerable. The majority of species in this list had fewer than 100 individual site records and no species had more than 250 site records.

Table 117 Dilleniaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Hibbertia mulligana</i>	31	0	NL
<i>Pachynema praestans</i>	101	1	NL
<i>Hibbertia diamesogenos</i>	32	1	NL
<i>Hibbertia avonensis</i>	33	1	NL
<i>Hibbertia goyderi</i>	40	1	NL
<i>Hibbertia elata</i>	43	1	NL
<i>Hibbertia drummondii</i>	47	1	NL
<i>Hibbertia miniata</i>	56	1	NL
<i>Pachynema hooglandii</i>	59	1	NL
<i>Hibbertia truncate</i>	31	2	NL
<i>Hibbertia nitida</i>	37	2	NL
<i>Hibbertia stowardii</i>	38	2	NL
<i>Hibbertia ancistrophylla</i>	46	2	NL
<i>Hibbertia argentea</i>	47	2	NL
<i>Hibbertia oligodonta</i>	114	3	NL
<i>Hibbertia crispula</i>	42	3	VU
<i>Hibbertia potentilliflora</i>	49	3	NL
<i>Pachynema diffusum</i>	64	3	NL
<i>Hibbertia mucronata</i>	73	3	NL
<i>Hibbertia brownii</i>	205	4	NL
<i>Hibbertia mylnei</i>	33	4	NL

<i>Hibbertia hibbertioides</i>	44	4	NL
<i>Hibbertia ferruginea</i>	46	4	NL
<i>Hibbertia monticola</i>	53	4	NL
<i>Hibbertia stenophylla</i>	54	4	NL
<i>Hibbertia tasmanica</i>	62	4	NL
<i>Hibbertia tomentose</i>	66	4	NL
<i>Hibbertia spicata leptotheca</i>	82	4	NL
<i>Hibbertia velutina</i>	87	4	NL
<i>Hibbertia stirlingii</i>	102	5	NL
<i>Hibbertia humifusa</i>	31	5	NL
<i>Hibbertia depressa</i>	44	5	NL
<i>Hibbertia pachyrrhiza</i>	46	5	NL
<i>Hibbertia rostellata</i>	54	5	NL
<i>Hibbertia desmophylla</i>	62	5	NL
<i>Hibbertia glomerata</i>	66	5	NL

Forty species of Dilleniaceae had records in five or fewer PAs greater than 1000 hectares, including one species classified as vulnerable (**Table 118**). All species except the one with no records in the NRS, *Hibbertia mulligana*, have records in at least one larger PA.

Table 118 Dilleniaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Hibbertia goyderi</i>	40	1	NL
<i>Hibbertia elata</i>	43	1	NL
<i>Hibbertia ancistrophylla</i>	46	1	NL
<i>Hibbertia drummondii</i>	47	1	NL
<i>Hibbertia potentilliflora</i>	49	1	NL
<i>Pachynema hooglandii</i>	59	1	NL
<i>Pachynema praestans</i>	101	1	NL
<i>Hibbertia truncate</i>	31	2	NL
<i>Hibbertia nitida</i>	37	2	NL
<i>Hibbertia stowardii</i>	38	2	NL
<i>Hibbertia hibbertioides</i>	44	2	NL
<i>Hibbertia pachyrrhiza</i>	46	2	NL
<i>Hibbertia argentea</i>	47	2	NL
<i>Hibbertia crispula</i>	42	3	VU
<i>Hibbertia ferruginea</i>	46	3	NL
<i>Pachynema diffusum</i>	64	3	NL
<i>Hibbertia mucronata</i>	73	3	NL
<i>Hibbertia oligodonta</i>	114	3	NL
<i>Hibbertia humifusa</i>	31	4	NL
<i>Hibbertia mylnei</i>	33	4	NL
<i>Hibbertia depressa</i>	44	4	NL
<i>Hibbertia cinerea</i>	49	4	NL

<i>Hibbertia monticola</i>	53	4	NL
<i>Hibbertia stenophylla</i>	54	4	NL
<i>Hibbertia tasmanica</i>	62	4	NL
<i>Hibbertia tomentosa</i>	66	4	NL
<i>Hibbertia spicata leptotheca</i>	82	4	NL
<i>Hibbertia velutina</i>	87	4	NL
<i>Hibbertia lasiopus</i>	110	4	NL
<i>Hibbertia paeninsularis</i>	159	4	NL
<i>Hibbertia brownii</i>	205	4	NL
<i>Hibbertia rostellata</i>	54	5	NL
<i>Hibbertia desmophylla</i>	62	5	NL
<i>Hibbertia glomerata</i>	66	5	NL
<i>Hibbertia polystachya</i>	88	5	NL
<i>Hibbertia stirlingii</i>	102	5	NL
<i>Hibbertia montana</i>	131	5	NL
<i>Pachynema complanatum</i>	147	5	NL
<i>Pachynema dilatatum</i>	173	5	NL
<i>Pachynema junceum</i>	285	5	NL

Amaranthaceae

The ANHAT database has 49668 records for 192 species and subspecies of Amaranthaceae. No species of Amaranthaceae are considered extinct.

Sixteen species account for approximately 50% of the total species records in ANHAT (

Table 119). These species have over 2000 records each.

Table 119 Amaranthaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Gomphrena flaccida</i>	871	1.75
<i>Alternanthera nana</i>	925	1.86
<i>Ptilotus helipteroides</i>	938	1.89
<i>Ptilotus fusiformis</i>	979	1.97
<i>Ptilotus sessilifolius sessilifolius</i>	1028	2.07
<i>Ptilotus exaltatus</i>	1086	2.19
<i>Alternanthera nodiflora</i>	1259	2.53
<i>Ptilotus polystachyus</i>	1303	2.62
<i>Gomphrena canescens</i>	1487	2.99
<i>Ptilotus obovatus</i>	1513	3.05
<i>Ptilotus macrocephalus</i>	1553	3.13
<i>Ptilotus polystachyus polystachyus</i>	1679	3.38
<i>Ptilotus exaltatus exaltatus</i>	1825	3.67
<i>Ptilotus spathulatus</i>	1853	3.73
<i>Alternanthera denticulata</i>	2265	4.56
<i>Ptilotus obovatus obovatus</i>	4117	8.29
Total	24681	49.68

Sixty-five species of the 192 species with records had 30 or fewer individual record sites in the ANHAT database (**Table 120**), representing then more than 33% of the species. One species is classified as endangered. The majority of these species are located in the western part of Australia and there are none listed that are present in the north-east or Tasmania. All but two species have ranges less than 2000 km². The species in this category have been excluded from further analysis. Exclusion of these poorly recorded species eliminates 900 records.

Table 120 Amaranthaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Ptilotus artiplicifolius</i>	1	100.00			100	NL
<i>Ptilotus eichleranus</i>	2	0.00	CI		100	NL

<i>Achyranthes aspera canescens</i>	3	0.00		100	NL
<i>Gomphrena pusilla</i>	3	0.00		300	NL
<i>Ptilotus extenuatus</i>	3	0.00		100	NL
<i>Ptilotus gardneri inermis</i>	3	0.00		200	NL
<i>Ptilotus blakeanus</i>	4	0.00		200	NL
<i>Ptilotus chrysocomus</i>	4	0.00	W	200	NL
<i>Ptilotus mitchellii</i>	4	0.00	W	100	NL
<i>Ptilotus wilsonii</i>	4	75.00	WI	200	NL
<i>Ptilotus blackii</i>	6	16.67		600	NL
<i>Ptilotus brachyanthus</i>	6	0.00	EI	400	NL
<i>Ptilotus decalvatus</i>	6	0.00	NW	600	NL
<i>Ptilotus gardneri</i>	6	16.67	NW	500	NL
<i>Ptilotus procumbens</i>	6	0.00	SW	300	NL
<i>Ptilotus aristatus stenophyllus</i>	7	0.00		200	NL
<i>Ptilotus calostachyus procerus</i>	7	14.29		400	NL
<i>Ptilotus chortophytum</i>	7	14.29		400	NL
<i>Ptilotus crispus</i>	8	0.00	NW	600	NL
<i>Ptilotus halophilus</i>	8	62.50	SW	500	NL
<i>Ptilotus atriplicifolius elderi</i>	9	0.00		800	NL
<i>Ptilotus indivisus</i>	9	0.00	E	1000	NL
<i>Ptilotus lophotrichus</i>	9	44.44	CN	400	NL
<i>Ptilotus polystachyus arthrotrichus</i>	9	11.11		900	NL
<i>Ptilotus marduguru</i>	10	0.00	WI	200	NL
<i>Gomphrena occulta</i>	11	0.00		900	NL
<i>Ptilotus alexandri</i>	11	0.00	W	900	NL
<i>Ptilotus appendiculatus</i>	11	9.09		800	NL
<i>Ptilotus caespitosus</i>	11	90.91	W	900	NL
<i>Ptilotus kenneallyanus</i>	11	0.00	NW	500	NL
<i>Ptilotus latifolius major</i>	11	9.09		600	NL
<i>Amaranthus clementii</i>	12	33.33	W	800	NL
<i>Euxolus rhombeus</i>	13	30.77		2200	NL
<i>Ptilotus chippendalei</i>	13	69.23	W WI	800	NL
<i>Ptilotus semilanatus</i>	14	0.00		7700	NL
<i>Gomphrena affinis pilbarensis</i>	15	0.00		1600	NL
<i>Ptilotus exaltatus glaber</i>	15	20.00		1000	NL
<i>Ptilotus petiolatus</i>	15	0.00	NW W	1000	NL
<i>Ptilotus sericostachyus</i>	15	20.00	SW	1000	NL
<i>Ptilotus mollis</i>	16	12.50	W	800	NL
<i>Gomphrena atrorubra</i>	17	11.76		500	NL
<i>Ptilotus crosslandii</i>	17	23.53	W	1000	NL
<i>Ptilotus gardneri gardneri</i>	17	11.76		1000	NL
<i>Ptilotus lanatus</i>	17	5.88		1900	NL
<i>Ptilotus lazaridis</i>	17	0.00	W	700	NL
<i>Ptilotus spicatus burbridgeanus</i>	17	0.00		900	NL
<i>Ptilotus eriotrichus</i>	18	22.22	W	1700	NL
<i>Ptilotus aristatus aristatus</i>	19	15.79		1600	NL
<i>Ptilotus johnstonianus</i>	19	5.26	NW	1100	NL
<i>Ptilotus aristatus exilis</i>	20	0.00		1000	NL
<i>Ptilotus trichocephalus</i>	22	13.64	W	1200	NL

<i>Gomphrena sordida</i>	23	21.74	W	1700	NL
<i>Ptilotus esquamatus</i>	23	13.04	SW	1400	NL
<i>Gomphrena lacunculata</i>	24	41.67		800	NL
<i>Ptilotus pseudohelipteroides</i>	24	29.17	EI CI	1100	NL
<i>Ptilotus rotundatus</i>	24	45.83	CN	600	NL
<i>Gomphrena eichleri</i>	25	12.00		1200	NL
<i>Ptilotus barkeri</i>	25	12.00		1200	NL
<i>Ptilotus fasciculatus</i>	25	24.00	SW W	1500	EN
<i>Gomphrena arida</i>	26	15.38		1000	NL
<i>Ptilotus obovatus griseus</i>	27	29.63		2000	NL
<i>Ptilotus stipitatus</i>	27	3.70	W WI	1700	NL
<i>Ptilotus aphyllus</i>	29	0.00	W	1700	NL
<i>Gomphrena humifusa</i>	30	10.00	W	1400	NL
<i>Ptilotus comatus</i>	30	26.67	CN	1000	NL

Removal of extinct and poorly recorded species leaves 48768 records in ANHAT for 127 species (and subspecies). The mean number of records per species for species with greater than 30 records was 384, with a mean of 19 % of records in the NRS.

Six species of Amaranthaceae had 45% or greater of individual site records located within PAs (

Table 121). Of those six species, no species are classified as threatened. There is location data available for only two species and no pattern can be assessed from this limited data. The areas occupied also vary significantly. The highest level of reservation is only just under 62%, which is low compared to the highest level of reservation found in most other families.

Table 121 Amaranthaceae species with >45% of site records within PAs.

Species	No.		% in NRS	Location	Veg type	Area km ²	EPBC status
	Records in NRS	No. Records					
<i>Gomphrena rosula</i>	44	96	45.83			3900	NL
<i>Ptilotus royceanus</i>	32	67	47.76	CI,WI		1300	NL
<i>Ptilotus latifolius latifolius</i>	118	244	48.36			14700	NL
<i>Ptilotus seminudus</i>	404	769	52.54	SE,CS		42300	NL
<i>Gomphrena floribunda</i>	39	66	59.09			1700	NL
<i>Gomphrena magentitepala</i>	45	73	61.64			1700	NL

Thirty-one species, approximately one quarter, have 10% or less of their ANHAT records located within PAs (**Table 122**). None of the 31 species are classified as threatened. Three species currently have no records present within a PA. The species in this category are scattered across Australia with no discernable pattern. The areas of their ranges also vary, although none have notably large ranges.

Table 122 Amaranthaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Ptilotus dissitiflorus</i>	0	44	0.00			1400	NL
<i>Hemichroa mesembryanthema</i>	0	78	0.00	EI,CI		2100	NL
<i>Ptilotus maconochiei</i>	0	80	0.00	EI		1400	NL
<i>Ptilotus obovatus lancifolius</i>	1	43	2.33			1800	NL
<i>Gomphrena breviflora</i>	10	281	3.56			12500	NL
<i>Ptilotus exaltatus semilanatus</i>	16	412	3.88			21500	NL
<i>Ptilotus polakii</i>	4	96	4.17	W,WI		6300	NL
<i>Ptilotus calostachyus calostachyus</i>	11	237	4.64			14000	NL
<i>Ptilotus murrayi</i>	8	162	4.94	NW,EI, W,CI		8300	NL
<i>Ptilotus corymbosus corymbosus</i>	2	38	5.26			1900	NL
<i>Gomphrena leptophylla</i>	5	93	5.38			4000	NL
<i>Amaranthus macrocarpus</i>	10	173	5.78	E,EI,SE		11700	NL
<i>Ptilotus distans capensis</i>	4	62	6.45			2200	NL
<i>Ptilotus fusiformis gracilis</i>	8	114	7.02			7200	NL
<i>Gomphrena conica</i>	8	109	7.34			7000	NL
<i>Ptilotus spicatus</i>	39	526	7.41	NW,CN, E,EI,CI		24000	NL
<i>Gomphrena leontopodioides</i>	3	39	7.69			1500	NL
<i>Gomphrena tenella</i>	3	39	7.69			2600	NL
<i>Ptilotus fusiformis fusiformis</i>	35	448	7.81			22300	NL
<i>Ptilotus carinatus</i>	6	76	7.89	W		5200	NL
<i>Ptilotus spicatus leianthus</i>	17	215	7.91			8800	NL
<i>Nyssanthes erecta</i>	25	306	8.17	E		19000	NL
<i>Ptilotus astrolasius</i>	31	370	8.38	NW,W, CI		20300	NL
<i>Ptilotus leucocoma</i>	19	224	8.48	EI		9200	NL
<i>Ptilotus roei</i>	10	117	8.55	W,WI		7600	NL
<i>Amaranthus cochleitepalus</i>	11	123	8.94	CN,EI,CI CI,CS,		5100	NL
<i>Amaranthus grandiflorus</i>	24	263	9.13	WI		14600	NL

			W,SE, WI		
<i>Ptilotus chamaecladus</i>	11	119	9.24	9800	NL
<i>Alternanthera</i> 1 (plains)	3	32	9.38	2100	NL
<i>Gomphrena lanata</i>	51	539	9.46	22700	NL
<i>Ptilotus parvifolius parvifolius</i>	26	260	10.00	13500	NL

A total of four Amaranthaceae species had records in more than 100 separate PAs (**Table 123**). Most species in this list had over 1000 records, with a mean of 2251 record sites. No species are classified as threatened.

Table 123 Amaranthaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Ptilotus obovatus obovatus</i>	4117	104	94	NL
<i>Ptilotus seminudus</i>	769	111	50	NL
<i>Ptilotus spathulatus</i>	1853	161	74	NL
<i>Alternanthera denticulata</i>	2265	175	101	NL

A total of 41 species had records in five or fewer PAs (**Table 124**). No species were listed as threatened. The majority of species in this list had fewer than 100 individual site records and no species had more than 250 site records.

Table 124 Amaranthaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Ptilotus dissitiflorus</i>	44	0	NL
<i>Hemichroa mesembryanthema</i>	78	0	NL
<i>Ptilotus maconochiei</i>	80	0	NL
<i>Ptilotus corymbosus corymbosus</i>	38	1	NL
<i>Gomphrena leontopodioides</i>	39	1	NL
<i>Ptilotus obovatus lancifolius</i>	43	1	NL
<i>Ptilotus aristatus</i>	52	1	NL
<i>Ptilotus aristatus eichlerianus</i>	52	1	NL
<i>Ptilotus distans capensis</i>	62	1	NL
<i>Ptilotus helichrysoides</i>	72	1	NL
<i>Ptilotus pedleyanus comosus</i>	36	2	NL
<i>Ptilotus remotiflorus</i>	58	2	NL
<i>Ptilotus symonii</i>	70	2	NL
<i>Gomphrena leptophylla</i>	93	2	NL
<i>Gomphrena rosula</i>	96	2	NL
<i>Ptilotus polakii</i>	96	2	NL
<i>Gomphrena conica</i>	109	2	NL
<i>Alternanthera</i> 1 (plains)	32	3	NL
<i>Gomphrena tenella</i>	39	3	NL

<i>Ptilotus grandiflorus</i>	39	3	NL
<i>Gomphrena involucrata</i>	44	3	NL
<i>Ptilotus spicatus spicatus</i>	58	3	NL
<i>Gomphrena kanisii</i>	63	3	NL
<i>Gomphrena floribunda</i>	66	3	NL
<i>Ptilotus royceanus</i>	67	3	NL
<i>Gomphrena magentitepala</i>	73	3	NL
<i>Ptilotus carinatus</i>	76	3	NL
<i>Ptilotus pedleyanus</i>	97	3	NL
<i>Ptilotus rotundifolius</i>	170	3	NL
<i>Ptilotus leucocoma</i>	224	3	NL
<i>Ptilotus albidus</i>	35	4	NL
<i>Ptilotus carlsonii</i>	59	4	NL
<i>Omegandra kanisii</i>	68	4	NL
<i>Gomphrena humilis</i>	104	4	NL
<i>Ptilotus spicatus leianthus</i>	215	4	NL
<i>Ptilotus sessilifolius elderi</i>	54	5	NL
<i>Gomphrena connata</i>	59	5	NL
<i>Ptilotus obovatus parviflorus</i>	77	5	NL
<i>Ptilotus parvifolius</i>	133	5	NL
<i>Ptilotus murrayi</i>	162	5	NL
<i>Ptilotus calostachyus calostachyus</i>	237	5	NL

Forty-two species of Amaranthaceae had records in five or fewer PAs greater than 1000 hectares. None of these species are classified as threatened (**Table 125**). All species occurred in at least one PA greater than 1000 km², except for the three species that had no records currently in PAs (see **Table 124**).

Table 125 Amaranthaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Ptilotus corymbosus corymbosus</i>	38	1	NL
<i>Gomphrena leontopodioides</i>	39	1	NL
<i>Ptilotus obovatus lancifolius</i>	43	1	NL
<i>Ptilotus aristatus</i>	52	1	NL
<i>Ptilotus aristatus eichlerianus</i>	52	1	NL
<i>Ptilotus distans capensis</i>	62	1	NL
<i>Ptilotus helichrysoides</i>	72	1	NL
<i>Ptilotus pedleyanus comosus</i>	36	2	NL
<i>Ptilotus remotiflorus</i>	58	2	NL
<i>Ptilotus symonii</i>	70	2	NL
<i>Gomphrena leptophylla</i>	93	2	NL
<i>Gomphrena rosula</i>	96	2	NL
<i>Ptilotus polakii</i>	96	2	NL
<i>Gomphrena conica</i>	109	2	NL
<i>Gomphrena tenella</i>	39	3	NL

<i>Ptilotus grandiflorus</i>	39	3	NL
<i>Gomphrena involucrata</i>	44	3	NL
<i>Ptilotus spicatus spicatus</i>	58	3	NL
<i>Gomphrena kanisii</i>	63	3	NL
<i>Gomphrena floribunda</i>	66	3	NL
<i>Ptilotus royceanus</i>	67	3	NL
<i>Gomphrena magentitepala</i>	73	3	NL
<i>Ptilotus carinatus</i>	76	3	NL
<i>Ptilotus pedleyanus</i>	97	3	NL
<i>Ptilotus rotundifolius</i>	170	3	NL
<i>Ptilotus leucocoma</i>	224	3	NL
<i>Ptilotus albidus</i>	35	4	NL
<i>Ptilotus carlsonii</i>	59	4	NL
<i>Omegandra kanisii</i>	68	4	NL
<i>Gomphrena humilis</i>	104	4	NL
<i>Ptilotus parvifolius</i>	133	4	NL
<i>Ptilotus divaricatus</i>	148	4	NL
<i>Ptilotus spicatus leianthus</i>	215	4	NL
<i>Amaranthus leptostachyus</i>	36	5	NL
<i>Ptilotus humilis</i>	52	5	NL
<i>Ptilotus sessilifolius elderi</i>	54	5	NL
<i>Gomphrena connata</i>	59	5	NL
<i>Ptilotus obovatus parviflorus</i>	77	5	NL
<i>Ptilotus murrayi</i>	162	5	NL
<i>Gomphrena leptoclada</i>	191	5	NL
<i>Ptilotus calostachyus calostachyus</i>	237	5	NL
<i>Ptilotus exaltatus semilanatus</i>	412	5	NL

Scrophulariaceae

The ANHAT database has 29021 records for 161 species and subspecies of Scrophulariaceae. Two species of Scrophulariaceae are considered extinct and therefore excluded from analysis. These species are presented in

Table 126.

Table 126 Scrophulariaceae species considered extinct

Species	Common name	No. of records
<i>Euphrasia arguta</i>		5
<i>Euphrasia ruptura</i>		1

Fourteen species account for approximately 50% of the total species records in ANHAT (**Table 127**). These species have over 500 records each. *Veronica calycina* is represented by over 2500 records.

Table 127 Scrophulariaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Euphrasia collina paludosa</i>	538	1.85
<i>Mimulus repens</i>	554	1.91
<i>Limosella australis</i>	570	1.96
<i>Stemodia glabella</i>	587	2.02
<i>Veronica notabilis</i>	606	2.09
<i>Veronica perfoliata</i>	613	2.11
<i>Stemodia lythrifolia</i>	656	2.26
<i>Euphrasia collina</i>	776	2.67
<i>Buchnera linearis</i>	946	3.26
<i>Stemodia florulenta</i>	1001	3.45
<i>Veronica gracilis</i>	1360	4.69
<i>Gratiola peruviana</i>	1595	5.50
<i>Veronica plebeia</i>	2284	7.87
<i>Veronica calycina</i>	2645	9.11
Total	14731	50.75

Fifty-six species (over 33%) had 30 or fewer individual site records in the ANHAT database (**Table 128**). Seven of these are classified as threatened, including one species classified as critically endangered. Exclusion of these poorly recorded species eliminates 733 records. The species in this category are scattered in no obvious pattern across Australia. Only one species has an estimate of more than 2000 km² for its range. No information has been collated on the vegetation types for each species of Scrophulariaceae.

Table 128 Scrophulariaceae species with 30 or fewer individual site records in the ANHAT database.

<i>Species</i>	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Veronica continua</i>	1	0.00			100	NL
<i>Veronica grosseserrata</i>	1	100.00	E		100	NL
<i>Euphrasia gibbsiae microdonta</i>	10	90.00			400	NL
<i>Centranthera tranquebarica</i>	11	45.45	CN		500	NL
<i>Euphrasia gibbsiae discolor</i>	13	100.00			900	NL
<i>Euphrasia gibbsiae pulvinestris</i>	13	100.00			200	NL
<i>Euphrasia gibbsiae wellingtonensis</i>	13	92.31			200	NL
<i>Euphrasia orthocheila peraspera</i>	13	53.85			500	NL
<i>Lindernia macrosiphonia</i>	14	21.43			1000	NL
<i>Stemodia</i> sp. a (a57025)	14	7.14			1200	NL
<i>Lindernia antipoda</i>	15	26.67	NE		700	NL
<i>Lindernia cleistandra</i>	15	60.00	NW		900	NL
<i>Veronica lithophila</i>	15	86.67			600	NL
<i>Stemodia haegii</i>	16	0.00			1300	NL
<i>Dopatrium junceum</i>	17	41.18	E		800	NL
<i>Euphrasia bowdeniae</i>	17	64.71			500	VU
<i>Stemodia pubescens</i>	17	0.00	W,CI		900	NL
<i>Veronica derwentiana anisodonta</i>	17	58.82			1100	NL
<i>Euphrasia collina gunnii</i>	18	27.78			1400	NL
<i>Euphrasia phragmostoma</i>	18	66.67	TAS		600	VU
<i>Stemodia debilis</i>	19	68.42	NW		1400	NL
<i>Buchnera tenella</i>	2	0.00	NE		200	NL
<i>Euphrasia fragosa</i>	2	0.00			400	CE
<i>Lindernia cowiei</i>	2	0.00			100	NL
<i>Orobanche cernua</i>	2	0.00	SE		200	NL
<i>Peplidium</i> sp. c	2	0.00			200	NL
<i>Stemodia flaccida</i>	2	100.00			200	NL
<i>Veronica parviflora</i>	2	0.00			200	NL
<i>Euphrasia orthocheila</i>	20	40.00			1600	NL
<i>Limosella granitica</i>	20	35.00	CS		900	VU
<i>Lindernia pubescens</i>	20	20.00	CN		1400	NL
<i>Stemodia linophylla</i>	20	5.00	W		1200	NL
<i>Veronica derwentiana homalodonta</i>	21	38.10			1100	NL
<i>Euphrasia collina deflexifolia</i>	22	63.64			2300	NL
<i>Euphrasia ramulosa</i>	22	68.18	E		800	NL
<i>Lindernia tectanthera</i>	22	40.91	NW		2000	NL
<i>Stemodia kingii</i>	22	13.64	W		1700	NL
<i>Euphrasia collina nandewarensis</i>	23	78.26			600	NL
<i>Veronica ciliolata</i>	23	95.65			500	VU

<i>Euphrasia crassiuscula glandulifera</i>	24	95.83		700	NL
<i>Mimulus aquatilis</i>	25	12.00		900	NL
<i>Veronica velutina</i>	25	80.00		800	NL
<i>Veronica sobolifera</i>	26	88.46	E	900	NL
<i>Euphrasia bella</i>	27	81.48	E	800	VU
<i>Glossostigma trichodes</i>	3	33.33		300	NL
<i>Mimulus clementii</i>	3	0.00		300	NL
<i>Stemodia</i> sp. battle hill	4	0.00		200	NL
<i>Veronica derwentiana subglauca</i>	5	60.00		1000	NL
<i>Lindernia eremophiloides</i>	6	100.00	NW	200	NL
<i>Lindernia hypandra</i>	6	16.67		500	NL
<i>Microcarpaea agonis</i>	6	0.00		200	EN
<i>Veronica novae-hollandiae</i>	6	66.67		1300	NL
<i>Veronica parnkalliana</i>	6	66.67	CS	400	NL
<i>Peplidium</i> sp. marla	8	37.50		600	NL
<i>Torenia polygonoides</i>	8	0.00	NE	100	NL
<i>Lindernia chrysopletra</i>	9	0.00		600	NL

Removal of extinct and poorly recorded species leaves 28282 records in ANHAT for 103 species (and subspecies). The mean number of records per species for species with greater than 30 records was 275, with a mean of 41 for the percent of records in the NRS.

Thirty-three species or nearly one-third of the remaining species of the family Scrophulariaceae had 45% or greater of individual site records located within PAs (.

Table 129). Three of these species are classified as threatened, including one species classified as critically endangered. Four species currently have all of their ANHAT records within PAs and nine others over 90%, which is higher than for many of the other families included in this study. The majority of the species in this category come from south-east Australia, including a number of species found in Tasmania. The size of their ranges varies from 300 km² to 33900 km².

Table 129 Scrophulariaceae species with >45% of site records within PAs.

<i>Species</i>	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Lindernia plantaginea</i>	86	191	45.03	NW,CN		9400	NL
<i>Veronica brownii</i>	19	39	48.72	E,SE E,SE,		1100	NL
<i>Veronica serpyllifolia</i>	124	246	50.41	TAS		12100	NL
<i>Euphrasia collina tetragona</i>	115	226	50.88			12600	NL
<i>Mimulus uvedaliae</i> var. <i>lutea</i>	21	41	51.22	NW		2400	NL
<i>Euphrasia semipicta</i>	16	31	51.61	TAS		1000	EN

<i>Euphrasia collina speciosa</i>	25	47	53.19		2800	NL
<i>Veronica hillebrandii</i>	184	313	58.79	CS	9100	NL
<i>Veronica perfoliata</i>	368	613	60.03	E	25400	NL
<i>Veronica derwentiana maideniana</i>	33	52	63.46		3900	NL
<i>Veronica distans</i>	21	33	63.64	SW,SE, CS SW,SE, CS,	2300	NL
<i>Euphrasia collina</i>	499	776	64.30	TAS	33900	NL
<i>Euphrasia collina diemenica</i>	147	220	66.82		7300	NL
<i>Gratiola nana</i>	82	121	67.77	E,SE, TAS	13000	NL
<i>Euphrasia crassiuscula</i>	62	90	68.89	SE	1200	NL
<i>Euphrasia collina paludosa</i>	382	538	71.00		18800	NL
<i>Euphrasia lasianthera</i>	34	47	72.34	SE	1300	NL
<i>Euphrasia ciliolata</i>	57	74	77.03	E	2400	NL
<i>Euphrasia gibbsiae subglabrifolia</i>	73	90	81.11		700	NL
<i>Euphrasia gibbsiae kingii</i>	69	83	83.13		6200	NL
<i>Euphrasia gibbsiae</i>	107	118	90.68	SE,TAS	5900	NL
<i>Euphrasia caudata</i>	179	196	91.33	SE	3800	NL
<i>Euphrasia gibbsiae psilanthera</i>	193	206	93.69		5700	CE
<i>Euphrasia gibbsiae comberi</i>	46	49	93.88		2600	NL
<i>Ourisia integrifolia</i>	79	83	95.18	TAS	4500	NL
<i>Euphrasia crassiuscula eglanulosa</i>	68	71	95.77		700	NL
<i>Euphrasia hookeri</i>	51	53	96.23	TAS	3500	NL
<i>Euphrasia eichleri</i>	54	56	96.43	SE	900	VU
<i>Euphrasia collina diversicolor</i>	185	189	97.88		3100	NL
<i>Euphrasia collina lapidosa</i>	33	33	100.00		300	NL
<i>Euphrasia collina glacialis</i>	37	37	100.00		500	NL
<i>Euphrasia alsa</i>	61	61	100.00	SE	600	NL
<i>Veronica densifolia</i>	74	74	100.00		600	NL

Eight species had less than 10% of ANHAT records located within PAs (**Table 130**). None of the eight species are classified as threatened. This is a relatively low percentage of species with “under reservation” levels. One species has no records within the NRS. It is not possible to determine any patterns in these species because so few are present in this category and one of the few with reasonable information is found in a wide range of locations.

Table 130 Scrophulariaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Veronica blakelyi</i>	0	37	0.00			1000	NL
<i>Stemodia</i> sp. b (a65613)	1	42	2.38			4000	NL
<i>Stemodia lathraia</i>	2	52	3.85	NW		3900	NL
<i>Peplidium foecundum</i>	6	114	5.26			5600	NL
<i>Stemodia glabella</i>	53	587	9.03	CN,E,EI, CI,SE,CS		28800	NL
<i>Peplidium aithocheilum</i>	8	85	9.41			7100	NL
<i>Striga parviflora</i>	13	137	9.49	NE		5900	NL
<i>Rhamphicarpa australiensis</i>	11	115	9.57	NE,CN,EI		4000	NL

A total of four Scrophulariaceae species had records in more than 100 separate PAs (**Table 131**). All species in this list had over 1000 records, with a mean of 1971 records. No species are classified as threatened.

Table 131 Scrophulariaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Veronica gracilis</i>	1360	107	57	NL
<i>Gratiola peruviana</i>	1595	147	91	NL
<i>Veronica calycina</i>	2645	187	124	NL
<i>Veronica plebeia</i>	2284	224	142	NL

A total of 25 species had records in five or fewer PAs (

Table 132), which is about one-quarter of the species with more than 30 available record sites. One species is listed as vulnerable. The majority of species in this list had fewer than 100 individual site records and no species had more than 200 site records.

Table 132 Scrophulariaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Veronica blakelyi</i>	37	0	NL
<i>Euphrasia collina lapidosa</i>	33	1	NL
<i>Euphrasia collina glacialis</i>	37	1	NL
<i>Stemodia</i> sp. b (a65613)	42	1	NL

<i>Euphrasia lasianthera</i>	47	1	NL
<i>Euphrasia alsa</i>	61	1	NL
<i>Euphrasia crassiuscula eglandulosa</i>	71	1	NL
<i>Stemodia lathraia</i>	52	2	NL
<i>Euphrasia eichleri</i>	56	2	VU
<i>Stemodia tephropelina</i>	57	2	NL
<i>Veronica brownii</i>	39	3	NL
<i>Buchnera ciliata</i>	51	3	NL
<i>Euphrasia ciliolata</i>	74	3	NL
<i>Veronica densifolia</i>	74	3	NL
<i>Euphrasia crassiuscula</i>	90	3	NL
<i>Striga parviflora</i>	137	3	NL
<i>Mimulus uvedaliae</i> var. <i>lutea</i>	41	4	NL
<i>Euphrasia gibbsiae subglabrifolia</i>	90	4	NL
<i>Veronica decorosa</i>	115	4	NL
<i>Euphrasia collina diversicolor</i>	189	4	NL
<i>Euphrasia gibbsiae comberi</i>	49	5	NL
<i>Striga squamigera</i>	62	5	NL
<i>Lindernia alsinoides</i>	95	5	NL
<i>Peplidium foecundum</i>	114	5	NL
<i>Rhamphicarpa australiensis</i>	115	5	NL

Twenty-nine species of Scrophulariaceae, excluding the one species with no record sites in a PA, had records in five or fewer PAs greater than 1000 hectares. Three of these species are classified as threatened, with two of these being listed as endangered (

Table 133).

Table 133 Scrophulariaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Euphrasia collina lapidosa</i>	33	1	NL
<i>Euphrasia collina glacialis</i>	37	1	NL
<i>Stemodia</i> sp. b (a65613)	42	1	NL
<i>Euphrasia lasianthera</i>	47	1	NL
<i>Euphrasia alsa</i>	61	1	NL
<i>Euphrasia crassiuscula eglandulosa</i>	71	1	NL
<i>Veronica brownie</i>	39	2	NL
<i>Stemodia lathraia</i>	52	2	NL
<i>Euphrasia eichleri</i>	56	2	VU
<i>Stemodia tephropelina</i>	57	2	NL
<i>Euphrasia crassiuscula</i>	90	2	NL
<i>Euphrasia semipicta</i>	31	3	EN
<i>Buchnera ciliate</i>	51	3	NL
<i>Euphrasia ciliolate</i>	74	3	NL

<i>Veronica densifolia</i>	74	3	NL
<i>Striga parviflora</i>	137	3	NL
<i>Veronica arcuata</i>	40	4	NL
<i>Mimulus uvedaliae</i> var. <i>lutea</i>	41	4	NL
<i>Glossostigma cleistanthum</i>	55	4	NL
<i>Euphrasia gibbsiae subglabrifolia</i>	90	4	NL
<i>Lindernia alsinoides</i>	95	4	NL
<i>Rhamphicarpa australiensis</i>	115	4	NL
<i>Veronica decorosa</i>	115	4	NL
<i>Euphrasia collina diversicolor</i>	189	4	NL
<i>Euphrasia gibbsiae comberi</i>	49	5	NL
<i>Lindernia tenuifolia</i>	49	5	NL
<i>Striga squamigera</i>	62	5	NL
<i>Peplidium foecundum</i>	114	5	NL
<i>Euphrasia collina osbornii</i>	207	5	EN

Lauraceae

The ANHAT database has 47052 records for 140 species and subspecies of Lauraceae. No species of Lauraceae are considered extinct. This family of plants is essentially restricted to eastern Australia.

Thirteen species account for approximately 50% of the total species records in ANHAT (

Table 134). These species have over 600 records each, with *Cassytha glabella* having over 4700 records.

Table 134 Lauraceae species which account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Litsea lefeana</i>	628	1.33
<i>Beilschmiedia obtusifolia</i>	630	1.34
<i>Cassytha capillaris</i>	649	1.38
<i>Cassytha peninsularis</i>	659	1.40
<i>Cryptocarya cunninghamii</i>	808	1.72
<i>Cryptocarya triplinervis</i>	877	1.86
<i>Neolitsea dealbata</i>	1100	2.34
<i>Litsea glutinosa</i>	1532	3.26
<i>Cassytha phaeolasia</i>	1759	3.74
<i>Cassytha filiformis</i>	2602	5.53
<i>Cassytha melantha</i>	3006	6.39
<i>Cassytha pubescens</i>	4296	9.13
<i>Cassytha glabella</i>	4729	10.05
Total	23275	49.47

Ten species had 30 or fewer individual site records in the ANHAT database (

Table 135). Of these species, one species is classified as endangered under the EPBC Act. All of these species are located in eastern Australia and all have ranges of less than 1500 km². Exclusion of these poorly recorded species eliminates 176 records.

Table 135 Lauraceae species with 30 or fewer individual site record sites in ANHAT.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Cassytha pedicellosa</i>	3	0.00			400	NL
<i>Cryptocarya whiffiniana</i>	8	50.00			300	NL
<i>Cassytha aurea hirta</i>	12	0.00			1100	NL
<i>Cassytha paniculata</i>	17	35.29	E		1300	NL
<i>Endiandra cooperana</i>	18	77.78	NE		500	EN

<i>Endiandra grayi</i>	20	50.00	NE	300	NL
<i>Cryptocarya glaucocarpa</i>	22	86.36	NE	400	NL
<i>Endiandra anthropophagorum</i>	23	47.83	NE	500	NL
<i>Cryptocarya</i> sp. <i>boonjie</i>	26	92.31		300	NL
<i>Cassytha muelleri</i>	27	51.85		1000	NL

Removal of the poorly recorded species leaves 46876 records in ANHAT for 130 species (and subspecies). The mean number of records for species with greater than 30 records was 361, with a mean of 50 % of records in the NRS, which is a relatively high level of reservation.

Seventy-two species of Lauraceae had 45% or greater of individual site records located within PAs (

Table 136). This is over half of all of the species with more than 30 records and again is a very high level of reservation relative to the other families included in the study. None of those 79 species are classified as threatened. Two species have all of their available records located within PAs. These species come almost exclusively from eastern Australia, with the majority being found in north-east Australia. There is broad variation in the size of the ranges reported for the species in this category.

Table 136 Lauraceae species with >45% of site records within PAs.

<i>Species</i>	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Cassytha flindersii</i>	78	172	45.35	CS		4400	NL
<i>Endiandra hypotephra</i>	155	339	45.72	NE,E		10000	NL
<i>Cinnamomum virens</i>	71	153	46.41	E		8100	NL
<i>Cryptocarya rigida</i>	181	381	47.51	NE,E		21200	NL
<i>Endiandra dielsiana</i>	72	151	47.68	NE		4300	NL
<i>Endiandra microneura</i>	40	83	48.19	NE		1100	NL
<i>Cryptocarya exfoliata</i>	294	609	48.28	NE,CN		15300	NL
<i>Endiandra cowleyana</i>	142	294	48.30	NE,E SW,E,SE		7800 17160	NL
<i>Cassytha glabella</i>	2288	4729	48.38	TAS		0	NL
<i>Endiandra sieberi</i>	201	411	48.91	E		27500	NL
<i>Endiandra crassiflora</i>	29	58	50.00	E		3700	NL
<i>Litsea australis</i>	41	82	50.00	NE,E		6000	NL
<i>Endiandra sideroxylon</i>	50	100	50.00	NE		1800	NL
<i>Cryptocarya onoprienkoana</i>	102	203	50.25	NE		5300	NL
<i>Litsea reticulata</i>	149	294	50.68	E		22600	NL
<i>Beilschmiedia elliptica</i>	91	179	50.84	E		9500	NL

<i>Endiandra discolor</i>	135	264	51.14	NE,E	15700	NL
<i>Cryptocarya erythroxylon</i>	65	127	51.18	E	7400	NL
<i>Endiandra introrsa</i>	23	44	52.27	E	1600	NL
<i>Beilschmiedia brunnea</i>	91	172	52.91	NE	2300	NL
<i>Cryptocarya meisneriana</i>	90	168	53.57	E	8700	NL
<i>Cryptocarya foveolata</i>	50	93	53.76	E	5900	NL
<i>Cryptocarya melanocarpa</i>	107	194	55.15	NE	2200	NL
<i>Cryptocarya claudiana</i>	75	134	55.97	NE	2300	NL
<i>Litsea leefeana</i>	353	628	56.21	NE,E	17900	NL
<i>Litsea bindoniana</i>	118	207	57.00	NE	5900	NL
<i>Endiandra insignis</i>	101	172	58.72	NE	3600	NL
<i>Cinnamomum laubatii</i>	173	294	58.84	NE	5500	NL
<i>Cryptocarya mackinnoniana</i>	173	289	59.86	NE	8300	NL
<i>Endiandra sankeyana</i>	141	235	60.00	NE	5100	NL
<i>Cryptocarya grandis</i>	201	332	60.54	NE	7200	NL
<i>Endiandra impressicosta</i>	70	113	61.95	NE	2000	NL
<i>Cryptocarya densiflora</i>	174	277	62.82	NE	6200	NL
<i>Cryptocarya leucophylla</i>	123	193	63.73	NE	3200	NL
<i>Beilschmiedia collina</i>	207	324	63.89	NE,E	6000	NL
<i>Endiandra wolfei</i>	204	317	64.35	NE	7500	NL
<i>Endiandra bessaphila</i>	169	262	64.50	NE	4300	NL
<i>Cryptocarya murrayi</i>	198	307	64.50	NE	8900	NL
<i>Cryptocarya dorrigensis</i>	31	48	64.58	E	1400	NL
<i>Endiandra palmerstonii</i>	108	167	64.67	NE	3100	NL
<i>Cryptocarya putida</i>	83	125	66.40	NE	2100	NL
<i>Cryptocarya saccharata</i>	109	160	68.13	NE	2800	NL
<i>Cryptocarya corrugata</i>	291	426	68.31	NE	7400	NL
<i>Endiandra bellendenkerana</i>	22	32	68.75	NE	500	NL
<i>Cryptocarya lividula</i>	176	255	69.02	NE	4500	NL
<i>Litsea connorsii</i>	166	240	69.17	NE	4000	NL
<i>Cryptocarya pleurosperma</i>	125	180	69.44	NE	3100	NL
<i>Beilschmiedia oligandra</i>	126	180	70.00	NE	1800	NL
<i>Beilschmiedia bancroftii</i>	292	416	70.19	NE	6700	NL

<i>Beilschmiedia tooram</i>	188	265	70.94	NE	3700	NL
<i>Cryptocarya angulata</i>	289	400	72.25	NE,E	6300	NL
<i>Beilschmiedia recurva</i>	151	208	72.60	NE	3300	NL
<i>Endiandra monothyra</i>	135	185	72.97	NE	4200	NL
<i>Cryptocarya oblata</i>	176	239	73.64	NE	5600	NL
<i>Endiandra montana</i>	274	367	74.66	NE	5200	NL
<i>Cassytha candida</i>	163	218	74.77	NW,CN	6100	NL
<i>Endiandra acuminata</i>	175	232	75.43	NE,E	5400	NL
<i>Endiandra xanthocarpa</i>	68	89	76.40	NE	1000	NL
<i>Beilschmiedia castrisinensis</i>	109	139	78.42	NE	1000	NL
<i>Endiandra leptodendron</i>	99	124	79.84	NE	3100	NL
<i>Cryptocarya nova-anglica</i>	56	70	80.00	E	2100	NL
<i>Cryptocarya smaragdina</i>	64	77	83.12	NE	1300	NL
<i>Endiandra dichrophylla</i>	129	152	84.87	NE	2300	NL
<i>Endiandra monothyra trichophylla</i>	32	37	86.49		600	NL
<i>Beilschmiedia volckii</i>	118	135	87.41	NE	1100	NL
<i>Cryptocarya burckiana</i>	71	80	88.75	NE	500	NL
<i>Endiandra jonesii</i>	69	75	92.00	NE	700	NL
<i>Cryptocarya bellendenkerana</i>	132	137	96.35	NE	1800	NL
<i>Litsea bennettii</i>	59	60	98.33	NE	1400	NL
<i>Cinnamomum propinquum</i>	106	107	99.07	NE	600	NL
<i>Litsea granitica</i>	53	53	100.00	NE	400	NL
<i>Endiandra phaeocarpa</i>	60	60	100.00	NE	400	NL

Three species had less than 10% of ANHAT records located within PAs (**Table 137**). This is a very low percentage of species being found in this category for a family. One of the three species is classified as endangered and again, all are located within eastern Australia and have ranges less than 2500 km² in size. One species has no records within PAs.

Table 137 Lauraceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Cryptocarya bamagana</i>	0	45	0	NE		1000	NL
<i>Endiandra floydii</i>	7	83	8.43	E		2000	EN
<i>Endiandra limnophila</i>	7	73	9.59	NE		2400	NL

A total of six Lauraceae species had records in more than 100 separate reserves (

Table 138). This is not many, considering the otherwise high levels of reservation seen in this family. Most species in this list had over 1000 records, with a mean of 2768 records per species. No species are classified as threatened.

Table 138 Lauraceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Cryptocarya triplinervis</i>	877	108	66	NL
<i>Cassytha filiformis</i>	2602	121	91	NL
<i>Neolitsea dealbata</i>	1100	128	93	NL
<i>Cassytha melantha</i>	3006	327	201	NL
<i>Cassytha pubescens</i>	4296	372	215	NL
<i>Cassytha glabella</i>	4729	383	209	NL

A total of 27 species had records in five or fewer PAs (**Table 139**), a little over one-fifth of all species of Lauraceae with more than 30 records. One species is classified as endangered. The majority of species in this list had fewer than 100 individual site records and no species had more than 220 site records. One species does not currently have a record site within a PA.

Table 139 Lauraceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Cryptocarya bamagana</i>	45	0	NL
<i>Endiandra bellendenkerana</i>	32	1	NL
<i>Cryptocarya williwilliana</i>	33	1	NL
<i>Litsea macrophylla</i>	46	2	NL
<i>Cryptocarya endiandrifolia</i>	49	2	NL
<i>Endiandra collinsii</i>	52	2	NL
<i>Endiandra limnophila</i>	73	2	NL
<i>Cryptocarya burckiana</i>	80	2	NL
<i>Endiandra microneura</i>	83	2	NL
<i>Cinnamomum propinquum</i>	107	2	NL
<i>Beilschmiedia peninsularis</i>	116	2	NL
<i>Cassytha candida</i>	218	2	NL
<i>Endiandra phaeocarpa</i>	60	3	NL
<i>Cryptocarya claudiana</i>	134	3	NL
<i>Beilschmiedia volckii</i>	135	3	NL
<i>Beilschmiedia castrisinensis</i>	139	3	NL
<i>Endiandra monothyra trichophylla</i>	37	4	NL
<i>Litsea granitica</i>	53	4	NL

<i>Endiandra floydii</i>	83	4	EN
<i>Cryptocarya rhodosperma</i>	85	4	NL
<i>Endiandra xanthocarpa</i>	89	4	NL
<i>Cryptocarya floydii</i>	106	4	NL
<i>Cryptocarya brassii</i>	159	4	NL
<i>Cassytha rufa</i>	58	5	NL
<i>Endiandra sideroxylon</i>	100	5	NL
<i>Cinnamomum bailey anum</i>	130	5	NL
<i>Beilschmiedia oligandra</i>	180	5	NL

Thirty-two species of Lauraceae had records in five or fewer PAs greater than 1000 hectares, including three species classified as threatened, with one species being classified as endangered (**Table 140**).

Table 140 Lauraceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Endiandra bellendenkerana</i>	32	1	NL
<i>Cryptocarya williwilliana</i>	33	1	NL
<i>Endiandra microneura</i>	83	1	NL
<i>Endiandra monothyra trichophylla</i>	37	2	NL
<i>Litsea macrophylla</i>	46	2	NL
<i>Cryptocarya endiandrifolia</i>	49	2	NL
<i>Endiandra collinsii</i>	52	2	NL
<i>Endiandra phaeocarpa</i>	60	2	NL
<i>Endiandra limnophila</i>	73	2	NL
<i>Cryptocarya burckiana</i>	80	2	NL
<i>Endiandra floydii</i>	83	2	EN
<i>Cinnamomum propinquum</i>	107	2	NL
<i>Beilschmiedia peninsularis</i>	116	2	NL
<i>Beilschmiedia castrisinensis</i>	139	2	NL
<i>Cassytha candida</i>	218	2	NL
<i>Litsea granitica</i>	53	3	NL
<i>Endiandra hayesii</i>	73	3	VU
<i>Cryptocarya rhodosperma</i>	85	3	NL
<i>Cryptocarya floydii</i>	106	3	NL
<i>Cryptocarya claudiana</i>	134	3	NL
<i>Beilschmiedia volckii</i>	135	3	NL
<i>Endiandra xanthocarpa</i>	89	4	NL
<i>Cryptocarya foetida</i>	107	4	VU
<i>Endiandra muelleri bracteata</i>	108	4	NL
<i>Cinnamomum bailey anum</i>	130	4	NL
<i>Cryptocarya brassii</i>	159	4	NL
<i>Endiandra introrsa</i>	44	5	NL
<i>Cassytha rufa</i>	58	5	NL
<i>Endiandra jonesii</i>	75	5	NL

<i>Endiandra sideroxylon</i>	100	5	NL
<i>Beilschmiedia oligandra</i>	180	5	NL
<i>Endiandra globosa</i>	184	5	NL

Caesalpinaceae

The ANHAT database has 46165 records for 136 species and subspecies of Caesalpinaceae. No species of Caesalpinaceae are considered extinct.

Nine species account for approximately 50% of the total species records in ANHAT (

Table 141). These species have over 1000 records each and *Erythrophleum chlorostachys* over 7000 records.

Table 141 Caesalpinaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Senna pleurocarpa</i>	1069	2.32
<i>Senna sturtii</i>	1144	2.48
<i>Senna artemisioides helmsii</i>	1299	2.81
<i>Senna coriacea</i>	1544	3.34
<i>Bauhinia cunninghamii</i>	2027	4.39
<i>Senna artemisioides petiolaris</i>	2562	5.55
<i>Senna artemisioides filifolia</i>	2797	6.06
<i>Senna artemisioides</i>	3420	7.41
<i>Erythrophleum chlorostachys</i>	7352	15.93
Total	23214	50.29

Twenty-five species had 30 or fewer individual site records in the ANHAT database (**Table 142**). This is a little less than 20% of species of this family with records in ANHAT. No species are classified as threatened. Exclusion of these poorly recorded species eliminates 265 records. There are insufficient species with information to allow any assessments of patterns within this category.

Table 142 Caesalpinaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Cassia eremophila coriacea</i>	1	0.00			100	NL
<i>Cassia eremophila platypoda</i>	1	0.00			100	NL
<i>Labichea deserticola</i>	1	100.00	CI (W)		100	NL
<i>Senna artemisioides james range</i>	10	40.00			600	NL
<i>Cassia sp. kalpowar</i>	11	100.00			300	NL
<i>Senna pilocarina</i>	13	23.08	W		700	NL
<i>Senna cuthbertsonii</i>	14	28.57	W		1000	NL
<i>Senna glutinosa pruinosa</i>	15	26.67			1400	NL
<i>Senna procumbens</i>	19	0.00	W	Sw, For	600	NL
<i>Labichea eremaea</i>	22	4.55	W	Mal	500	NL
<i>Caesalpinia hymenocarpa</i>	25	24.00	NE	WL, Vine	800	NL

							Thicket	
<i>Cassia artemisioides</i>	25	44.00					2000	NL
<i>Chamaecrista biddulphiana</i>	28	14.29	E		WL		1600	NL
<i>Caesalpinia</i> sp. <i>bromley</i>	3	0.00					100	NL
<i>Cassia eremophila</i>	5	0.00					1600	NL
<i>Cassia nemophila</i>	5	40.00					500	NL
<i>Cynometra ramiflora</i>	6	33.33					500	NL
<i>Cynometra</i> sp. <i>paira homestead rd</i>	6	0.00					200	NL
<i>Senna artemisioides kuyunba</i>	6	33.33					400	NL
<i>Cassia barclayana</i>	7	0.00					500	NL
<i>Senna surattensis surattensis</i>	7	14.29	CN, NE		For		1000	NL
<i>Cassia aciphylla</i>	8	0.00					500	NL
							Sandy & Gravelly soil Close to water	
<i>Chamaecrista moorei</i>	9	11.11	NW				600	NL
<i>Crudia papuana</i>	9	0.00	NE				100	NL
<i>Maniltoa schefferi</i>	9	33.33					300	NL

Removal of extinct and poorly recorded species leaves 45900 records in ANHAT for 111 species (and subspecies). The mean number of records per species for species with greater than 30 records was 414, with a mean of 23% of records in the NRS.

Ten species of Caesalpiniaceae had 45% or greater of individual site records located within PAs (**Table 143**). None of these species are classified as threatened. Species in this category tend to be located in eastern Australia and there are no species from the south-west. Species in this group may also tend to be found in rainforest, which is a highly reserved vegetation type. No species has greater than 71% of its record sites within PAs.

Table 143 Caesalpiniaceae species with >45% of site records within PAs.

<i>Species</i>	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Caesalpinia erythrocarpa</i>	15	33	45.45	NE	RF	1000	NL
<i>Labichea rupestris</i>	120	250	48.00	E	Sand, WL, Sc RF, Vine	7100	NL
<i>Maniltoa lenticellata</i>	37	73	50.68	NE	Forest	1800	NL
<i>Chamaecrista grisea</i>	32	62	51.61	CN, NE	Sandy Soil	2600	NL
<i>Senna cladophylla</i>	110	190	57.89	NW, CN		5400	NL
<i>Caesalpinia robusta</i>	24	40	60.00	NE	RF	900	NL
<i>Senna leptoclada</i>	149	243	61.32			6700	NL
<i>Labichea saxicola</i>	76	118	64.41	CI (W)	Sand, RH	2700	NL
<i>Cassia queenslandica</i>	40	59	67.80	NE	RF	1500	NL

<i>Storckiella australiensis</i>	51	72	70.83	NE	RF	700	NL
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Twenty-four species, which is slightly less than one-quarter of species with more than 30 records, have less than 10% of their records in ANHAT located within PAs (

Table 144). None of the 24 species are classified as threatened. Five species have no records located within a PA. The species in this category are scattered across Australia and cover a range of vegetation types. No patterns are evident based on the available information.

Table 144 Caesalpinaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Labichea stellata</i>	0	31	0.00	SW	He, Mal, RH	1300	NL
<i>Senna surattensis sulfurea</i>	0	36	0.00	NW, CN, E	For	2000	NL
<i>Senna heptanthera</i>	0	44	0.00	CN		1200	NL
<i>Senna pleurocarpa longifolia</i>	0	54	0.00	E		2200	NL
<i>Labichea brassii</i>	0	86	0.00	NE	Water Courses	900	NL
<i>Labichea buettneriana</i>	1	81	1.23	NE	Co SD	1400	NL
<i>Senna circinnata</i>	7	241	2.90	E	SL	12700	NL
<i>Senna manicula</i>	1	32	3.13	CI (SW)	RH	1600	NL
<i>Chamaecrista longipes</i>	3	79	3.80	CN, NE	Euc	3200	NL
<i>Cassia brewsteri marksiana</i>	3	76	3.95	E		2700	NL
<i>Senna symonii</i>	3	66	4.55	NW	Upland areas	4300	NL
<i>Labichea teretifolia</i>	6	91	6.59	W		3600	NL
<i>Senna costata</i>	17	256	6.64	NW, CN, E, W, NW, CN,	WL	11700	NL
<i>Senna magnifolia</i>	12	165	7.27	CI(N)		5900	NL
<i>Senna stowardii</i>	3	38	7.89	W, SW, NW, CI,	Ar	3500	NL
<i>Chamaecrista symonii</i>	30	366	8.20	NE	SAr	16600	NL
<i>Chamaecrista deserti</i>	3	35	8.57	CI, E	SAr	1500	NL
<i>Cassia absus</i>	4	45	8.89			4200	NL
<i>Cassia brewsteri tomentella</i>	25	281	8.90	E		9000	NL
<i>Senna barclayana</i>	38	415	9.16	E	For	25300	NL
<i>Cassia brewsteri</i>	39	424	9.20	E		19900	NL

<i>Cassia mimosoides</i>	6	65	9.23			5200	NL
<i>Senna hamersleyensis</i>	5	54	9.26	W		4100	NL
<i>Chamaecrista concinna</i>	21	211	9.95	E, NE	Euc	10700	NL

A total of four Caesalpiniaceae species had records in more than 100 separate reserves (**Table 145**). All species in this list had over 1000 records, with an average of 2851 records per species. No species are classified as threatened

Table 145 Caesalpiniaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Senna coriacea</i>	1544	104	71	NL
<i>Senna artemisioides petiolaris</i>	2562	130	89	NL
<i>Senna artemisioides</i>	3420	142	120	NL
<i>Senna artemisioides filifolia</i>	2797	155	111	NL

A total of 44 species had records in five or fewer PAs (

Table 146). This is around one-fifth of the species in the Caesalpiniaceae with more than 30 records. No species are listed as threatened under the EPBC Act. The majority of species in this list had fewer than 100 individual site records and no species had more than 250 site records. As already noted, five species had no record sites in a PA.

Table 146 Caesalpiniaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Labichea stellata</i>	31	0	NL
<i>Senna surattensis sulfurea</i>	36	0	NL
<i>Senna heptanthera</i>	44	0	NL
<i>Senna pleurocarpa longifolia</i>	54	0	NL
<i>Labichea brassii</i>	86	0	NL
<i>Senna manicula</i>	32	1	NL
<i>Chamaecrista longipes</i>	79	1	NL
<i>Labichea buettneriana</i>	81	1	NL
<i>Caesalpinia erythrocarpa</i>	33	2	NL
<i>Chamaecrista exigua</i>	34	2	NL
<i>Chamaecrista deserti</i>	35	2	NL
<i>Cassia absus</i>	45	2	NL
<i>Chamaecrista exigua minor</i>	46	2	NL
<i>Senna hamersleyensis</i>	54	2	NL
<i>Cassia mimosoides</i>	65	2	NL
<i>Senna symonii</i>	66	2	NL
<i>Maniltoa lenticellata</i>	73	2	NL

<i>Labichea teretifolia</i>	91	2	NL
<i>Senna pine creek</i>	112	2	NL
<i>Chamaecrista maritime</i>	31	3	NL
<i>Senna stowardii</i>	38	3	NL
<i>Caesalpinia nitens</i>	39	3	NL
<i>Labichea digitata</i>	48	3	NL
<i>Senna curvistyla</i>	74	3	NL
<i>Senna ferraria</i>	75	3	NL
<i>Cassia brewsteri marksiana</i>	76	3	NL
<i>Labichea saxicola</i>	118	3	NL
<i>Caesalpinia robusta</i>	40	4	NL
<i>Caesalpinia crista</i>	41	4	NL
<i>Cassia sp. paluma range</i>	44	4	NL
<i>Senna sophera sp. 40 mile scrub</i>	47	4	NL
<i>Cassia queenslandica</i>	59	4	NL
<i>Storckiella australiensis</i>	72	4	NL
<i>Senna hirsute</i>	95	4	NL
<i>Caesalpinia major</i>	33	5	NL
<i>Caesalpinia traceyi</i>	36	5	NL
<i>Chamaecrista grisea</i>	62	5	NL
<i>Senna sericea</i>	80	5	NL
<i>Senna goniodes</i>	87	5	NL
<i>Senna magnifolia</i>	165	5	NL
<i>Senna cladophylla</i>	190	5	NL
<i>Labichea nitida</i>	201	5	NL
<i>Senna circinnata</i>	241	5	NL
<i>Labichea rupestris</i>	250	5	NL

Forty-three species of Caesalpinaceae had records in five or fewer PAs greater than 1000 hectares, no species are classified as threatened (**Table 147**).

Table 147 Caesalpinaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Chamaecrista maritima</i>	31	1	NL
<i>Senna manicula</i>	32	1	NL
<i>Chamaecrista longipes</i>	79	1	NL
<i>Labichea buettneriana</i>	81	1	NL
<i>Caesalpinia erythrocarpa</i>	33	2	NL
<i>Chamaecrista exigua</i>	34	2	NL
<i>Chamaecrista deserti</i>	35	2	NL
<i>Caesalpinia nitens</i>	39	2	NL
<i>Cassia absus</i>	45	2	NL
<i>Chamaecrista exigua minor</i>	46	2	NL
<i>Labichea digitata</i>	48	2	NL
<i>Senna hamersleyensis</i>	54	2	NL

<i>Cassia mimosoides</i>	65	2	NL
<i>Senna symonii</i>	66	2	NL
<i>Maniltoa lenticellata</i>	73	2	NL
<i>Cassia brewsteri marksiana</i>	76	2	NL
<i>Labichea teretifolia</i>	91	2	NL
<i>Senna hirsuta</i>	95	2	NL
<i>Senna pine creek</i>	112	2	NL
<i>Senna stowardii</i>	38	3	NL
<i>Caesalpinia robusta</i>	40	3	NL
<i>Cassia queenslandica</i>	59	3	NL
<i>Storckiella australiensis</i>	72	3	NL
<i>Senna curvistyla</i>	74	3	NL
<i>Senna ferraria</i>	75	3	NL
<i>Labichea saxicola</i>	118	3	NL
<i>Senna circinnata</i>	241	3	NL
<i>Caesalpinia major</i>	33	4	NL
<i>Caesalpinia crista</i>	41	4	NL
<i>Cassia</i> sp. <i>paluma range</i>	44	4	NL
<i>Senna sophera</i> sp. <i>40 mile scrub</i>	47	4	NL
<i>Senna</i> sp. <i>davies creek</i>	33	5	NL
<i>Caesalpinia traceyi</i>	36	5	NL
<i>Chamaecrista grisea</i>	62	5	NL
<i>Intsia bijuga</i>	75	5	NL
<i>Senna sericea</i>	80	5	NL
<i>Senna goniodes</i>	87	5	NL
<i>Senna pleurocarpa angustifolia</i>	117	5	NL
<i>Senna magnifolia</i>	165	5	NL
<i>Senna cladophylla</i>	190	5	NL
<i>Labichea nitida</i>	201	5	NL
<i>Labichea rupestris</i>	250	5	NL
<i>Cassia brewsteri tomentella</i>	281	5	NL

Tiliaceae

The ANHAT database has 11372 records for 121 species and subspecies of Tiliaceae. No species of Tiliaceae are considered extinct.

Nine species account for approximately 50% of the total species records in ANHAT (Table 148). These species have over 250 records each and *Grewia retusifolia* over 1700 records.

Table 148 Tiliaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Corchorus sidoides</i>	277	2.44
<i>Corchorus trilocularis</i>	283	2.49
<i>Grewia breviflora</i>	289	2.54
<i>Corchorus sidoides sidoides</i>	370	3.25
<i>Triumfetta plumigera</i>	444	3.90
<i>Corchorus aestuans</i>	453	3.98
<i>Triumfetta rhomboidea</i>	707	6.22
<i>Grewia latifolia</i>	1178	10.36
<i>Grewia retusifolia</i>	1761	15.49
Total	5762	50.67

Fifty-seven species, nearly half, have 30 or fewer individual site records in the ANHAT database (

Table 149). Of those species, no species are classified as threatened. The species in this list almost exclusively come from northern and western areas of Australia and there are no species from eastern coastal areas. Vegetation types associated with these species have not been included and so patterns are not assessed. The ranges of the species in this category are generally small, being usually less than 2000 km². Exclusion of these poorly recorded species eliminates 736 records.

Table 149 Tiliaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Triumfetta ryeae</i>	1	0.00	NW		100	NL
<i>Triumfetta saccata</i>	1	0.00			100	NL
<i>Triumfetta suffruticosa</i>	2	50.00			300	NL
<i>Corchorus mitchellensis</i>	3	100.00			100	NL
<i>Triumfetta aspera</i>	3	100.00	NW		200	NL
<i>Triumfetta rubiginosa</i>	3	100.00	W		200	NL
<i>Corchorus obclavatus</i>	4	25.00			200	NL
<i>Corchorus thozetii</i>	4	0.00			300	NL

<i>Triumfetta echinata</i>	5	0.00		400	NL
<i>Triumfetta inermis</i>	5	60.00	NW,CN	300	NL
<i>Triumfetta mitchellii</i>	5	60.00	NW	200	NL
<i>Triumfetta trisecta</i>	5	0.00	NW	200	NL
<i>Corchorus subargenteus</i>	6	16.67		200	NL
<i>Triumfetta hapala</i>	6	0.00	NW	200	NL
<i>Triumfetta litticola</i>	6	16.67	CN	400	NL
<i>Triumfetta pustulata</i>	6	100.00	NW	200	NL
<i>Berrya cordifolia</i>	8	50.00		600	NL
<i>Grewia multiflora</i>	8	0.00	CN	600	NL
<i>Triumfetta oenpelliensis</i>	8	0.00	CN	400	NL
<i>Triumfetta procumbens</i>	8	75.00	NE	700	NL
<i>Corchorus lasiocarpus</i>				900	
<i>lasiocarpus</i>	9	0.00			NL
<i>Triumfetta nutans</i>	9	0.00	NW	400	NL
<i>Triumfetta prostrate</i>	9	0.00	CN	300	NL
<i>Grewia glabra</i>	10	10.00		1100	NL
<i>Berrya rotundifolia</i>	11	18.18		900	NL
<i>Corchorus puberulus</i>	11	0.00	NW	700	NL
<i>Triumfetta clivorum</i>				700	
<i>brevipetala</i>	11	27.27			NL
<i>Triumfetta tenuiseta</i>	11	9.09	W	700	NL
<i>Triumfetta carteri</i>	12	0.00	NW	600	NL
<i>Triumfetta clivorum</i>				700	
<i>clivorum</i>	12	0.00			NL
<i>Triumfetta coronata</i>	12	16.67	NW	900	NL
<i>Triumfetta fissurata</i>	12	16.67	NW	500	NL
<i>Triumfetta kenneallyi</i>	12	0.00	NW	500	NL
<i>Corchorus incanus</i>				1000	
<i>lithophilus</i>	13	46.15			NL
<i>Triumfetta ryeae hirsuta</i>	13	23.08		800	NL
<i>Schoutenia ovata</i>	15	53.33	CN	400	NL
<i>Triumfetta ryeae brevipetala</i>	15	6.67		1100	NL
<i>Corchorus carnarvonensis</i>	16	6.25	W	900	NL
<i>Corchorus hamersley</i>				1600	
<i>range(sv13586)</i>	16	31.25			NL
<i>Triumfetta monstrosa</i>	16	0.00	NW	700	NL
<i>Corchorus congener</i>	17	52.94		1300	NL
<i>Triumfetta cladara</i>	18	0.00	NW	600	NL
<i>Brownlowia argentata</i>	19	0.00		400	NL
<i>Corchorus incanus incanus</i>	19	10.53		1800	NL
<i>Triumfetta viridis</i>	19	57.89	CN	800	NL
<i>Corchorus leptocarpus</i>	20	10.00	NW	2000	NL
<i>Grewia orbifolia</i>	20	65.00		1100	NL
<i>Triumfetta Aquila</i>	23	34.78	NW	1900	NL
<i>Triumfetta simulans</i>	23	13.04	NW	1400	NL
<i>Corchorus macropetalus</i>	25	4.00	NW,CN	1300	NL
<i>Corchorus macropterus</i>	25	20.00	CN	900	NL
<i>Corchorus hygrophilus</i>	27	37.04		1300	NL
<i>Corchorus incanus</i>	27	3.70	W	2300	NL

<i>Triumfetta glaucescens</i>	27	7.41	CN	2800	NL
<i>Corchorus sidoides</i>				1100	
<i>rostrisepalus</i>	28	67.86			NL
<i>Triumfetta bradshawii</i>	28	21.43	NW	1200	NL
<i>Corchorus elachocarpus</i>	29	10.34	EI,W	2000	NL

Removal of the poorly recorded species leaves 10636 records in ANHAT for 64 species (and subspecies). The mean number of records per species for species with greater than 30 records was 166, with a mean of 25% of records in the NRS.

Seven species of Tiliaceae had 45% or greater of individual site records located within PAs (**Table 150**) with one species having more than 90% of its records in PAs. None of these species are classified as threatened. All six with a listed location come from central northern Australia.

Table 150 Tiliaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Triumfetta ryeae ryeae</i>	18	39	46.15			1500	NL
<i>Triumfetta arnhemica</i>	24	52	46.15	CN		2700	NL
<i>Triumfetta parviflora</i>	25	51	49.02	CN		2400	NL
<i>Triumfetta denticulata</i>	30	45	66.67	CN		2900	NL
<i>Triumfetta cinerea</i>	55	78	70.51	CN		2900	NL
<i>Triumfetta sylvicola</i>	56	75	74.67	CN		4100	NL
<i>Corchorus aulacocarpus</i>	30	33	90.91	CN		1300	NL

Eleven species had less than 10% of ANHAT records located within PAs (**Table 151**). Two have no records currently within a PA. None of the 11 species are classified as threatened. There are too few species in this category to effectively determine any patterns in the data. Two species have no records within a PA.

Table 151 Tiliaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Triumfetta mellina</i>	0	38	0.00	NW,C N		1000	NL
<i>Triumfetta marsupiata</i>	0	46	0.00	EI		1100	NL
<i>Corchorus elderi</i>	1	55	1.82	EI,CI		2900	NL
<i>Corchorus sidoides vermicularis</i>	9	255	3.53			12000	NL
<i>Grewia scabrella</i>	8	125	6.40			3700	NL

<i>Corchorus tomentellus</i>	6	86	6.98	E	3200	NL
<i>Corchorus sericeus sericeus</i>	3	39	7.69		2200	NL
<i>Corchorus trilocularis</i>	24	283	8.48	CN,W	12500	NL
<i>Triumfetta leptacantha</i>	4	46	8.70	W	2800	NL
<i>Triumfetta johnstonii</i>	11	122	9.02	NW, W	6400	NL
<i>Corchorus sericeus</i>	7	76	9.21		4700	NL

No Tiliaceae species had records in more than 100 separate reserves. This is the first family in this report not to have a species in this category.

A total of 33 species had records in five or fewer PAs (

Table 152), which is over half of the species with more than 30 record sites. One species was classified as endangered. The majority of species in this list had fewer than 100 individual site records and no species had more than 260 site records.

Table 152 Tiliaceae species recorded from five or fewer PAs.

Species	No. Records	No. reserves	EPBC status
<i>Triumfetta mellina</i>	38	0	NL
<i>Triumfetta marsupiata</i>	46	0	NL
<i>Corchorus aulacocarpus</i>	33	1	NL
<i>Corchorus sericeus sericeus</i>	39	1	NL
<i>Corchorus tectus</i>	42	1	NL
<i>Triumfetta leptacantha</i>	46	1	NL
<i>Corchorus elderi</i>	55	1	NL
<i>Corchorus lasiocarpus parvus</i>	65	1	NL
<i>Corchorus tomentellus</i>	86	1	NL
<i>Triumfetta rupestris</i>	113	1	NL
<i>Triumfetta propinqua</i>	35	2	NL
<i>Triumfetta reflexa</i>	39	2	NL
<i>Triumfetta arnhemica</i>	52	2	NL
<i>Triumfetta winneckeana</i>	57	2	NL
<i>Corchorus sericeus</i>	76	2	NL
<i>Triumfetta cinerea</i>	78	2	NL
<i>Corchorus pascuorum</i>	106	2	NL
<i>Triumfetta longipedunculata</i>	36	3	NL
<i>Grewia graniticola</i>	41	3	NL
<i>Triumfetta ramosa</i>	45	3	NL
<i>Triumfetta centralis</i>	37	4	NL
<i>Triumfetta ryeae ryeae</i>	39	4	NL
<i>Triumfetta parviflora</i>	51	4	NL
<i>Triumfetta incana</i>	52	4	NL
<i>Berrya javanica</i>	84	4	NL
<i>Grewia scabrella</i>	125	4	NL

<i>Corchorus sericeus densiflorus</i>	126	4	NL
<i>Corchorus laniflorus</i>	42	5	NL
<i>Triumfetta pilosa</i>	67	5	NL
<i>Triumfetta sylvicola</i>	75	5	NL
<i>Corchorus cunninghamii</i>	91	5	EN
<i>Triumfetta johnstonii</i>	122	5	NL
<i>Corchorus sidoides vermicularis</i>	255	5	NL

Thirty-three species of Tiliaceae had records in five or fewer PAs greater than 1000 hectares, including one species classified as endangered (Table 153). This list does not include the two species with no records in PAs and so two additional species have been added to those listed in Table 152.

Table 153 Tiliaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. Reserves >1000ha	EPBC status
<i>Corchorus aulacocarpus</i>	33	1	NL
<i>Corchorus sericeus sericeus</i>	39	1	NL
<i>Corchorus tectus</i>	42	1	NL
<i>Triumfetta leptacantha</i>	46	1	NL
<i>Corchorus elderi</i>	55	1	NL
<i>Corchorus lasiocarpus parvus</i>	65	1	NL
<i>Corchorus tomentellus</i>	86	1	NL
<i>Triumfetta rupestris</i>	113	1	NL
<i>Triumfetta propinqua</i>	35	2	NL
<i>Triumfetta longipedunculata</i>	36	2	NL
<i>Triumfetta reflexa</i>	39	2	NL
<i>Triumfetta arnhemica</i>	52	2	NL
<i>Triumfetta winneckeana</i>	57	2	NL
<i>Corchorus sericeus</i>	76	2	NL
<i>Triumfetta cinerea</i>	78	2	NL
<i>Corchorus pascuorum</i>	106	2	NL
<i>Grewia graniticola</i>	41	3	NL
<i>Triumfetta ramose</i>	45	3	NL
<i>Corchorus cunninghamii</i>	91	3	EN
<i>Grewia scabrella</i>	125	3	NL
<i>Triumfetta centralis</i>	37	4	NL
<i>Triumfetta ryeae ryeae</i>	39	4	NL
<i>Triumfetta parviflora</i>	51	4	NL
<i>Triumfetta incana</i>	52	4	NL
<i>Trichospermum pleiostigma</i>	64	4	NL
<i>Berrya javanica</i>	84	4	NL
<i>Corchorus sericeus densiflorus</i>	126	4	NL
<i>Corchorus laniflorus</i>	42	5	NL
<i>Corchorus capsularis</i>	59	5	NL
<i>Triumfetta pilosa</i>	67	5	NL
<i>Triumfetta sylvicola</i>	75	5	NL
<i>Triumfetta johnstonii</i>	122	5	NL

Convolvulaceae

The ANHAT database has 41140 records for 117 species and subspecies of Convolvulaceae. No species of Convolvulaceae are considered extinct.

Twelve species account for approximately 50% of the total species records in ANHAT (Table 154). These species have over 800 records each and *Dichondra repens* over 7000 records.

Table 154 Convolvulaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Evolvulus alsinoides decumbens</i>	823	2.00
<i>Ipomoea eriocarpa</i>	869	2.11
<i>Ipomoea plebeian</i>	878	2.13
<i>Jacquemontia paniculata</i>	880	2.14
<i>Convolvulus erubescens</i>	963	2.34
<i>Bonamia pannosa</i>	1055	2.56
<i>Polymeria ambigua</i>	1109	2.70
<i>Ipomoea polymorpha</i>	1180	2.87
<i>Evolvulus alsinoides alsinoides</i>	1466	3.56
<i>Evolvulus alsinoides</i>	1960	4.76
<i>Convolvulus remotus</i>	2137	5.19
<i>Dichondra repens</i>	7009	17.04
Total	20329	49.4

Twenty-six species, just under one-quarter, had 30 or fewer individual site records in the ANHAT database (

Table 155). None of these species are listed under the EPBC Act. There is insufficient information on these species to assess any patterns in the data. Exclusion of these poorly recorded species eliminates 340 records.

Table 155 Convolvulaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Bonamia media emarginata</i>	2	0.00			100	NL
<i>Ipomoea</i> sp. <i>ramingining</i>	2	0.00			100	NL
<i>Jacquemontia</i> sp. <i>keep river</i>	2	0.00			100	NL
<i>Bonamia oblongifolia</i>	3	0.00			300	NL
<i>Ipomoea</i> sp. <i>stirling</i>	6	0.00			300	NL
<i>Ipomoea tiliacea</i>	6	0.00			100	NL
<i>Convolvulus tedmoorei</i>	7	0.00			600	NL
<i>Ipomoea trichosperma</i>	7	0.00			600	NL

<i>Ipomoea stolonifera</i>	9	88.89		700	NL
<i>Jacquemontia sp. douglas daly</i>	9	33.33		400	NL
<i>Polymeria distigma</i>	10	0.00		900	NL
<i>Bonamia sp. croydon</i>	12	0.00		300	NL
<i>Ipomoea sp. cobourg</i>	12	75.00		700	NL
<i>Ipomoea aculeata</i>	14	21.43		400	NL
<i>Ipomoea hastifolia</i>	14	0.00		400	NL
<i>Ipomoea sp. kalumburu</i>	14	7.14		500	NL
<i>Merremia umbellata</i>	15	0.00	NE,CN	600	NL
<i>Ipomoea yardiensis</i>	16	62.50	W	800	NL
<i>Ipomoea sp. ot station</i>	19	47.37		1100	NL
<i>Bonamia media villosa</i>	20	20.00		1500	NL
<i>Ipomoea sp. nindigully</i>	20	0.00		1800	NL
<i>Stictocardia queenslandica</i>	21	4.76		400	NL
<i>Convolvulus wimmerensis</i>	23	17.39		2200	NL
<i>Ipomoea sp. mungana</i>	23	8.70		500	NL
<i>Merremia hirta</i>	25	4.00		900	NL
<i>Ipomoea littoralis</i>	29	79.31	NE,E	2300	NL

Removal of the poorly recorded species leaves 40800 records in ANHAT for 91 species (and subspecies). The mean number of records per species for species with greater than 30 records was 448, with a mean of 22 for the percent of records in NRS.

Three species of Convolvulaceae had 45% or greater of individual site records located within PAs (

Table 156). Of those three species, no species are classified as threatened. None had 100% of records within PAs.

Table 156 Convolvulaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPB C status
<i>Ipomoea saintronanensis</i>	44	77	57.14	E		1400	NL
<i>Merremia incisa</i>	132	225	58.67			9400	NL
<i>Ipomoea sp. tolmer</i>	26	33	78.79			1500	NL

Fifteen species had less than 10% of ANHAT records located within PAs (**Table 157**). None of the 15 species are classified as threatened. Two species had no records present within PAs of the NRS. The listed sizes of their ranges vary greatly.

Table 157 Convolvulaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Merremia davenportii</i>	0	103	0.00			4100	NL
<i>Ipomoea polpha weirana</i>	0	45	0.00			2300	NL
<i>Convolvulus angustissimus omnigracilis</i>	1	42	2.38			3300	NL
<i>Bonamia alatisemina</i>	1	36	2.78	NW		2200	NL
<i>Polymeria longifolia</i>	20	490	4.08	NW,E,EI, CI		2370 0	NL
<i>Ipomoea polpha</i>	5	114	4.39	NE,E,CI		3400	NL
<i>Bonamia deserticola</i>	3	55	5.45			2500	NL
<i>Ipomoea lonchophylla</i>	41	633	6.48	CN,E,EI, W,CI		2610 0	NL
<i>Jacquemontia sp. fairview</i>	3	44	6.82			1600	NL
<i>Calystegia silvatica</i>	5	61	8.20			4600	NL
<i>Convolvulus angustissimus</i>	15	168	8.93	E		8800	NL
<i>Convolvulus microsepalus</i>	9	99	9.09			5600	NL
<i>Ipomoea calobra</i>	11	119	9.24	E,EI		5600	NL
<i>Ipomoea muelleri</i>	76	795	9.56	NW,CN,E, EI,W,CI, WI		3920 0	NL
<i>Polymeria pusilla</i>	27	277	9.75	CN,E,EI		1080 0	NL

Three Convolvulaceae species had records in more than 100 separate reserves (**Table 158**). All species in this list had over 1000 records, with an average of 3702 records per species. None are classified as threatened.

Table 158 Convolvulaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Evolvulus alsinoides</i>	1960	102	90	NL
<i>Convolvulus remotus</i>	2137	129	75	NL
<i>Dichondra repens</i>	7009	477	234	NL

A total of 25 species had records in five or fewer PAs (

Table 159). This is more than 25% of the species with more than 30 records. No species are listed as threatened. The majority of species in this list had fewer than 100 individual site records and no species had more than 200 site records.

Table 159 Convolvulaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Ipomoea polpha weirana</i>	45	0	NL
<i>Merremia davenportii</i>	103	0	NL
<i>Ipomoea gracilis sagittata</i>	33	1	NL
<i>Ipomoea antonschmidii</i>	34	1	NL
<i>Bonamia alatisemina</i>	36	1	NL
<i>Convolvulus angustissimus omnigracilis</i>	42	1	NL
<i>Jacquemontia sp. fairview</i>	44	1	NL
<i>Ipomoea polpha</i>	114	1	NL
<i>Ipomoea brownii</i>	45	2	NL
<i>Bonamia deserticola</i>	55	2	NL
<i>Ipomoea sp. tolmer</i>	33	3	NL
<i>Evolvulus alsinoides sericeus</i>	54	3	NL
<i>Stictocardia tiliifolia</i>	70	3	NL
<i>Ipomoea saintronanensis</i>	77	3	NL
<i>Convolvulus angustissimus fililolbus</i>	31	4	NL
<i>Merremia peltata</i>	49	4	NL
<i>Calystegia silvatica</i>	61	4	NL
<i>Convolvulus microsepalus</i>	99	4	NL
<i>Ipomoea calobra</i>	119	4	NL
<i>Cuscuta australis</i>	47	5	NL
<i>Bonamia dietrichiana</i>	66	5	NL
<i>Polymeria lanata</i>	84	5	NL
<i>Bonamia linearis</i>	89	5	NL
<i>Aniseia martinicensis</i>	168	5	NL
<i>Ipomoea argillicola</i>	169	5	NL

Twenty-five species of Convolvulaceae had records in five or fewer PAs greater than 1000 hectares, with no species are classified as threatened (**Table 160**). This does not include the two species with no records currently in a PA.

Table 160 Convolvulaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Ipomoea gracilis sagittata</i>	33	1	NL
<i>Ipomoea antonschmidii</i>	34	1	NL
<i>Bonamia alatisemina</i>	36	1	NL

<i>Convolvulus angustissimus omnigracilis</i>	42	1	NL
<i>Jacquemontia sp. fairview</i>	44	1	NL
<i>Ipomoea brownii</i>	45	1	NL
<i>Ipomoea polpha</i>	114	1	NL
<i>Bonamia deserticola</i>	55	2	NL
<i>Convolvulus angustissimus fililolbus</i>	31	3	NL
<i>Ipomoea sp. tolmer</i>	33	3	NL
<i>Cuscuta australis</i>	47	3	NL
<i>Evolvulus alsinoides sericeus</i>	54	3	NL
<i>Calystegia silvatica</i>	61	3	NL
<i>Ipomoea brassii</i>	68	3	NL
<i>Stictocardia tiliifolia</i>	70	3	NL
<i>Calystegia sepium</i>	77	3	NL
<i>Ipomoea saintronanensis</i>	77	3	NL
<i>Aniseia martinicensis</i>	168	3	NL
<i>Merremia peltata</i>	49	4	NL
<i>Convolvulus microsepalus</i>	99	4	NL
<i>Ipomoea calobra</i>	119	4	NL
<i>Bonamia dietrichiana</i>	66	5	NL
<i>Polymeria lanata</i>	84	5	NL
<i>Bonamia linearis</i>	89	5	NL
<i>Ipomoea argillicola</i>	169	5	NL

Thymelaeaceae

The ANHAT database has 45371 records for 112 species and subspecies of Thymelaeaceae. One species of Thymelaeaceae is considered extinct and therefore excluded from analysis. This species is presented in **Table 161**.

Table 161. Thymelaeaceae species considered extinct

Species	Common name	No. of records
<i>Pimelea spinescens pubiflora</i>	Wimmera Rice-flower	5

Six species account for approximately 50% of the total species records in ANHAT (Table 162). These species have over 1500 records each. *Pimelea glauca* has over 7000 records.

Table 162 Thymelaeaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Pimelea serpyllifolia</i>	1635	3.60
<i>Pimelea microcephala</i>	2137	4.71
<i>Pimelea curviflora</i>	2220	4.89
<i>Pimelea axiflora</i>	3753	8.27
<i>Pimelea linifolia</i>	6120	13.49
<i>Pimelea glauca</i>	7052	15.54
Total	22917	50.5

Fourteen species had 30 or fewer individual site records in the ANHAT database (**Table 163**). This is a relatively low percentage of species with few records. Three of these species are classified as threatened (including one species classified as endangered). There are few species on this list and none of the species appear to be located in northern Australia. The range areas are all smaller than 2000 km². Exclusion of these poorly recorded species eliminates 229 records.

Table 163 Thymelaeaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Pimelea brevifolia modesta</i>	8	12.50			800	NL
<i>Pimelea ciliolaris</i>	8	25.00	E		300	NL
<i>Pimelea</i> sp. <i>hughenden</i>	9	0.00			300	NL
<i>Pimelea pelinos</i>	10	0.00	SW		200	NL
<i>Pimelea venosa</i>	10	0.00	E		500	EN
<i>Kelleria laxa</i>	15	100.00			100	VU

<i>Pimelea cremnophila</i>	17	100.00	E	200	NL
<i>Pimelea milliganii</i>	18	100.00	TAS	1400	NL
<i>Pimelea pendens</i>	19	21.05	SW	1300	NL
<i>Thecanthes</i> sp. <i>donydji</i>	20	15.00		900	NL
<i>Pimelea halophila</i>	21	66.67	SW	500	NL
<i>Pimelea brevistyla</i>	23	13.04	SW	1700	NL
<i>Pimelea neokyrea</i>	24	83.33	SW	1600	NL
<i>Phaleria biflora</i>	27	96.30		400	VU

Removal of extinct and poorly recorded species leaves 45137 records in ANHAT for 97 species (and subspecies). The mean number of records per species for species with greater than 30 records was 465, with a mean % of records in NRS.

Twenty-one species of Thymelaeaceae had 45% or greater of individual site records located within PAs (

Table 164). This is just under one-quarter of the species with more than 30 records. One species is classified as vulnerable. These species are scattered across Australia and have varying sizes of ranges. There are no species listed as occurring in inland Australia. Four species have over 90% of their available record sites falling within PAs.

Table 164 Thymelaeaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Pimelea graniticola</i>	15	32	46.88	SW		1500	NL
<i>Pimelea hispida</i>	55	116	47.41	SW		6300	NL
<i>Pimelea clavata</i>	57	118	48.31	SW		6800	NL
<i>Pimelea physodes</i>	56	115	48.70	SW		4600	NL
<i>Pimelea ferruginea</i>	92	188	48.94	SW,W		10500	NL
<i>Pimelea ligustrina</i>	696	1372	50.73	E,SE,TAS		48100	NL
<i>Pimelea treyvaudii</i>	59	110	53.64	E,SE		4200	NL
<i>Pimelea drummondii</i>	26	48	54.17	SW		3000	NL
<i>Pimelea cinerea</i>	27	48	56.25	TAS		8900	NL
<i>Pimelea umbratica</i>	51	90	56.67	NE,E		2900	NL
<i>Pimelea petrophila</i>	200	341	58.65	CS		6500	NL
<i>Pimelea bracteata</i>	19	31	61.29	E		1900	NL
<i>Thecanthes filifolia</i>	93	147	63.27	CN		4500	NL
<i>Arnhemia cryptantha</i>	179	265	67.55	CN		7700	NL
<i>Lethedon setosa</i>	107	157	68.15	NE		2700	NL
<i>Pimelea</i>	40	54	74.07	CS		2900	NL

<i>williamsonii</i>							
<i>Pimelea alpina</i>	504	631	79.87	SE		6100	NL
<i>Pimelea biflora</i>	85	90	94.44	SE		3400	NL
<i>Pimelea pagophila</i>	44	45	97.78	SE		700	VU
<i>Pimelea sericea</i>	99	101	98.02	TAS		4200	NL
<i>Kelleria dieffenbachii</i>	71	72	98.61	SE,TAS		2200	NL

Eleven species had less than 10% of ANHAT records located within PAs (**Table 165**), which is a relatively lower proportion of species. Four are classified as threatened, including one critically endangered and one endangered species. Three species have no records within PAs. There is not much data to indicate patterns in these species. Perhaps species in this category tend to come from eastern Australia.

Table 165 Thymelaeaceae species with <10% of ANHAT records located within PAs.

<i>Species</i>	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Pimelea spicata</i>	0	62	0.00	E		2100	EN
<i>Jedda multicaulis</i>	0	68	0.00	NE		600	VU
<i>Pimelea spinescens</i>	0	77	0.00	SE		2500	NL
<i>Pimelea decora</i>	2	190	1.05	E,EI		6500	NL
<i>Pimelea haematostachya</i>	4	184	2.17	E,EI		7900	NL
<i>Pimelea leptospermoides</i>	6	259	2.32			3400	VU
<i>Pimelea spinescens</i>	9	324	2.78			6400	CE
<i>Pimelea elongata</i>	6	106	5.66			3900	NL
<i>Thecanthes sanguinea</i>	24	335	7.16	NE,NW,C N,EI		1370 0	NL
<i>Pimelea sericostachya amabilis</i>	7	88	7.95			2700	NL
<i>Pimelea holroydii</i>	3	31	9.68	W		2100	NL

A total of seven Thymelaeaceae species had records in more than 100 separate reserves (**Table 166**). All species in this list had over 1000 records, with an average of 3117 records per species. No species are classified as threatened.

Table 166 Thymelaeaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Pimelea octophylla</i>	1228	108	54	NL
<i>Pimelea flava</i>	1424	117	67	NL
<i>Pimelea microcephala</i>	2137	118	89	NL
<i>Pimelea serpyllifolia</i>	1635	130	70	NL
<i>Pimelea curviflora</i>	2220	160	86	NL
<i>Pimelea linifolia</i>	6120	403	256	NL
<i>Pimelea glauca</i>	7052	410	173	NL

A total of 28 species had records in five or fewer PAs (**Table 167**), which represent over one-quarter of the species with more than 30 records. Four species were listed as threatened, including one species classified as endangered. Again, three species are not known from any PAs in the NRS. The majority of species in this list had fewer than 100 individual records and no species had more than 270 records.

Table 167 Thymelaeaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Pimelea spicata</i>	62	0	EN
<i>Jedda multicaulis</i>	68	0	VU
<i>Pimelea spinescens</i>	77	0	NL
<i>Pimelea interioris</i>	61	1	NL
<i>Pimelea elongata</i>	106	1	NL
<i>Pimelea decora</i>	190	1	NL
<i>Pimelea holroydii</i>	31	2	NL
<i>Pimelea pagophila</i>	45	2	VU
<i>Pimelea forrestiana</i>	102	2	NL
<i>Thecanthes filifolia</i>	147	2	NL
<i>Pimelea haematostachya</i>	184	2	NL
<i>Pimelea bracteata</i>	31	3	NL
<i>Pimelea</i> sp. <i>bakers blue mt.</i>	33	3	NL
<i>Pimelea filiformis</i>	35	3	NL
<i>Pimelea sessilis</i>	40	3	NL
<i>Pimelea gilgiana</i>	49	3	NL
<i>Pimelea leptospermoides</i>	259	3	VU
<i>Arnhemia cryptantha</i>	265	3	NL
<i>Pimelea aquilonia</i>	84	4	NL
<i>Pimelea sericostachya amabilis</i>	88	4	NL
<i>Pimelea physodes</i>	115	4	NL
<i>Pimelea spiculigera</i>	32	5	NL
<i>Pimelea calcicola</i>	35	5	NL
<i>Pimelea lehmanniana</i>	35	5	NL
<i>Pimelea pygmaea</i>	45	5	NL
<i>Pimelea drummondii</i>	48	5	NL

<i>Phaleria clerodendron</i>	63	5	NL
<i>Pimelea floribunda</i>	91	5	NL

Not including the three species without records in a PA, 26 species of Thymelaeaceae had records in five or fewer PAs greater than 1000 hectares. Two of these species are classified as threatened, one of which is listed as critically endangered (

Table 168).

Table 168 Thymelaeaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Pimelea interioris</i>	61	1	NL
<i>Pimelea elongata</i>	106	1	NL
<i>Pimelea decora</i>	190	1	NL
<i>Pimelea spinescens spinescens</i>	324	1	CE
<i>Pimelea holroydii</i>	31	2	NL
<i>Pimelea pagophila</i>	45	2	VU
<i>Pimelea forrestiana</i>	102	2	NL
<i>Thecanthes filifolia</i>	147	2	NL
<i>Pimelea haematostachya</i>	184	2	NL
<i>Pimelea bracteata</i>	31	3	NL
<i>Pimelea</i> sp. <i>bakers blue mt.</i>	33	3	NL
<i>Pimelea calcicola</i>	35	3	NL
<i>Pimelea sessilis</i>	40	3	NL
<i>Pimelea gilgiana</i>	49	3	NL
<i>Arnhemia cryptantha</i>	265	3	NL
<i>Pimelea pygmaea</i>	45	4	NL
<i>Pimelea aquilonia</i>	84	4	NL
<i>Pimelea sericostachya amabilis</i>	88	4	NL
<i>Pimelea physodes</i>	115	4	NL
<i>Pimelea graniticola</i>	32	5	NL
<i>Pimelea spiculigera</i>	32	5	NL
<i>Pimelea lehmanniana</i>	35	5	NL
<i>Pimelea drummondii</i>	48	5	NL
<i>Phaleria clerodendron</i>	63	5	NL
<i>Pimelea floribunda</i>	91	5	NL
<i>Thecanthes concreta</i>	91	5	NL

Anthericaceae

The ANHAT database has 36803 records for 105 species and subspecies of Anthericaceae. No species of Anthericaceae are considered extinct.

Six species account for approximately 50% of the total species records in ANHAT (**Table 169**). These species have over 1000 records each. *Arthropodium strictum* is represented by over 5400 records.

Table 169 Anthericaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Caesia calliantha</i>	1452	3.95
<i>Thysanotus tuberosus</i>	1857	5.05
<i>Arthropodium milleflorum</i>	2029	5.51
<i>Chamaescilla corymbosa</i>	2498	6.79
<i>Thysanotus patersonii</i>	5196	14.12
<i>Arthropodium strictum</i>	5441	14.78
Total	18473	50.2

Twenty-six species, about 25%, had 30 or fewer individual site records in the ANHAT database (**Table 170**). Three species are classified as threatened (including one species classified as endangered). The majority of these species come from Western Australia and all ranges are under 2000 km². Information on vegetation associations is not available for this report. Exclusion of these poorly recorded species eliminates 360 records.

Table 170 Anthericaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Agrostocrinum scabrum littorale</i>	1	0.00			100	NL
<i>Thysanotus kalbarriensis</i>	1	100.00	W		100	NL
<i>Chamaescilla ellen brook</i> (gj keighery 12)	4	100.00			300	NL
<i>Arthropodium</i> sp. 2 (greenish flowers)	6	66.67			500	NL
<i>Arthropodium</i> sp. a nsw flora	7	85.71			500	NL
<i>Laxmannia grandiflora stirlingensis</i>	8	75.00			700	NL
<i>Thysanotus brachiatus</i>	8	50.00			800	NL
<i>Thysanotus inaequalis</i>	8	87.50			800	NL
<i>Thysanotus formosus</i>	9	0.00			400	NL

<i>Thysanotus sabulosus</i>	11	0.00	SW	400	NL
<i>Borya mirabilis</i>	12	100.00	SE	200	EN
<i>Thysanotus vernalis</i>	13	69.23		900	NL
<i>Borya subulata</i>	14	28.57	NW	600	NL
<i>Thysanotus glaucifolius</i>	15	40.00	SW	1400	NL
<i>Thysanotus scaber</i>	15	6.67	SW	1000	NL
<i>Caesia viscida</i>	16	68.75	SW	600	NL
<i>Murchisonia fragrans</i>	17	11.76	W	1400	NL
<i>Thysanotus acerosifolius</i>	17	41.18	SW	900	NL
<i>Thysanotus brachyantherus</i>	18	50.00	SW	1400	NL
<i>Thysanotus tuberosus parviflorus</i>	19	42.11		1100	NL
<i>Chamaescilla gibsonii</i>	20	25.00	SW	1400	NL
<i>Thysanotus cymosus</i>	20	45.00	SW	1700	NL
<i>Thysanotus virgatus</i>	22	36.36	E	1000	NL
<i>Stawellia dimorphantha</i>	23	4.35	SW,W	900	VU
<i>Sowerbaea subtilis</i>	26	34.62		600	VU
<i>Thysanotus glaucus</i>	30	40.00	SW	1900	NL

Removal of extinct and poorly recorded species leaves 36443 records in ANHAT for 79 species (and subspecies). The mean number of records per species for species with greater than 30 records was 461 (mean 32% records in the NRS).

Twelve species of Anthericaceae had 45% or greater of individual record sites located within PAs (**Table 171**). None are classified as threatened. The highest level of reservation was just under 80%. The locations of these few species are distributed across Australia and show no pattern. The size of the ranges varies greatly.

Table 171 Anthericaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Borya jabirabela</i>	27	57	47.37	CN		1600	NL
<i>Thysanotus fractiflexus</i>	93	182	51.10	CS		3700	NL
<i>Chlorophytum laxum</i>	135	262	51.53	NE,NW, CN		9800	NL
<i>Thysanotus gracilis</i>	26	47	55.32	NW,CN, CI		3400	NL
<i>Sowerbaea alliacea</i>	317	571	55.52	CI		15200	NL
<i>Thysanotus nudicaulis</i>	18	32	56.25	SW,CS		2700	NL
<i>Laxmannia orientalis</i>	507	892	56.84	SE,CS, TAS		40300	NL
<i>Laxmannia compacta</i>	98	171	57.31	E,W		16600	NL

<i>Borya septentrionalis</i>	134	204	65.69	NE,E	3100	NL
<i>Thysanotus anceps</i>	25	38	65.79		1400	NL
<i>Thysanotus parviflorus</i>	22	31	70.97		1800	NL
<i>Caesia alpina</i>	68	86	79.07	SE,TAS	4400	NL

Only one species had less than 10% of ANHAT records located within PAs (

Table 172). This species is not classified as threatened.

Table 172 Anthericaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Thysanotus pyramidalis</i>	1	33	3.0	SW,W		2600	NL

A total of 10 Anthericaceae species had records in more than 100 separate PAs (

Table 173). Most species in this list had over 1000 records, with a mean of 2328 records per species. No species are classified as threatened.

Table 173 Anthericaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Laxmannia orientalis</i>	892	104	55	NL
<i>Caesia calliantha</i>	1452	130	41	NL
<i>Thysanotus baueri</i>	1207	143	94	NL
<i>Arthropodium minus</i>	1308	157	88	NL
<i>Arthropodium fimbriatum</i>	1395	162	61	NL
<i>Thysanotus tuberosus</i>	1857	171	118	NL
<i>Arthropodium milleflorum</i>	2029	182	122	NL
<i>Chamaescilla corymbosa</i>	2498	278	119	NL
<i>Arthropodium strictum</i>	5441	373	109	NL
<i>Thysanotus patersonii</i>	5196	615	274	NL

A total of 10 species had records in five or fewer PAs (

Table 174). No species were listed as threatened. The majority of species in this list had fewer than 100 individual site records and no species had more than 105 site records. All species had at least one record within a PA.

Table 174 Anthericaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Thysanotus pyramidalis</i>	33	1	NL
<i>Thysanotus fastigiatus</i>	41	2	NL
<i>Alania endlicheri</i>	105	3	NL
<i>Stawellia gymnocephala</i>	36	4	NL
<i>Sowerbaea multicaulis</i>	46	4	NL
<i>Borya jabirabela</i>	57	4	NL
<i>Caesia chlorantha</i>	68	4	NL
<i>Caesia setifera</i>	105	4	NL
<i>Thysanotus parviflorus</i>	31	5	NL
<i>Laxmannia arida</i>	45	5	NL

Sixteen species of Anthericaceae had records in five or fewer PAs greater than 1000 hectares, no species are classified as threatened (**Table 175**). Again, all species have records in at least one large PA.

Table 175 Anthericaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Thysanotus pyramidalis</i>	33	1	NL
<i>Stawellia gymnocephala</i>	36	3	NL
<i>Thysanotus gageoides</i>	37	3	NL
<i>Thysanotus fastigiatus</i>	41	3	NL
<i>Arthropodium</i> sp. 3 (aff. <i>strictum</i>)	53	3	NL
<i>Alania endlicheri</i>	105	3	NL
<i>Thysanotus parviflorus</i>	31	4	NL
<i>Sowerbaea multicaulis</i>	46	4	NL
<i>Borya jabirabela</i>	57	4	NL
<i>Caesia chlorantha</i>	68	4	NL
<i>Caesia setifera</i>	105	4	NL
<i>Thysanotus fractiflexus</i>	182	4	NL
<i>Thysanotus teretifolius</i>	39	5	NL
<i>Laxmannia arida</i>	45	5	NL
<i>Thysanotus rectantherus</i>	57	5	NL
<i>Laxmannia grandiflora</i>	72	5	NL

Haemodoraceae

The ANHAT database has 9849 records for 100 species and subspecies of Haemodoraceae. No species of Haemodoraceae are considered extinct.

Eighteen species account for approximately 50% of the total species records in ANHAT (

Table 176). These species have over 150 records each and *Haemodorum coccineum* has over 1000 records in the database. This family is generally restricted to the south-west of Western Australia.

Table 176 Haemodoraceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Conostylis pusilla</i>	169	1.72
<i>Conostylis setosa</i>	170	1.73
<i>Haemodorum parviflorum</i>	175	1.78
<i>Haemodorum austroqueenslandicum</i>	179	1.82
<i>Haemodorum simplex</i>	181	1.84
<i>Conostylis juncea</i>	190	1.93
<i>Tribonanthes australis</i>	204	2.07
<i>Conostylis serrulata</i>	204	2.07
<i>Conostylis aculeata</i>	214	2.17
<i>Haemodorum brevicaule</i>	233	2.37
<i>Conostylis prolifera</i>	233	2.37
<i>Tribonanthes longipetala</i>	237	2.41
<i>Phlebocarya ciliata</i>	239	2.43
<i>Conostylis aurea</i>	265	2.69
<i>Anigozanthos humilis</i>	311	3.16
<i>Conostylis setigera</i>	373	3.79
<i>Conostylis lepidospermoides</i>	381	3.87
<i>Haemodorum coccineum</i>	1008	10.23
Total	4966	50.45

Thirty-four species had 30 or fewer individual site records in the ANHAT database (**Table 177**). This is 34% of the species with records on the ANHAT database. Seven species are classified as threatened (including four species as critically endangered). The species in this category come essentially from south-west Western Australia and have small range areas. No information is available on their vegetation associations for this report. Exclusion of these poorly recorded species eliminates 502 records.

Table 177 Haemodoraceae species with 30 or fewer individual site records in the ANHAT database.

<i>Species</i>	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Anigozanthos viridis</i>						
<i>terraspectans</i>	1	0.00			100	VU
<i>Conostylis aculeata</i>						
<i>spinuligera</i>	1	0.00			100	NL
<i>Conostylis aculeata</i>						
<i>echinissima</i>	2	50.00			200	NL
<i>Conostylis festucacea</i>						
<i>filifolia</i>	2	0.00			200	NL
<i>Conostylis seorsiflora</i>						
<i>trichophylla</i>	2	50.00			200	EN
<i>Conostylis dielsii teres</i>	3	33.33			300	EN
<i>Conostylis festucacea</i>	4	25.00			200	NL
<i>Conostylis aculeata</i>						
<i>rhipidion</i>	5	0.00			400	NL
<i>Conostylis teretifolia</i>						
<i>planescens</i>	5	40.00			400	NL
<i>Conostylis aculeata gracilis</i>	6	16.67			500	NL
<i>Phlebocarya pilosissima</i>	7	57.14			500	NL
<i>Conostylis aculeata</i>						
<i>cygnorum</i>	9	33.33			800	NL
<i>Conostylis aculeata preissii</i>	9	0.00			1200	NL
<i>Conostylis albescens</i>	11	9.09	SW		500	NL
<i>Conostylis setigera dasys</i>	13	0.00			200	EN
<i>Conostylis bracteata</i>	14	42.86			1100	NL
<i>Tribonanthes purpurea</i>	14	28.57	SW		1000	VU
<i>Conostylis aculeata</i>						
<i>breviflora</i>	16	31.25			1100	NL
<i>Conostylis dielsii</i>	17	0.00			1300	NL
<i>Haemodorum gracile</i>	18	11.11	NW CN		1200	NL
<i>Anigozanthos gabrielae</i>	19	47.37	SW		1000	NL
<i>Haemodorum</i>						
<i>distichophyllum</i>	19	100.00			1100	NL
<i>Haemodorum loratum</i>	19	36.84	SW		1300	NL
<i>Conostylis drummondii</i>	21	14.29			1000	EN
<i>Conostylis aculeata</i>						
<i>bromelioides</i>	22	4.55			2200	NL
<i>Conostylis lateens</i>	23	47.83	SW W		1200	NL
<i>Conostylis deplexa</i>	25	20.00	SW		1000	NL
<i>Anigozanthos kalbarriensis</i>	26	61.54	W		1100	NL
<i>Conostylis rogeri</i>	26	42.31	SW		700	VU
<i>Conostylis tomentosa</i>	27	11.11	W		900	NL
<i>Conostylis aculeata</i>						
<i>septentrionora</i>	28	53.57			900	NL

<i>Conostylis seminuda</i>	28	17.86	SW	1400	NL
<i>Conostylis villosa</i>	30	26.67		1900	NL
<i>Haemodorum brevisepalum</i>	30	3.33	SW	1500	NL

Removal of the poorly recorded species leaves 9347 records in ANHAT for 66 species (and subspecies). The mean number of records per species for species with greater than 30 records was 142, with a mean of 25% of records in the NRS.

Only two species of Haemodoraceae had 45% or greater of individual site records located within PAs (

Table 178). One species is classified as endangered.

Table 178 Haemodoraceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Conostylis pauciflora</i>	107	133	80.45	SW		9100	NL
<i>Conostylis lepidospermoides</i>	333	381	87.40	SW		14800	EN

Six species had less than 10% of ANHAT records located within PAs (

Table 179). Two of the six species are classified as threatened, including one endangered species. One species has no records from a PA.

Table 179 Haemodoraceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Anigozanthos humilis chrysanthus</i>	0	52	0.00			1400	VU
<i>Conostylis micrantha</i>	2	39	5.13	W		600	EN
<i>Conostylis juncea</i>	16	190	8.42	SW		6800	NL
<i>Conostylis angustifolia</i>	3	35	8.57	SW		1700	NL
<i>Anigozanthos viridis</i>	4	40	10.00	SW		3500	NL
<i>Macropidia fuliginosa</i>	8	80	10.00	SW W		4500	NL

One Haemodoraceae species had records in more than 100 separate PAs (**Table 180**). This species in this list had over 350 records. This species is classified as endangered.

Table 180 Haemodoraceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Conostylis lepidospermoides</i>	381	110	35	EN

A total of 16 species had records in five or fewer PAs (**Table 181**), representing around 25% of the species in this family with more than 30 records. Four species are listed as threatened, including three species classified as endangered. All species in this list had fewer than 100 individual site records and no species had more than 80 site records. Only one species had no records within a PA.

Table 181 Haemodoraceae species recorded from five or fewer PAs.

Species	No. Records	No. reserves	EPBC status
<i>Anigozanthos humilis chrysanthus</i>	52	0	VU
<i>Conostylis angustifolia</i>	35	1	NL
<i>Conostylis micrantha</i>	39	1	EN
<i>Conostylis robusta</i>	70	1	NL
<i>Conostylis misera</i>	62	2	EN
<i>Conostylis wonganensis</i>	31	3	EN
<i>Conostylis phathyantha</i>	36	3	NL
<i>Anigozanthos pulcherrimus</i>	42	3	NL
<i>Anigozanthos onycis</i>	59	3	NL
<i>Anigozanthos viridis</i>	40	4	NL
<i>Conostylis neocymosa</i>	48	4	NL
<i>Conostylis breviscapa</i>	50	4	NL
<i>Conostylis resinosa</i>	51	4	NL
<i>Haemodorum venosum</i>	34	5	NL
<i>Tribonanthes brachypetala</i>	68	5	NL
<i>Macropidia fuliginosa</i>	80	5	NL

Eighteen species of Haemodoraceae had records in five or fewer PAs greater than 1000 hectares, including two species classified as endangered (

Table 182). All species with records in one PA also have a record in a PA larger than 1000 ha. That is, if they are found in only one PA, that PA is larger than 1000 ha.

Table 182 Haemodoraceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Conostylis angustifolia</i>	35	1	NL
<i>Conostylis micrantha</i>	39	1	EN
<i>Conostylis misera</i>	62	1	EN
<i>Conostylis robusta</i>	70	1	NL
<i>Anigozanthos pulcherrimus</i>	42	2	NL
<i>Conostylis phathyrantha</i>	36	3	NL
<i>Anigozanthos viridis</i>	40	3	NL
<i>Conostylis neocymosa</i>	48	3	NL
<i>Anigozanthos onycis</i>	59	3	NL
<i>Tribonanthes brachypetala</i>	68	3	NL
<i>Conostylis bealiana</i>	96	3	NL
<i>Haemodorum venosum</i>	34	4	NL
<i>Conostylis breviscapa</i>	50	4	NL
<i>Conostylis resinosa</i>	51	4	NL
<i>Macropidia fuliginosa</i>	80	4	NL
<i>Haemodorum paniculatum</i>	51	5	NL
<i>Conostylis teretiuscula</i>	65	5	NL
<i>Phlebocarya filifolia</i>	77	5	NL

Casuarinaceae

The ANHAT database has 35069 records for 89 species and subspecies of Casuarinaceae. No species of Casuarinaceae are considered extinct.

Six species account for approximately 50% of the total species records in ANHAT (**Table 183**). These species have over 1000 records each. *Allocasuarina littoralis* is represented by more than 4500 records.

Table 183 Casuarinaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Casuarina pauper</i>	1912	5.45
<i>Allocasuarina muelleriana muelleriana</i>	2088	5.95
<i>Allocasuarina luehmannii</i>	2714	7.74
<i>Allocasuarina torulosa</i>	2779	7.92
<i>Allocasuarina verticillata</i>	3976	11.34
<i>Allocasuarina littoralis</i>	4542	12.95
Total	18011	51.35

Eighteen species have 30 or fewer individual record sites in the ANHAT database (

Table 184). This is around 20% of all of the species in this family on the database. Four species are classified as threatened (including two species classified as endangered). These species come from the southern half of Australia and cover a range of vegetation types. Exclusion of these poorly recorded species eliminates 287 records. As usual, their ranges are relatively small.

Table 184 Casuarinaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Allocasuarina mackliniana</i>	1	100.00	CS, SE		100	NL
<i>Allocasuarina</i> sp. <i>shaw island</i>	3	100.00			800	NL
<i>Allocasuarina portuensis</i>	4	25.00	E	SL	200	EN
<i>Allocasuarina eriochlamys</i>	10	20.00	W, SW	RH	500	NL
<i>Allocasuarina globosa</i>	10	0.00	SW	Sc	400	NL
<i>Allocasuarina brachystachya</i>	14	0.00	E	WL	800	NL
<i>Allocasuarina mackliniana hirtilinea</i>	15	53.33	SE	WL	500	NL
<i>Allocasuarina acutivalvis prinsepiana</i>	16	25.00	W	He, WL, RH	1300	NL
<i>Allocasuarina grevilleoides</i>	16	12.50	W	He	1300	NL

<i>Allocasuarina lehmanniana</i>							
<i>ecarinata</i>	16	18.75	SW	WL, Sc	1400	NL	
<i>Allocasuarina rigida exsul</i>	18	38.89	E	RH	100	NL	
<i>Allocasuarina lehmanniana</i>							
<i>lehmanniana</i>	19	21.05	SW	WL, Sc	2100	NL	
<i>Allocasuarina crassa</i>	21	95.24	TAS	Exposed cliffs	300	NL	
<i>Allocasuarina eriochlamys</i>							
<i>grossa</i>	21	0.00			800	NL	
<i>Allocasuarina glareicola</i>	21	9.52	E	For	600	EN	
<i>Allocasuarina rigida</i>	25	48.00	E		1600	NL	
<i>Allocasuarina duncanii</i>	27	81.48			800	VU	
<i>Allocasuarina tortiramula</i>	30	70.00	SW	He	1600	VU	

Removal of the poorly recorded species leaves 34782 records in ANHAT for 71 species (and subspecies). The mean number of records per species for species with greater than 30 records was 490, with a mean of 38% of records in the NRS.

Twenty-one species of Casuarinaceae had 45% or greater of individual site records located within PAs (

Table 185), which is close to 30% of all of the species with more than 30 records. One of these species is classified as vulnerable. Again, these species are essentially present within the southern half of the continent. A significant number of species are associated with heathlands. The ranges vary widely in size. One species had almost 99% of its records within the NRS.

Table 185 Casuarinaceae species with >45% of site records within PAs.

<i>Species</i>	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Allocasuarina fibrosa</i>	18	40	45.00	SW	He	900	VU
<i>Allocasuarina muelleriana</i>				Kangaroo			
<i>notocolpica</i>	50	105	47.62	Is	Sc, He	4000	NL
<i>Allocasuarina media</i>	20	42	47.62	SE	WL	800	NL
<i>Allocasuarina distyla</i>	124	258	48.06	E, SE	He	11500	NL
<i>Allocasuarina muelleriana</i>							
<i>muelleriana</i>	1041	2088	49.86	CS, SE	Sc, He	59800	NL
<i>Allocasuarina gymnanthera</i>	42	84	50.00	E	WL	9600	NL
<i>Allocasuarina pusilla</i>	487	960	50.73	CS, SE	He	32400	NL
<i>Allocasuarina zephyrea</i>	68	129	52.71	TAS	He	6500	NL
<i>Allocasuarina</i>	47	85	55.29	SW	SL	4000	NL

<i>decussata</i>								
<i>Allocasuarina scleroclada</i>	31	56	55.36	SE	Sc, WL	2800	NL	
<i>Allocasuarina muelleriana</i>	113	204	55.39	CS, SE	Sc, He	13500	NL	
<i>Allocasuarina misera/paradoxa</i>	187	312	59.94	SE	He	7100	NL	
<i>Allocasuarina rigida rigida</i>	118	177	66.67	E		4000	NL	
<i>Allocasuarina rupicola</i>	42	62	67.74	E	RH	1300	NL	
<i>Allocasuarina trichodon</i>	45	64	70.31	SW	He	3500	NL	
<i>Allocasuarina muelleriana alticola</i>	63	89	70.79	CS	Sc, He	2600	NL	
<i>Allocasuarina misera</i>	235	321	73.21	SE	WL	5800	NL	
<i>Allocasuarina filidens</i>	34	46	73.91	E		400	NL	
<i>Allocasuarina tessellata</i>	38	44	86.36	W	RH	1400	NL	
<i>Allocasuarina grampiana</i>	108	116	93.10	SW	RH	1400	NL	
<i>Gymnostoma australianum</i>	80	81	98.77	NE	RF, For	800	NL	

Four species had less than 10% of ANHAT records located within PAs (**Table 186**). This is a relatively low percentage. Two of the four species are classified as threatened, including one endangered species. One species has no records within a PA. These species come from woodlands and/or heathlands.

Table 186 Casuarinaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Allocasuarina robusta</i>	0	88	0.00	CS	WL, He	1000	EN
<i>Casuarina cristata</i>	26	690	3.77	E	WL	65800	NL
<i>Allocasuarina acutivalvis</i>	5	73	6.85	W, SW	He, WL, RH	5700	NL
<i>Allocasuarina simulans</i>	3	34	8.82	E	He	700	VU

A total of five Casuarinaceae species had records in more than 100 separate reserves (**Table 187**). All species in this list had over 1000 records, with an average of 3220 records per species. No species are classified threatened.

Table 187 Casuarinaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Allocasuarina luehmannii</i>	2714	157	70	NL
<i>Allocasuarina muelleriana muelleriana</i>	2088	160	64	NL
<i>Allocasuarina torulosa</i>	2779	208	157	NL
<i>Allocasuarina verticillata</i>	3976	284	133	NL
<i>Allocasuarina littoralis</i>	4542	286	199	NL

A total of 22 species had records in five or fewer PAs (**Table 188**). This is around 30% of species in the ANHAT database with more than 30 records. Six species are listed as threatened, including four species classified as endangered. The majority of species in this list had fewer than 100 individual site records and no species had more than 300 site records.

Table 188 Casuarinaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Allocasuarina robusta</i>	88	0	EN
<i>Allocasuarina simulans</i>	34	1	VU
<i>Allocasuarina filidens</i>	46	1	NL
<i>Allocasuarina thalassoscopica</i>	48	1	EN
<i>Allocasuarina diminuta annectens</i>	57	1	NL
<i>Allocasuarina ophiolitica</i>	32	2	NL
<i>Allocasuarina media</i>	42	2	NL
<i>Allocasuarina defungens</i>	49	2	EN
<i>Allocasuarina rupicola</i>	62	2	NL
<i>Gymnostoma australianum</i>	81	2	NL
<i>Allocasuarina tessellata</i>	44	3	NL
<i>Allocasuarina fibrosa</i>	40	4	VU
<i>Allocasuarina ramosissima</i>	55	4	NL
<i>Allocasuarina drummondiana</i>	56	4	NL
<i>Allocasuarina acutivalvis acutivalvis</i>	73	4	NL
<i>Allocasuarina dielsiana</i>	77	4	NL
<i>Allocasuarina lehmanniana</i>	36	5	NL
<i>Allocasuarina diminuta mimica</i>	50	5	NL
<i>Allocasuarina scleroclada</i>	56	5	NL
<i>Allocasuarina muelleriana alticola</i>	89	5	NL
<i>Allocasuarina grampiana</i>	116	5	NL
<i>Allocasuarina emuina</i>	291	5	EN

Eighteen species of Casuarinaceae had records in five or fewer PAs greater than 1000 hectares, including four species classified as threatened. Two species are listed as endangered (**Table 189**). Again, all species found in at least one PA were also found in at least one PA larger than 1000 ha.

Table 189 Casuarinaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs	
		>1000ha	EPBC status
<i>Allocasuarina simulans</i>	34	1	VU
<i>Allocasuarina fibrosa</i>	40	1	VU
<i>Allocasuarina drummondiana</i>	56	1	NL
<i>Allocasuarina diminuta annectens</i>	57	1	NL
<i>Allocasuarina emuina</i>	291	1	EN
<i>Allocasuarina media</i>	42	2	NL
<i>Allocasuarina tessellata</i>	44	2	NL
<i>Allocasuarina defungens</i>	49	2	EN
<i>Allocasuarina rupicola</i>	62	2	NL
<i>Allocasuarina acutivalvis acutivalvis</i>	73	2	NL
<i>Gymnostoma australianum</i>	81	2	NL
<i>Allocasuarina lehmanniana</i>	36	4	NL
<i>Allocasuarina ramosissima</i>	55	4	NL
<i>Allocasuarina dielsiana</i>	77	4	NL
<i>Allocasuarina diminuta mimica</i>	50	5	NL
<i>Allocasuarina scleroclada</i>	56	5	NL
<i>Allocasuarina muelleriana alticola</i>	89	5	NL
<i>Allocasuarina grampiana</i>	116	5	NL

Phormiaceae

The ANHAT database has 37676 records for 75 species and subspecies of Phormiaceae. No species of Phormiaceae is considered extinct.

Two species account for approximately 50% of the total species records in ANHAT (**Table 190**). These species have over 5000 records each and *Dianella revoluta* over 11000 records.

Table 190 Phormiaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Dianella tasmanica</i>	5626	14.93
<i>Dianella revoluta</i>	11383	30.21
Total	17009	45.14

Twenty species had 30 or fewer individual site records in the ANHAT database (**Table 191**). This represents over 25% of the available species. One species is classified as vulnerable. The species in this category come mainly from Western Australia. Due to time constraints no vegetation information is available. Exclusion of these poorly recorded species eliminates 313 records.

Table 191 Phormiaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Dianella longifolia fragrans</i>	5	80.00			300	NL
<i>Tricoryne eyreana</i>	5	20.00	SW		400	NL
<i>Corynotheca micrantha elongate</i>	6	16.67			600	NL
<i>Tricoryne tuberosa</i>	6	33.33			400	NL
<i>Corynotheca flexuosissima</i>	7	57.14	W		1000	NL
<i>Dianella pavopennacea robusta</i>	8	50.00			500	NL
<i>Tricoryne corynothecoides</i>	11	9.09	W		900	NL
<i>Dianella revoluta tenuis</i>	12	41.67			1000	NL
<i>Dianella caerulea aquilonia</i>	16	6.25			2000	NL
<i>Tricoryne trudgeniana</i>	16	56.25	W		1200	NL
<i>Dianella longifolia surculosa</i>	17	0.00			1200	NL
<i>Hensmania chapmanii</i>	17	5.88	W		900	VU
<i>Corynotheca micrantha panda</i>	18	66.67			1600	NL
<i>Johnsonia inconspicua</i>	18	0.00	SW		600	NL
<i>Tricoryne simplex</i>	19	31.58	E		4400	NL

<i>Corynotheca asperata</i>	20	0.00		800	NL
<i>Corynotheca micrantha gracilis</i>	26	15.38		1500	NL
<i>Dianella prunina</i>	28	39.29	E	5700	NL
<i>Arnocrinum gracillimum</i>	29	62.07	SW,W	1200	NL
<i>Dianella tarda</i>	29	0.00		2700	NL

Removal of extinct and poorly recorded species leaves 37363 records in ANHAT for 55 species (and subspecies). The mean number of records per species for species with greater than 30 records is 679, with a mean of 32% of records in the NRS.

Ten species of Phormiaceae had 45% or greater of individual site records located within PAs (**Table 192**). No species are classified as threatened. No species has reservation levels above 90%. There are too few species to determine if any patterns exist in this category.

Table 192 Phormiaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Dianella caerulea assera</i>	97	199	48.74			16000	NL
<i>Tricoryne tenella</i>	324	661	49.02	SE,CS		39200	NL
<i>Dianella atraxis</i>	91	181	50.28	NE		4600	NL
<i>Dianella fruticans</i>	35	65	53.85			1600	NL
<i>Thelionema grande</i>	46	85	54.12	E		3100	NL
<i>Dianella caerulea protensa</i>	17	31	54.84			3100	NL
<i>Dianella congesta</i>	43	70	61.43	NE,E		7300	NL
<i>Hensmania stoniella</i>	53	77	68.83	SW		4200	NL
<i>Herpolirion novae-zelandiae</i>	109	126	86.51	SE,TAS		6200	NL
<i>Arnocrinum drummondii</i>	59	68	86.76	W		3000	NL

Four species had less than 10% of ANHAT records located within PAs (**Table 193**). One of the species is classified as endangered. One species has no records currently within a PA.

Table 193 Phormiaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Dianella longifolia stupata</i>	0	56	0.00			4200	NL
<i>Dianella incollata</i>	4	75	5.33	NE		1800	NL
<i>Dianella revoluta vinosa</i>	4	60	6.67			10200	NL
<i>Dianella amoena</i>	21	226	9.29	E,SE		7900	EN

A total of six Phormiaceae species had records in more than 100 separate reserves (

Table 194). All species in this list had over 1000 records, with an average of 4749 records per species. No species are classified as threatened.

Table 194 Phormiaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Dianella brevicaulis</i>	1372	160	93	NL
<i>Stypantra glauca</i>	2473	176	123	NL
<i>Dianella tasmanica</i>	5626	200	132	NL
<i>Dianella caerulea</i>	3157	239	183	NL
<i>Tricoryne elatior</i>	4480	393	211	NL
<i>Dianella revoluta</i>	11383	857	378	NL

A total of 13 species had records in five or fewer PAs (

Table 195). This is just below 25% of the remaining species. One species is classified as endangered. The majority of species in this list had fewer than 100 individual site records and no species had more than 250 site records.

Table 195 Phormiaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Dianella longifolia stupata</i>	56	0	NL
<i>Dianella incollata</i>	75	1	NL
<i>Dianella revoluta vinosa</i>	60	2	NL
<i>Corynotheca pungens</i>	31	3	NL
<i>Dianella caerulea cinerascens</i>	43	3	NL
<i>Dianella fruticans</i>	65	3	NL
<i>Dianella caerulea petasmatodes</i>	39	4	NL

<i>Johnsonia teretifolia</i>	53	4	NL
<i>Dianella pavopennacea major</i>	67	4	NL
<i>Dianella amoena</i>	226	4	EN
<i>Dianella callicarpa</i>	33	5	NL
<i>Arnocrinum drummondii</i>	68	5	NL
<i>Dianella pavopennacea</i>	99	5	NL

Seventeen species, around 30%, of species in the Phormiaceae had records in five or fewer PAs greater than 1000 hectares, including one species classified as endangered (**Table 196**).

Table 196 Phormiaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs	
		>1000ha	EPBC status
<i>Dianella incollata</i>	75	1	NL
<i>Dianella amoena</i>	226	1	EN
<i>Corynotheca pungens</i>	31	2	NL
<i>Dianella revoluta vinosa</i>	60	2	NL
<i>Dianella caerulea cinerascens</i>	43	3	NL
<i>Johnsonia teretifolia</i>	53	3	NL
<i>Dianella fruticans</i>	65	3	NL
<i>Arnocrinum drummondii</i>	68	3	NL
<i>Hodgsoniola junciformis</i>	31	4	NL
<i>Dianella caerulea petasmatodes</i>	39	4	NL
<i>Dianella crinoides</i>	48	4	NL
<i>Hensmania turbinata</i>	60	4	NL
<i>Dianella pavopennacea major</i>	67	4	NL
<i>Dianella longifolia grandis</i>	174	4	NL
<i>Dianella callicarpa</i>	33	5	NL
<i>Johnsonia pubescens</i>	78	5	NL
<i>Dianella pavopennacea</i>	99	5	NL

Portulacaceae

The ANHAT database has 14287 records for 63 species and subspecies of Portulacaceae. No species of Portulacaceae are considered extinct.

Five species account for approximately 50% of the total species records in ANHAT (Table 197). These species have over 800 records each and, in the case of the *Parakeelya eremaea*, over 3100 records.

Table 197 Portulacaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Parakeelya granulifera</i>	850	5.95
<i>Portulaca bicolor</i>	870	6.09
<i>Neopaxia australasica</i>	872	6.10
<i>Parakeelya calyptrata</i>	1343	9.40
<i>Parakeelya eremaea</i>	3195	22.36
Total	7130	49.9

Twenty-two species (one-third) had 30 or fewer individual site records in the ANHAT database (

Table 198). No species are classified as threatened. There is insufficient information to determine patterns in the species in this category. Exclusion of these poorly recorded species eliminates 280 records.

Table 198 Portulacaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Calandrinia</i> sp. <i>bungalbin</i>	1	100.00			100	NL
<i>Parakeelya tepperiana</i>	2	0.00			100	NL
<i>Calandrinia</i> sp. <i>nov</i> <i>svl2043</i>	3	33.33			300	NL
<i>Montia perfoliata</i>	3	0.00	SE		200	NL
<i>Parakeelya sphaerophylla</i>	3	33.33			300	NL
<i>Calandrinia</i> sp. <i>yinberrie hills</i>	4	0.00			100	NL
<i>Montia fontana</i>	5	40.00			500	NL
<i>Parakeelya composita</i>	5	0.00			300	NL
<i>Parakeelya nana</i>	6	16.67			300	NL

<i>Calandrinia kalanniensis</i>	9	44.44	SW	500	NL
<i>Parakeelya papillata</i>	12	0.00		1100	NL
<i>Portulaca bicolor rosea</i>	12	25.00		2100	NL
<i>Portulaca tuberosa</i>	12	0.00		900	NL
<i>Portulaca conspicua</i>	13	15.38	NW,WI	900	NL
<i>Montia fontana amporitana</i>	17	41.18		1400	NL
<i>Portulaca clavigera</i>	19	10.53	NW	800	NL
<i>Portulaca cyclophylla</i>	19	10.53		1700	NL
<i>Parakeelya polypetala</i>	24	29.17		1300	NL
<i>Parakeelya tumida</i>	25	12.00		900	NL
<i>Parakeelya spergularina</i>	27	29.63		2300	NL
<i>Calandrinia dielsii</i>	29	100.00		1000	NL
<i>Parakeelya creethae</i>	30	26.67		2600	NL

Removal of the poorly recorded species leaves 14007 records in ANHAT for 41 species (and subspecies). The mean number of records per species for species with greater than 30 records was 342, with a mean of 31% of records in the NRS.

Seven species of Portulacaceae have more than 45% of their individual record sites located within PAs (

Table 199). No species are classified as threatened. The species with the highest level of reservation has just below 91% of its records in PAs. The ranges of these species vary widely in size.

Table 199 Portulacaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Parakeelya corrigioloides</i>	113	247	45.75			17100	NL
<i>Parakeelya eremaea</i>	1552	3195	48.58			160900	NL
<i>Sedopsis filsonii</i>	66	119	55.46	CI		3600	NL
<i>Parakeelya granulifera</i>	489	850	57.53			49500	NL
<i>Parakeelya brevipedata</i>	80	131	61.07			8900	NL
<i>Liparophyllum gunnii</i>	31	35	88.57	TAS		2500	NL
<i>Parakeelya porifera</i>	90	99	90.91			4800	NL

Two species had less than 10% of ANHAT records located within PAs (**Table 200**), one of which has no records in a PA. Neither species are classified as threatened.

Table 200 Portulacaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Sedopsis armitii</i>	0	34	0			1100	NL
<i>Portulaca digyna</i>	12	160	7.5	NW,CN, EI,CI		8100	NL

Three Portulacaceae species had records in more than 100 separate PAs (**Table 201**). Two species in this list had over 1000 records, with an average of 1796 records per species. No species classified as threatened.

Table 201 Portulacaceae species recorded at more than 100 reserves.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Parakeelya granulifera</i>	850	126	84	NL
<i>Parakeelya calyptata</i>	1343	228	125	NL
<i>Parakeelya eremaea</i>	3195	251	164	NL

A total of eight species had records in five or fewer PAs (**Table 202**). No species are listed as threatened. The majority of species in this list had fewer than 100 individual site records and no species had more than 160 site records.

Table 202 Portulacaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Sedopsis armitii</i>	34	0	NL
<i>Calandrinia sp. oblong</i>	35	3	NL
<i>Parakeelya lehmannii</i>	37	3	NL
<i>Parakeelya strophiolata</i>	42	3	NL
<i>Portulaca digyna</i>	160	3	NL
<i>Parakeelya primuliflora</i>	44	4	NL
<i>Parakeelya pleiopetala</i>	65	4	NL
<i>Parakeelya arenicola</i>	78	5	NL

Seven species of Portulacaceae had records in five or fewer PAs greater than 1000 hectares, and no species are classified as threatened (

Table 203).

Table 203 Portulacaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Parakeelya lehmannii</i>	37	1	NL
<i>Calandrinia</i> sp. <i>oblong</i>	35	3	NL
<i>Parakeelya strophiolata</i>	42	3	NL
<i>Portulaca digyna</i>	160	3	NL
<i>Parakeelya primuliflora</i>	44	4	NL
<i>Parakeelya pleiopetala</i>	65	4	NL
<i>Parakeelya arenicola</i>	78	4	NL

Lentibulariaceae

The ANHAT database has 8526 records for 63 species and subspecies of Lentibulariaceae. No species of Lentibulariaceae are considered extinct.

Seven species account for approximately 50% of the total species records in ANHAT (Table 204). These species have over 300 records each and *Utricularia dichotoma* over 1100 records.

Table 204 Lentibulariaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Utricularia uliginosa</i>	309	3.624208
<i>Utricularia leptoplectra</i>	343	4.022989
<i>Utricularia gibba</i>	455	5.336617
<i>Utricularia caerulea</i>	466	5.465635
<i>Utricularia aurea</i>	580	6.802721
<i>Utricularia chrysantha</i>	930	10.90781
<i>Utricularia dichotoma</i>	1157	13.57026
Total	4240	49.73024

Twenty-five species in the family Lentibulariaceae had 30 or fewer individual site records in the ANHAT database (

Table 205). This represents 40% of all the species with records. No species in this category are classified as threatened. Nearly all of the species with location information are from western or central Australia. Due to time constraints there is no vegetation information available for these species. The range areas are no greater than 2000 km². Exclusion of these poorly recorded species eliminates 259 records.

Table 205 Lentibulariaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Polypompholyx multifida</i>	1	100.00			200	NL
<i>Utricularia inflexa</i>	2	50.00			200	NL
<i>Utricularia scandens</i>	2	0.00			200	NL
<i>Utricularia terrae-reginae</i>	2	0.00	NE		100	NL
<i>Polypompholyx tenella</i>	3	0.00	SW		200	NL
<i>Utricularia albiflora</i>	3	0.00			100	NL
<i>Utricularia flava</i>	3	0.00			300	NL
<i>Utricularia paulineae</i>	3	33.33			200	NL
<i>Utricularia kenneallyi</i>	4	0.00	NW		400	NL
<i>Utricularia antennifera</i>	6	0.00			400	NL
<i>Utricularia helix</i>	7	100.00	SW		200	NL

<i>Utricularia tridactyla</i>	8	0.00	NW	400	NL
<i>Utricularia rhododactylos</i>	10	20.00		400	NL
<i>Utricularia petertaylorii</i>	11	27.27		900	NL
<i>Utricularia westonii</i>	11	72.73	SW	500	NL
<i>Utricularia georgei</i>	12	75.00	NW	800	NL
<i>Utricularia cheiranthos</i>	14	50.00		400	NL
<i>Utricularia fistulosa</i>	14	14.29	NW	1000	NL
<i>Utricularia foveolata</i>	15	66.67		800	NL
<i>Utricularia simplex</i>	17	29.41		1600	NL
<i>Utricularia subulata</i>	18	38.89	CN	700	NL
<i>Utricularia benthamii</i>	19	36.84	SW	1500	NL
<i>Utricularia singeriana</i>	22	40.91	NW,CN	900	NL
<i>Utricularia dunstaniae</i>	26	23.08	CN	1100	NL
<i>Utricularia volubilis</i>	26	42.31	SW	2000	NL

Removal of the poorly recorded species leaves 8267 records in ANHAT for 38 species (and subspecies). The mean number of records per species for species with greater than 30 records was 218 and these species have a mean of 39% of their records in the NRS.

Ten species, around 25%, of Lentibulariaceae had 45% or greater of individual site records located within PAs (**Table 206**), but none had greater than 75% in PAs. None of the species in this category are classified as threatened. They are distributed evenly across Australia and have small to moderate range sizes.

Table 206 Lentibulariaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Utricularia circumvoluta</i>	25	54	46.30	NE,CN NE,NW,		1900	NL
<i>Utricularia limosa</i>	117	245	47.76	CN SW,SE,		9800	NL
<i>Utricularia tenella</i>	136	275	49.45	CS,TAS		19100	NL
<i>Utricularia leptorhyncha</i>	38	68	55.88	CN		2800	NL
<i>Utricularia tubulata</i>	22	37	59.46	NW,CN		1500	NL
<i>Utricularia fulva</i>	160	262	61.07	CN		7100	NL
<i>Utricularia uniflora</i>	40	64	62.50	E		5700	NL
<i>Utricularia monanthos</i>	64	96	66.67	E,SE		6700	NL
<i>Utricularia arnhemica</i>	110	156	70.51	NW,CN		4500	NL
<i>Utricularia dunlopia</i>	34	47	72.34	CN		1900	NL

No species had less than 10% of ANHAT records located within PAs. This is the first family in this analysis to not have a species in this category.

Only one species in the family Lentibulariaceae had records in more than 100 separate PAs (**Table 207**). The species is not listed under the EPBC Act.

Table 207 Lentibulariaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Utricularia dichotoma</i>	1157	136	102	NL

Thirteen species, 33% of those with more than 30 records, had records in five or fewer PAs (**Table 208**). No species are listed as threatened. The majority of species in this list had fewer than 100 individual site records and no species had more than 270 site records. All species have records within a PA.

Table 208 Lentibulariaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Utricularia kamienskii</i>	89	1	NL
<i>Utricularia triflora</i>	53	2	NL
<i>Utricularia arnhemica</i>	156	2	NL
<i>Utricularia circumvoluta</i>	54	3	NL
<i>Utricularia holtzei</i>	63	3	NL
<i>Utricularia hamiltonii</i>	71	3	NL
<i>Utricularia fulva</i>	262	3	NL
<i>Utricularia tubulata</i>	37	4	NL
<i>Utricularia involvens</i>	57	4	NL
<i>Utricularia inaequalis</i>	33	5	NL
<i>Utricularia dunlopii</i>	47	5	NL
<i>Utricularia quinquedentata</i>	61	5	NL
<i>Utricularia leptorhyncha</i>	68	5	NL

Thirteen species of Lentibulariaceae had records in five or fewer PAs greater than 1000 hectares, no species are classified as threatened (**Table 209**).

Table 209 Lentibulariaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Utricularia kamienskii</i>	89	1	NL
<i>Utricularia triflora</i>	53	2	NL
<i>Utricularia arnhemica</i>	156	2	NL
<i>Utricularia inaequalis</i>	33	3	NL

<i>Utricularia circumvoluta</i>	54	3	NL
<i>Utricularia holtzei</i>	63	3	NL
<i>Utricularia hamiltonii</i>	71	3	NL
<i>Utricularia fulva</i>	262	3	NL
<i>Utricularia tubulata</i>	37	4	NL
<i>Utricularia involvens</i>	57	4	NL
<i>Utricularia leptorhyncha</i>	68	4	NL
<i>Utricularia dunlopii</i>	47	5	NL
<i>Utricularia quinquedentata</i>	61	5	NL

Zygophyllaceae

The ANHAT database has 26875 records for 61 species and subspecies of Zygophyllaceae. No species of Zygophyllaceae are considered extinct.

Seven species account for approximately 50% of the total species records in ANHAT (**Table 210**). These species each have over 1000 records each. *Zygophyllum apiculatum* is represented by over 2700 records.

Table 210 Zygophyllaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Zygophyllum ammophilum</i>	1222	4.55
<i>Zygophyllum ovatum</i>	1243	4.63
<i>Zygophyllum eremaeum</i>	1407	5.24
<i>Tribulus terrestris</i>	1695	6.31
<i>Nitraria billardierei</i>	2233	8.31
<i>Zygophyllum aurantiacum</i>	2637	9.81
<i>Zygophyllum apiculatum</i>	2718	10.11
Total	13155	48.96

Eleven species had 30 or fewer individual site records in the ANHAT database (**Table 211**). No species are classified as threatened. Exclusion of these poorly recorded species eliminates 127 records. The small number of remaining species and limited information available for many makes it difficult to determine whether any patterns exist within the different reservation categories.

Table 211 Zygophyllaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Tribulopsis</i> sp. <i>koolan island</i>	1	0.00			100	NL
<i>Tribulopsis</i> sp. <i>mitchell plateau</i>	1	0.00			100	NL
<i>Tribulopsis homalococca</i>	3	0.00			200	NL
<i>Tribulus adelacanthus</i>	4	0.00			400	NL
<i>Tribulus</i> sp. <i>long-styled eichlerianus</i>	6	0.00			400	NL
<i>Zygophyllum halophilum</i>	6	33.33			500	NL
<i>Tribulopsis homalococca alifer</i>	8	37.50			300	NL
<i>Zygophyllum reticulatum</i>	16	25.00			1200	NL
<i>Tribulus</i> sp. <i>saline flats</i>	23	13.04			2100	NL
<i>Zygophyllum lobulatum</i>	29	20.69	W		2000	NL
<i>Tribulopsis sessilis</i>	30	23.33	NW		1200	NL

Removal of extinct and poorly recorded species leaves 26748 records in ANHAT for 50 species (and subspecies). The mean number of records per species for species with greater than 30 records was 535, with a mean of 22% of records in the NRS.

Two species of Zygophyllaceae had 45% or greater of individual record sites located within PAs (**Table 212**). Neither of those species is classified as threatened. Both species had 50% of their record sites in PAs.

Table 212 Zygophyllaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Zygophyllum flavum</i>	19	38	50	CS		2700	NL
				SW,E,W		3690	
<i>Zygophyllum billardierei</i>	424	836	50.72	SE,CS,TAS		0	NL

Five species had less than 10% of ANHAT records located within PAs (**Table 213**). None of the five species are classified as threatened. All had at least one record within a PA.

Table 213 Zygophyllaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Zygophyllum tetrapterum</i>	2	61	3.28			2300	NL
<i>Tribulus micrococcus</i>	11	294	3.74	E,EI,CS		16100	NL
<i>Zygophyllum rowelliae</i>	2	52	3.85			2900	NL
				E,W,CI,			
<i>Tribulus minutus</i>	4	94	4.26	WI		6000	NL
<i>Tribulus ranunculiflorus</i>	2	31	6.45	NW		2800	NL

A total of four Zygophyllaceae species had records in more than 100 separate reserves (**Table 214**). All species in this list had over 1000 records, with an average of 2208 records per species. No species are listed under the EPBC Act.

Table 214 Zygophyllaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Zygophyllum ovatum</i>	1243	104	64	NL
<i>Nitraria billardierei</i>	2233	114	67	NL
<i>Zygophyllum aurantiacum</i>	2637	153	93	NL
<i>Zygophyllum apiculatum</i>	2718	182	102	NL

A total of 11 species had records in five or fewer PAs (**Table 215**). No species are listed as threatened. The majority of species in this list had fewer than 100 individual record sites and no species had more than 200 records.

Table 215 Zygophyllaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Tribulus ranunculiflorus</i>	31	1	NL
<i>Zygophyllum marliesiae</i>	39	2	NL
<i>Zygophyllum rowelliae</i>	52	2	NL
<i>Zygophyllum tetrapterum</i>	61	2	NL
<i>Tribulus minutus</i>	94	2	NL
<i>Zygophyllum crassissimum</i>	102	2	NL
<i>Zygophyllum hybridum</i>	36	3	NL
<i>Zygophyllum retivalve</i>	38	5	NL
<i>Zygophyllum humillimum</i>	129	5	NL
<i>Tribulopsis bicolor</i>	155	5	NL
<i>Zygophyllum aurantiacum verticillatum</i>	198	5	NL

Twelve species of Zygophyllaceae had records in five or fewer PAs greater than 1000 hectares. None of these species are classified as threatened (**Table 216**).

Table 216 Zygophyllaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Zygophyllum rowelliae</i>	52	1	NL
<i>Zygophyllum marliesiae</i>	39	2	NL
<i>Zygophyllum tetrapterum</i>	61	2	NL
<i>Tribulus minutus</i>	94	2	NL
<i>Zygophyllum crassissimum</i>	102	2	NL
<i>Zygophyllum hybridum</i>	36	3	NL
<i>Zygophyllum retivalve</i>	38	4	NL
<i>Tribulopsis solandri</i>	119	4	NL
<i>Tribulus forrestii</i>	52	5	NL
<i>Zygophyllum humillimum</i>	129	5	NL
<i>Tribulopsis bicolor</i>	155	5	NL
<i>Zygophyllum aurantiacum verticillatum</i>	198	5	NL

Arecaceae

The ANHAT database has 10669 records for 58 species and subspecies of Arecaceae. No species of Arecaceae are considered extinct.

Six species account for approximately 50% of the total species records in ANHAT (**Table 217**). These species have over 400 records each, and in the case of the *Livistona humilis*, over 2000 records.

Table 217 Arecaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Archontophoenix cunninghamiana</i>	441	4.13
<i>Livistona decora</i>	460	4.31
<i>Hydriastele wendlandiana</i>	533	5.00
<i>Livistona inermis</i>	638	5.98
<i>Carpentaria acuminata</i>	641	6.01
<i>Livistona humilis</i>	2371	22.22
Total	5084	47.65

Fifteen species had 30 or fewer individual records in the ANHAT database (**Table 218**). This is just over 25% of the species from this family with records in ANHAT. Four species are classified as threatened (including one species classified as endangered). The small number of remaining species and limited information available for many makes it difficult to confidently assert that any patterns present in the varying conservation categories represent real trends and this is not generally attempted. Exclusion of these poorly recorded species eliminates 269 records.

Table 218 Arecaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Archontophoenix maxima</i>	7	28.57			400	NL
<i>Calamus holhrungii</i>	7	57.14			700	NL
<i>Livistona nasmophila</i>	8	12.50			500	NL
<i>Livistona concinna</i>	9	33.33			200	NL
<i>Archontophoenix myolensis</i>	10	20.00			100	EN
<i>Linospadix aequisegmentosa</i>	12	83.33			600	NL
<i>Calamus warburgii</i>	13	84.62			400	VU
<i>Livistona kimberleyana</i>	19	47.37			1100	NL
<i>Archontophoenix</i>	23	100.00			700	NL

<i>purpurea</i>					
<i>Calamus radicalis</i>	24	75.00		1400	NL
<i>Wodyetia bifurcata</i>	26	92.31		600	VU
<i>Arenga microcarpa</i>	27	18.52		1800	NL
<i>Licuala ramsayi</i>					
<i>tuckeri</i>	27	22.22		900	NL
<i>Archontophoenix</i>					
<i>tuckeri</i>	28	35.71		1100	NL
<i>Livistona</i>					
<i>lanuginosa</i>	29	0.00		1000	VU

Removal of the poorly recorded species leaves 10400 records in ANHAT for 43 species (and subspecies). The mean number of records per species for species with greater than 30 records was 242. These have a mean 48% of their records in PAs.

Twenty-three species of Arecaceae had 45% or greater of individual site records located within PAs (**Table 219**). No species are classified as threatened. This is over half of the remaining species and is a high percentage of species that can be considered well reserved.

Table 219 Arecaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Archontophoenix cunninghamiana</i>	201	441	45.58	E		29900	NL
<i>Livistona benthamii</i>	123	266	46.24			11300	NL
<i>Calamus vitiensis</i>	16	33	48.48			1000	NL
<i>Linospadix monostachya</i>	142	286	49.65			16300	NL
<i>Livistona loriphylla</i>	50	99	50.51			4100	NL
<i>Calamus caryotoides</i>	101	191	52.88			6800	NL
<i>Cocos nucifera</i>	27	51	52.94			5400	NL
<i>Livistona victoriae</i>	92	171	53.80			5900	NL
<i>Normanbya normanbyi</i>	38	69	55.07			1600	NL
<i>Licuala ramsayi</i>	55	97	56.70			4900	NL
<i>Calamus australis</i>	140	232	60.34			9300	NL
<i>Caryota albertii</i>	19	31	61.29			1100	NL
<i>Linospadix minor</i>	147	234	62.82			5500	NL
<i>Livistona inermis</i>	439	638	68.81			15100	NL

<i>Calamus moti</i>	68	96	70.83		3300	NL
<i>Livistona fulva</i>	31	43	72.09		800	NL
<i>Laccospadix australasica</i>	85	115	73.91		2400	NL
<i>Hydriastele ramsayi</i>	253	336	75.30		7600	NL
<i>Livistona alfredii</i>	62	80	77.50	W	3200	NL
<i>Linospadix microcarya</i>	114	147	77.55		2700	NL
<i>Oraniopsis appendiculata</i>	43	54	79.63	NE	1300	NL
<i>Linospadix apetiolata</i>	55	67	82.09		800	NL
<i>Linospadix palmeriana</i>	142	167	85.03		2200	NL

Only one species had less than 10% of ANHAT records located within PAs (**Table 220**). This species is not listed under the EPBC Act. This species has two records within the NRS.

Table 220 Arecaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Livistona eastonii</i>	2	75	2.67			1600	NL

No Arecaceae species had records in more than 100 separate reserves, which reflects the relatively few species in this family.

A total of 15 species had records in five or fewer PAs (

Table 221). This is just over one third of the species with more than 30 records. Three species are threatened, all listed as vulnerable. The majority of species in this list had fewer than 100 individual individual record sites and no species had more than 400 records.

Table 221 Arecaceae species recorded from five or fewer PAs.

Species	No. PAs	No. PAs	EPBC status
<i>Livistona mariae mariae</i>	40	1	VU
<i>Livistona fulva</i>	43	1	NL
<i>Livistona eastonii</i>	75	1	NL
<i>Caryota albertii</i>	31	3	NL
<i>Livistona drudei</i>	51	3	NL
<i>Normanbya normanbyi</i>	69	4	NL

<i>Nypa fruticans</i>	89	4	NL
<i>Livistona victoriae</i>	171	4	NL
<i>Hydriastele ramsayi</i>	336	4	NL
<i>Corypha elata</i>	362	4	NL
<i>Calamus vitiensis</i>	33	5	NL
<i>Hydriastele costata</i>	44	5	VU
<i>Livistona mariae</i>	59	5	VU
<i>Livistona nitida</i>	61	5	NL
<i>Ptychosperma macarthurii</i>	113	5	NL

Seventeen species of Arecaceae had records in five or fewer PAs greater than 1000 hectares, including three species classified as vulnerable (**Table 222**).

Table 222 Arecaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Livistona mariae mariae</i>	40	1	VU
<i>Livistona fulva</i>	43	1	NL
<i>Livistona eastonii</i>	75	1	NL
<i>Cocos nucifera</i>	51	2	NL
<i>Caryota albertii</i>	31	3	NL
<i>Livistona drudei</i>	51	3	NL
<i>Hydriastele costata</i>	44	4	VU
<i>Livistona nitida</i>	61	4	NL
<i>Normanbya normanbyi</i>	69	4	NL
<i>Livistona alfredii</i>	80	4	NL
<i>Nypa fruticans</i>	89	4	NL
<i>Livistona victoriae</i>	171	4	NL
<i>Hydriastele ramsayi</i>	336	4	NL
<i>Corypha elata</i>	362	4	NL
<i>Calamus vitiensis</i>	33	5	NL
<i>Livistona mariae</i>	59	5	VU
<i>Ptychosperma macarthurii</i>	113	5	NL

Caryophyllaceae

The ANHAT database has 17601 records for 48 species and subspecies of Caryophyllaceae. No species of Caryophyllaceae are considered extinct.

Four species account for approximately 50% of the total species records in ANHAT (Table 223). These species have more than 1000 records each, and, in the case of the *Stellaria pungens*, over 3600 records.

Table 223 Caryophyllaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% Total Records
<i>Scleranthus biflorus</i>	1078	6.12
<i>Polycarpaea corymbosa</i>	1151	6.54
<i>Stellaria flaccida</i>	3175	18.04
<i>Stellaria pungens</i>	3652	20.75
Total	9056	51.45

Eight species had 30 or fewer individual site records in the ANHAT database (Table 224). Of those species, two species are classified as threatened (including one species classified as critically endangered). There is insufficient species and information available to assess any patterns for this family. Exclusion of these poorly recorded species eliminates 91 records.

Table 224 Caryophyllaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Polycarpaea synandra</i>	1	0			100	NL
<i>Polycarpaea corymbosa torrensis</i>	2	0			300	NL
<i>Polycarpaea triloba</i>	2	0			200	NL
<i>Polycarpaea glabra</i>	7	0			500	NL
<i>Sagina diemensis</i>	9	100	TAS		200	CE
<i>Colobanthus curtisiae</i>	17	0	TAS		4100	VU
<i>Sagina namadgi</i>	25	76	E		2000	NL
<i>Spergularia sp. 1</i>	28	25			2800	NL

Removal of poorly recorded species leaves 17510 records in ANHAT for 40 species (and subspecies). The mean number of records per species for species with greater than 30 records was 438, with a mean of 40% of records in the NRS.

Twelve species of Caryophyllaceae had 45% or greater of individual record sites located within PAs (

Table 225). None of those 12 species are classified as threatened. Three species have more than 90% of their records within the NRS.

Table 225 Caryophyllaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Scleranthus brockiei</i>	25	53	47.17	E,SE		5600	NL
<i>Scleranthus diander</i>	82	171	47.95	E,SE,TAS		8500	NL
<i>Stellaria filiformis</i>	78	162	48.15	SW,E,CS		10900	NL
<i>Scleranthus biflorus</i>	665	1078	61.69	E,SE,TAS		56300	NL
<i>Stellaria multiflora</i>	151	238	63.45	E,SE,TAS		21000	NL
<i>Scleranthus singuliflorus</i>	111	145	76.55	SE		2800	NL
<i>Scleranthus minusculus</i>	227	285	79.65	CS		10900	NL
<i>Polycarpaea microceps</i>	51	64	79.69	CN		1900	NL
<i>Colobanthus affinis</i>	144	176	81.82	SE,TAS		3300	NL
<i>Colobanthus nivicola</i>	39	42	92.86	SE		500	NL
<i>Polycarpaea incana</i>	84	90	93.33			1500	NL
<i>Colobanthus pulvinatus</i>	67	69	97.10	SE,TAS		1300	NL

Five species had less than 10% of ANHAT records located within PAs (**Table 226**). None of the species are classified as threatened. Two of these species have no records within a PA.

Table 226 Caryophyllaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Polycarpaea breviflora</i>	0	31	0.00			1800	NL
<i>gracilis</i>							
<i>Polycarpaea spirostylis</i>	0	50	0.00			1600	NL
<i>densiflora</i>							

<i>Polycarpaea spirostylis spirostylis</i>	15	237	6.33		6600	NL
<i>Polycarpaea breviflora breviflora</i>	17	182	9.34		1340 0	NL
<i>Polycarpaea breviflora</i>	47	501	9.38	NE,NW, CN,E,EI ,CI	2200 0	NL

A total of two Caryophyllaceae species had records in more than 100 separate PAs (**Table 227**). Both species in this list had over 3000 records. Neither species is classified as threatened.

Table 227 Caryophyllaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Stellaria flaccida</i>	3175	129	80	NL
<i>Stellaria pungens</i>	3652	198	113	NL

A total of 12 species had records in five or fewer PAs (**Table 228**). No species are listed as threatened. The majority of species in this list had fewer than 100 individual records and no species had more than 250 records.

Table 228 Caryophyllaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Polycarpaea breviflora gracilis</i>	31	0	NL
<i>Polycarpaea spirostylis densiflora</i>	50	0	NL
<i>Polycarpaea tenax</i>	31	1	NL
<i>Colobanthus nivicola</i>	42	1	NL
<i>Polycarpaea microceps</i>	64	1	NL
<i>Colobanthus pulvinatus</i>	69	2	NL
<i>Polycarpaea incana</i>	90	3	NL
<i>Scleranthus singuliflorus</i>	145	3	NL
<i>Polycarpaea spirostylis compacta</i>	66	4	NL
<i>Polycarpaea staminodina</i>	90	4	NL
<i>Polycarpaea spirostylis glabra</i>	140	4	NL
<i>Polycarpaea spirostylis spirostylis</i>	237	4	NL

Eleven species of Caryophyllaceae had records in five or fewer PAs greater than 1000 hectares. No species are classified as threatened (**Table 229**).

Table 229 Caryophyllaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Polycarpaea tenax</i>	31	1	NL
<i>Colobanthus nivicola</i>	42	1	NL
<i>Polycarpaea microceps</i>	64	1	NL
<i>Colobanthus pulvinatus</i>	69	2	NL
<i>Polycarpaea spirostylis compacta</i>	66	3	NL
<i>Polycarpaea incana</i>	90	3	NL
<i>Scleranthus singuliflorus</i>	145	3	NL
<i>Polycarpaea staminodina</i>	90	4	NL
<i>Polycarpaea spirostylis glabra</i>	140	4	NL
<i>Polycarpaea spirostylis spirostylis</i>	237	4	NL
<i>Colobanthus affinis</i>	176	5	NL

Meliaceae

The ANHAT database has 13615 records for 45 species and subspecies of Meliaceae. No species of Meliaceae are considered extinct.

Eight species account for approximately 50% of the total species records in ANHAT (Table 230). These species have over 450 records and the most recorded, *Owenia vernicosa*, over 1800 records.

Table 230 Meliaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Owenia venosa</i>	481	3.53
<i>Xylocarpus granatum</i>	492	3.61
<i>Aglaia sapindina</i>	530	3.89
<i>Owenia acidula</i>	697	5.12
<i>Synoum glandulosum</i>	881	6.47
<i>Melia azedarach</i>	1176	8.64
<i>Turraea pubescens</i>	1281	9.41
<i>Owenia vernicosa</i>	1809	13.29
Total	7347	53.96

Four species had 30 or fewer individual site records in the ANHAT database (Table 231). Of those species, no species are classified as threatened. Exclusion of these poorly recorded species eliminates 35 records. There is insufficient species and information available to confidently assess patterns in the different categories of reservation for this family.

Table 231 Meliaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Dysoxylum pachyphyllum</i>	2	0			300	NL
<i>Dysoxylum acutangulum</i>	9	33.33			900	NL
<i>Aglaia</i> sp. <i>silver plains</i>	12	0			300	NL
<i>Xylocarpus rumphii</i>	12	66.67			800	NL

Removal of extinct and poorly recorded species leaves 13580 records in ANHAT for 41 species (and subspecies). The mean number of records per species for species with greater than 30 records was 331, with a mean of 44% of records in PAs.

Eighteen species of Meliaceae had 45% or greater of individual records located within PAs (**Table 232**). Of those 18 species, no species are classified as threatened. One species had 100% if its records within PAs.

Table 232 Meliaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC
<i>Dysoxylum alliaceum</i>	46	100	46.00			3500	NL
<i>Chisocheton longistipitatus</i>	39	77	50.65			2400	NL
<i>Dysoxylum oppositifolium</i>	132	256	51.56			11200	NL
<i>Dysoxylum pettigrewianum</i>	92	178	51.69			5100	NL
<i>Synoum glandulosum</i>	461	881	52.33	NE,E,SE		49700	NL
<i>Dysoxylum papuanum</i>	92	169	54.44			5100	NL
<i>Owenia vernicosa</i>	995	1809	55.00			53400	NL
<i>Dysoxylum arborescens</i>	151	263	57.41			6100	NL
<i>Aglaiia tomentosa</i>	105	180	58.33			6800	NL
<i>Dysoxylum parasiticum</i>	81	138	58.70			4100	NL
<i>Aglaiia euryanthera</i>	49	81	60.49			1900	NL
<i>Synoum glandulosum paniculosum</i>	66	104	63.46			2600	NL
<i>Dysoxylum klanderi</i>	89	136	65.44			3600	NL
<i>Aglaiia argentea</i>	26	38	68.42			400	NL
<i>Aglaiia australiensis</i>	58	72	80.56			800	NL
<i>Aglaiia meridionalis</i>	98	119	82.35			2600	NL
<i>Aglaiia brassii</i>	61	69	88.41			1100	NL
<i>Dysoxylum pumilum</i>	32	32	100.00			100	NL

Two species had less than 10% of ANHAT records located within PAs (**Table 233**). Neither species is classified as threatened. One species had no records within a PA.

Table 233 Meliaceae species with <10% of ANHAT records located within PAs.

Species	Inside NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Owenia A—reliqua</i>	0	33	0				NL
<i>Owenia reticulata</i>	10	213	4.69			9300	NL

A total of two Meliaceae species had records in more than 100 separate PAs (**Table 234**). Both species in this list had over 800 records. Neither species is classified as threatened.

Table 234 Meliaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Melia azedarach</i>	1176	119	78	NL
<i>Synoum glandulosum</i>	881	128	102	NL

A total of eight species had records in five or fewer PAs (

Table 235). One species is classified as vulnerable. All species in this list had fewer than 100 individual site records and no species had more than 85 site records.

Table 235 Meliaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	EPBC status
<i>Owenia A—reliqua</i>	33	0	NL
<i>Dysoxylum pumilum</i>	32	1	NL
<i>Aglaia argentea</i>	38	2	NL
<i>Aglaia spectabilis</i>	50	2	NL
<i>Aglaia australiensis</i>	72	2	NL
<i>Aglaia brassii</i>	69	4	NL
<i>Aglaia euryanthera</i>	81	4	NL
<i>Owenia cepiodora</i>	45	5	VU

Seven species of Meliaceae had records in five or fewer PAs greater than 1000 hectares, including one species classified as vulnerable (**Table 236**).

Table 236 Meliaceae species recorded in five or fewer PAs greater than 1000 hectares.

Species	No. Records	No. PAs >1000ha	EPBC status
<i>Dysoxylum pumilum</i>	32	1	NL
<i>Aglaia australiensis</i>	72	1	NL
<i>Aglaia argentea</i>	38	2	NL
<i>Aglaia spectabilis</i>	50	2	NL
<i>Aglaia euryanthera</i>	81	3	NL
<i>Aglaia brassii</i>	69	4	NL
<i>Owenia cepiodora</i>	45	5	VU

Araceae

The ANHAT database has 5188 records for 44 species and subspecies of Araceae. No species of Araceae are considered extinct.

Five species account for approximately 50% of the total species records in ANHAT (Table 237). *Gymnostachys anceps* is represented by over 950 records.

Table 237 Araceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Alocasia brisbanensis</i>	289	5.57
<i>Pothos longipes</i>	484	9.33
<i>Landoltia punctata</i>	486	9.37
<i>Lemna disperma</i>	524	10.10
<i>Gymnostachys anceps</i>	978	18.85
Total	2761	53.22

Nineteen species had 30 or fewer individual site records in the ANHAT database (**Table 238**). This is slightly less than 50% of all Araceae species with records in the database. Of those species, no species are classified as threatened. There is insufficient species and information available to assess any patterns for this family. Exclusion of these poorly recorded species eliminates 196 records.

Table 238 Araceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Colocasia esculenta aquatilis</i>	1	0.00			100	NL
<i>Typhonium peltandroides</i>	1	0.00			100	NL
<i>Typhonium</i> sp. <i>berry springs</i> (p.horsfall 1042)	1	100.00			100	NL
<i>Typhonium</i> sp. <i>kununurra</i> (a.n. start ans 1467)	1	0.00			100	NL
<i>Wolffia arrhiza</i>	1	0.00			100	NL
<i>Typhonium nudibaccatum</i>	4	0.00			200	NL
<i>Typhonium weipanum</i>	4	0.00			300	NL
<i>Typhonium johnsonianum</i>	6	66.67			300	NL
<i>Typhonium jonesii</i>	6	0.00			300	NL
<i>Typhonium taylori</i>	7	0.00			200	NL
<i>Typhonium wilbertii</i>	7	0.00			300	NL
<i>Wolffia globosa</i>	7	0.00	CN		400	NL
<i>Typhonium mirabile</i>	13	0.00			400	NL
<i>Typhonium liliifolium</i>	19	15.79			900	NL

<i>Typhonium eliosurum</i>	20	35.00	E	2000	NL
<i>Typhonium russell-smithii</i>	20	35.00		1100	NL
			CN,SE,C		
<i>Lemna tenera</i>	25	56.00	S,TAS	800	NL
<i>Rhaphidophora hayi</i>	26	42.31		1200	NL
<i>Typhonium alismifolium</i>	27	14.81	CN	1400	NL

Removal of extinct and poorly recorded species leaves 4992 records in ANHAT for 25 species (and subspecies). The mean number of records per species for species with greater than 30 records was 200, with a mean of 38% of records in the NRS.

Nine species of Araceae had 45% or greater of individual site records located within PAs (**Table 239**). No species are classified as threatened. One species had over 90% of its available records in PAs.

Table 239 Araceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Remusatia vivipara</i>	25	55	45.45			1300	NL
<i>Alocasia macrorrhizos</i>	18	38	47.37			2800 2020	NL
<i>Pothos longipes</i>	231	484	47.73	NE,E		0 5840	NL
<i>Gymnostachys anceps</i>	467	978	47.75	NE,E		0	NL
<i>Scindapsus altissimus</i>	24	45	53.33			1000	NL
<i>Spirodela polyrhiza</i>	38	66	57.58	CN		3100	NL
<i>Rhaphidophora australasica</i>	104	154	67.53	NE,CN		5000	NL
<i>Rhaphidophora petrieana</i>	23	34	67.65			900	NL
<i>Pothos brassii</i>	58	62	93.55	NE		900	NL

Two species of Araceae had less than 10% of ANHAT records located within PAs (**Table 240**). Neither are listed under the EPBC Act. One species has no records currently within a PA.

Table 240 Araceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Typhonium praetermissum</i>	0	48	0			600	NL
<i>Typhonium</i>	3	35	8.57			2300	NL

angustilobum

One Araceae species had records in more than 100 separate PAs (

Table 250). This species had under 1000 records. The species is not listed under the EPBC Act.

Table 241 Araceae species recorded at more than 100 PA.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Gymnostachys anceps</i>	978	141	106	NL

A total of eight species had records in five or fewer PAs and seven species had records in five or fewer PAs greater than 1000 hectares, (

Table 242). No species are listed as threatened. The majority of species in this list had fewer than 100 individual record sites and no species had more than 150 record sites.

Table 242 Araceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Typhonium praetermissum</i>	48	0	0	NL
<i>Remusatia vivipara</i>	55	1	1	NL
<i>Rhaphidophora petrieana</i>	34	3	3	NL
<i>Typhonium angustilobum</i>	35	3	3	NL
<i>Scindapsus altissimus</i>	45	3	3	NL
<i>Pothos brassii</i>	62	4	3	NL
<i>Epipremnum amplissimum</i>	136	4	4	NL
<i>Typhonium cochleare</i>	58	5	4	NL

Aizoaceae

The ANHAT database has 19047 records for 44 species and subspecies of Aizoaceae. One species of Aizoaceae is considered extinct and therefore excluded from analysis. This species is presented in **Table 243**.

Table 243 Aizoaceae species considered extinct

Species	Common name	No. of records
<i>Trianthea cypseloides</i>		1

Four species account for approximately 50% of the total species records in ANHAT (**Table 244**). These species have over 2000 records each.

Table 244 Aizoaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Trianthea triquetra</i>	2032	10.67
<i>Carpobrotus rossii</i>	2287	12.01
<i>Tetragonia implexicoma</i>	2698	14.16
<i>Disphyma crassifolium</i>	2760	14.49
Total	9777	51.33

Six species had 30 or fewer individual site records in the ANHAT database (**Table 245**). Of those species, no species are classified as threatened. There are too few species and too little information available to determine any patterns in the species in this category. Exclusion of these poorly recorded species eliminates 56 records.

Table 245 Aizoaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area	EPBC status
<i>Carpobrotus thevenard island</i> (mr white 050)	1	100.00	W	Co,DF	100	NL
<i>Gunniopsis</i> sp. <i>nuytsland</i>	2	100.00	SW	DF,Mal	100	NL
<i>Trianthea kimberleyi</i>	4	0.00	NW		100	NL
<i>Tetragonia coronata</i>	11	18.18	W		600	NL
<i>Gunniopsis divisa</i>	16	43.75	W		700	NL
<i>Sarcozona bicarinata</i>	22	36.36	SW		2000	NL

Removal of extinct and poorly recorded species leaves 18990 records in ANHAT for 37 species (and subspecies). The mean number of records per species for species with greater than 30 records was 513, with a mean of 22% of records in the NRS.

Three species of Aizoaceae had 45% or greater of individual site records located within PAs (

Table 246). Of those three species, no species are classified as threatened. None had reservation levels higher than 63%.

Table 246 Aizoaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area	EPBC status
<i>Tetragonia implexicoma</i>	1280	2698	47.44	SW,SE,CS,TAS		75500	NL
<i>Trianthema megasperma</i>	53	90	58.89	CN		2200	NL
<i>Carpobrotus rossii</i>	1434	2287	62.70	W,CS,S,E,TAS, E	Co,DF	72800	NL

Nine species had less than 10% of ANHAT records located within PAs (**Table 247**). None of the nine species are classified as threatened. All have at least one record within a PA.

Table 247 Aizoaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area	EPBC status
<i>Gunniopsis tenuifolia</i>	1	69	1.45	CI,CS		2100	NL
<i>Trianthema oxycalyptra</i>	4	149	2.68			9700	NL
<i>Gunniopsis glabra</i>	1	34	2.94	W,SW	SaL	2000	NL
<i>Gunniopsis zygophylloides</i>	9	250	3.60	SW,CS		1050	NL
<i>Gunniopsis rodwayi</i>	4	60	6.67	W,WI		0	NL
<i>Trianthema cussackiana</i>	3	42	7.14	W		3800	NL
<i>Trianthema compacta</i>	10	114	8.77	NE,CN, E		3000	NL
<i>Trianthema glossostigma</i>	10	113	8.85	W,CI,W, I		2700	NL
						8400	NL

<i>Tetragonia cristata</i>	4	43	9.30	W	3400	NL
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A total of three Aizoaceae species had records in more than 100 separate reserves (**Table 248**). All species in this list had over 2000 records. No species are classified as threatened.

Table 248 Aizoaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Carpobrotus rossii</i>	2287	149	81	NL
<i>Tetragonia implexicoma</i>	2698	157	76	NL
<i>Disphyma crassifolium</i>	2760	171	102	NL

A total of 16 species had records in five or fewer PAs and 18 species had records in five or fewer PAs greater than 1000 hectares (**Table 249**). No species are listed as threatened. The majority of species in this list had fewer than 100 individual site records and no species had more than 250 site records. All species had a record in at least one PA. However, one species had no records within a PA greater than 1000 ha in area.

Table 249 Aizoaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Gunniopsis glabra</i>	34	1	1	NL
<i>Gunniopsis tenuifolia</i>	69	1	0	NL
<i>Tetragonia cristata</i>	43	2	2	NL
<i>Trianthema megasperma</i>	90	2	2	NL
<i>Trianthema cussackiana</i>	42	3	3	NL
<i>Gunniopsis calva</i>	53	3	3	NL
<i>Gunniopsis kochii</i>	74	3	3	NL
<i>Trianthema compacta</i>	114	3	3	NL
<i>Trianthema</i> sp. <i>coorabulka</i>	36	4	3	NL
<i>Gunniopsis intermedia</i>	58	4	4	NL
<i>Gunniopsis rodwayi</i>	60	4	4	NL
<i>Gunniopsis calcarea</i>	128	4	4	NL
<i>Trianthema oxycalyptra</i>	149	4	4	NL
<i>Trianthema patellitecta</i>	96	5	4	NL
<i>Trianthema turgidifolia</i>	120	5	5	NL
<i>Gunniopsis zygophylloides</i>	250	5	4	NL

Zamiaceae

The ANHAT database has 4147 records for 42 species and subspecies of Zamiaceae. No species of Zamiaceae are considered extinct.

Nine species account for approximately 50% of the total species records in ANHAT (Table 250). These species had over 140 records each.

Table 250 Zamiaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Lepidozamia peroffskyana</i>	145	3.50
<i>Macrozamia mountperriensis</i>	146	3.52
<i>Macrozamia lomandroides</i>	159	3.83
<i>Macrozamia moorei</i>	160	3.86
<i>Macrozamia macdonnellii</i>	176	4.24
<i>Macrozamia lucida</i>	208	5.02
<i>Macrozamia riedlei</i>	289	6.97
<i>Macrozamia pauli-guilielmi</i>	300	7.23
<i>Macrozamia miquelii</i>	563	13.58
Total	2146	51.75

Four species had 30 or fewer individual site records in the ANHAT database (**Table 251**). Of those species, no species are classified as threatened. There are too few species and too little information available to reasonably determine any real patterns in the species in this category. However, all of the species listed do come from eastern Australia. Exclusion of these poorly recorded species eliminates 89 records.

Table 251 Zamiaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area	EPBC status
<i>Macrozamia humilis</i>	13	23.08	E		600	NL
<i>Macrozamia montana</i>	22	36.36	E		1100	NL
<i>Macrozamia johnsonii</i>	24	54.17	E		1000	NL
<i>Macrozamia elegans</i>	30	70.00	E		1100	NL

Removal of the records for the poorly recorded species leaves 4058 records in ANHAT for 38 species (and subspecies). The mean number of records per species for species with greater than 30 records was 107, with a mean of 35% of records in NRS.

Twelve species of Zamiaceae had 45% or greater of individual site records located within PAs (

Table 252). Of those 12 species, three species are classified as threatened, including one species classified as endangered. These species mostly are located in eastern Australia. One species has over 97% of its records within PAs.

Table 252 Zamiaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area	EPBC status
<i>Macrozamia heteromera</i>	23	50	46.00	E		7200	NL
<i>Macrozamia viridis</i>	17	35	48.57	E		400	NL
<i>Macrozamia mountperriensis</i>	76	146	52.05			2600	NL
<i>Macrozamia dyeri</i>	17	32	53.13	SW		1400	NL
<i>Lepidozamia peroffskyana</i>	81	145	55.86	E		6800	NL
<i>Lepidozamia hopei</i>	53	94	56.38	NE		3300	NL
<i>Macrozamia macdonnellii</i>	101	176	57.39	CI		3900	VU
<i>Macrozamia lomandroides</i>	96	159	60.38			1500	EN
<i>Macrozamia douglasii</i>	34	52	65.38	E		1400	NL
<i>Macrozamia stenomera</i>	32	44	72.73	E		2700	NL
<i>Macrozamia occidua</i>	31	39	79.49	E		500	VU
<i>Macrozamia cardiacensis</i>	37	38	97.37			300	NL

Four species had less than 10% of ANHAT records located within PAs (**Table 253**). Three of the four species are classified as threatened, including one endangered species. Two of these species had no records currently within a PA. The three species with location information come from eastern Australia.

Table 253 Zamiaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area	EPBC status
<i>Macrozamia conferta</i>	0	64	0.00	E		1100	VU
<i>Macrozamia cranei</i>	0	76	0.00	E		1100	EN

<i>Macrozamia machinii</i>	3	103	2.91	E	1400	VU
<i>Macrozamia serpentina</i>	3	102	2.94		1800	NL

No Zamiaceae species had records in more than 100 separate reserves.

Twenty-four species had records in five or fewer PAs and 25 species had records in five or fewer PAs greater than 1000 hectares (**Table 254**). This is nearly two-thirds of the species with more than 30 records in the ANHAT database. Ten species are listed as threatened, including four species classified as endangered. The majority of species in this list had fewer than 100 individual site records and no species had more than 300 site records.

Table 254 Zamiaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Macrozamia conferta</i>	64	0	0	VU
<i>Macrozamia cranei</i>	76	0	0	EN
<i>Macrozamia longispina</i>	33	1	1	NL
<i>Macrozamia viridis</i>	35	1	1	NL
<i>Macrozamia cardiacensis</i>	38	1	1	NL
<i>Macrozamia plurinervia</i>	38	1	1	NL
<i>Macrozamia douglasii</i>	52	1	1	NL
<i>Macrozamia serpentina</i>	102	1	1	NL
<i>Macrozamia machinii</i>	103	1	1	VU
<i>Macrozamia crassifolia</i>	110	1	1	VU
<i>Macrozamia platyrhachis</i>	119	1	1	EN
<i>Macrozamia occidua</i>	39	2	2	VU
<i>Macrozamia heteromera</i>	50	2	2	NL
<i>Macrozamia lomandroides</i>	159	2	2	EN
<i>Macrozamia dyeri</i>	32	3	3	NL
<i>Macrozamia flexuosa</i>	55	3	2	NL
<i>Macrozamia fearnsidei</i>	84	3	3	VU
<i>Macrozamia parcifolia</i>	120	3	2	VU
<i>Macrozamia glaucophylla</i>	33	4	4	NL
<i>Macrozamia concinna</i>	39	4	3	NL
<i>Macrozamia stenomera</i>	44	4	4	NL
<i>Macrozamia diplomera</i>	54	4	4	NL
<i>Macrozamia polymorpha</i>	78	4	4	NL
<i>Macrozamia pauli-guilielmi</i>	300	5	3	EN

Monimiaceae

The ANHAT database has 9926 records for 39 species and subspecies of Monimiaceae. No species of Monimiaceae are considered extinct.

Four species account for approximately 50% of the total species records in ANHAT (Table 255). These species have over 450 records each. *Hedycarya angustifolia* is represented by over 2500 records.

Table 255 Monimiaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Wilkiea hugeliana</i>	490	4.94
<i>Palmeria scandens</i>	598	6.03
<i>Atherosperma moschatum</i>	1142	11.51
<i>Hedycarya angustifolia</i>	2569	25.88
Total	4799	48.36

Eight species had 30 or fewer individual site records in the ANHAT database (Table 256). Of those species, one species is classified as endangered. There are too few species and too little information available to reasonably determine any patterns in the species in this category. These species cover 125 records.

Table 256 Monimiaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Daphnandra dielsii</i>	1	0.00			100	NL
<i>Hemmantia webbia</i>	2	100.00			100	NL
<i>Palmeria foremanii</i>	13	23.08	E		800	NL
<i>Wilkiea</i> sp. <i>mcdowall range</i>	15	100.00			500	NL
<i>Atherosperma moschatum integrifolium</i>	21	52.38			1400	NL
<i>Steghanthera laxiflora lewisensis</i>	23	100.00			700	NL
<i>Wilkiea</i> sp. <i>palmerston</i>	23	100.00			700	NL
<i>Daphnandra johnsonii</i>	27	18.52	E		1000	EN

Removal of extinct and poorly recorded species leaves 9801 records in ANHAT for 31 species (and subspecies). The mean number of records per species for species with greater than 30 records was 316, with a mean of 55 for the percent of records in NRS.

Twenty species of Monimiaceae, approximately two-thirds of the species, have 45% or greater of individual site records located within PAs (

Table 257). Of those 20 species, no species are classified as threatened. These species all come from eastern Australia. None have reservation levels greater than 85%.

Table 257 Monimiaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Doryphora sassafras</i>	191	414	46.14	E,SE		24100	NL
<i>Atherosperma moschatum</i>	543	1142	47.55	E,SE,TAS		52200	NL
<i>Wilkiea austroqueenslandica</i>	46	86	53.49	E		3600	NL
<i>Wilkiea longipes</i>	69	127	54.33	NE,E		4000	NL
<i>Daphnandra repandula</i>	205	369	55.56	NE		4700	NL
<i>Steghanthera laxiflora</i>	159	282	56.38			8900	NL
<i>Palmeria scandens</i>	343	598	57.36	NE,E		28000	NL
<i>Wilkiea pubescens</i>	118	194	60.82	NE,E		6300	NL
<i>Hedycarya loxocarya</i>	167	261	63.98	NE,E		5000	NL
<i>Doryphora aromatica</i>	230	354	64.97	NE		6100	NL
<i>Wilkiea smithii</i>	30	45	66.67	NE		1600	NL
<i>Austromatthaea elegans</i>	168	250	67.20	NE		4600	NL
<i>Wilkiea cordata</i>	50	70	71.43	NE		2400	NL
<i>Levieria acuminata</i>	118	159	74.21	NE		3400	NL
<i>Wilkiea angustifolia</i>	285	379	75.20	NE		6100	NL
<i>Steghanthera macoorai</i>	230	291	79.04	NE		3400	NL
<i>Palmeria hypotephra</i>	98	123	79.67	NE		2600	NL
<i>Steghanthera cooperorum</i>	61	75	81.33	NE		2200	NL

<i>Endressia wardellii</i>	73	88	82.95	NE	2400	NL
<i>Dryadodaphne trachyphloia</i>	49	58	84.48	NE	800	NL

No Monimiaceae species had less than 10% of ANHAT records located within PAs.

One Monimiaceae species had records in more than 100 separate PAs (**Table 258**). This species had over 2500 records. This species is not listed under the EPBC Act.

Table 258 Monimiaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Hedycarya angustifolia</i>	2569	118	89	NL

A total of two species had records in five or fewer PAs and three species had records in five or fewer PAs greater than 1000 hectares (**Table 259**). Neither species is listed as threatened. All have records in at least one PA, including at least one PA greater than 1000 ha in size.

Table 259 Monimiaceae species recorded from five or fewer PAs.

Species	No. Records	No. reserves	No. Reserves >1000ha	EPBC status
<i>Stegathera australiana</i>	31	3	3	NL
<i>Stegathera hirsuta</i>	32	2	2	NL

Combretaceae

The ANHAT database has 17998 records for 39 species and subspecies of Combretaceae. No species of Combretaceae are considered extinct.

Six species account for approximately 50% of the total species records in ANHAT (

Table 260). These species have over 950 records each with *Terminalia ferdinandiana* being represented by over 2000 records.

Table 260 Combretaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Terminalia volucris</i>	970	5.38
<i>Terminalia platyphylla</i>	994	5.52
<i>Terminalia muelleri</i>	1317	7.31
<i>Terminalia carpentariae</i>	1616	8.97
<i>Terminalia canescens</i>	1998	11.10
<i>Terminalia ferdinandiana</i>	2042	11.34
Total	8937	49.62

Two species had 30 or fewer individual site records in the ANHAT database (**Table 261**). Neither species is classified as threatened. There are too few species and too little information available to determine any patterns in the species in this category. Exclusion of these poorly recorded species eliminates 14 records.

Table 261 Combretaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Dansiea</i> sp. <i>altanmoui</i> range	4	100			100	NL
<i>Dansiea grandiflora</i>	10	0	NE		200	NL

Removal of the records for the poorly recorded species leaves 17984 records for 37 species (and subspecies). The mean number of records per species for species with greater than 30 records was 486, with a mean of 25% of records in the NRS.

Six species of Combretaceae had 45% or greater of individual site records located within PAs (

Table 262). Of those six species, no species are classified as threatened. These species are found in eastern or northern Australia.

Table 262 Combretaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Terminalia pterocarya</i>	368	785	46.88	CN		23700	NL
<i>Dansiea elliptica</i>	36	70	51.43	NE		1200	NL
<i>Terminalia complanata</i>	21	38	55.26	NE		800	NL
<i>Macropteranthes fitzalanii</i>	72	128	56.25	E		3400	NL
<i>Terminalia ferdinandiana</i>	1151	2042	56.37	CN		46200	NL
<i>Terminalia carpentariae</i>	1014	1616	62.75	CN		36700	NL

Eight species had less than 10% of ANHAT records located within PAs (**Table 263**). One of the eight species is classified as vulnerable. One of these species has no records within a PA. These species come from northern Australia.

Table 263 Combretaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Combretum trifoliatum</i>	0	34	0.00	NE		300	NL
<i>Terminalia prostrata</i>	1	54	1.85			1900	NL
<i>Terminalia cunninghamii</i>	2	40	5.00	NW		2400	NL
<i>Terminalia volucris</i>	67	970	6.91			40700	NL
<i>Macropteranthes kekwickii</i>	32	440	7.27	CN,CI		13700	NL
<i>Terminalia fitzgeraldii</i>	10	133	7.52	NW,CN		5600	NL
<i>Macropteranthes montana</i>	17	198	8.59	NE		2800	VU
<i>Terminalia petiolaris</i>	9	91	9.89	NW		5400	NL

No Combretaceae species had records in more than 100 separate reserves.

A total of 12 species had records in five or fewer PAs and 12 species had records in five or fewer PAs greater than 1000 hectares, (

Table 264). One is listed as vulnerable. The majority of species in this list had fewer than 100 individual record sites and no species had more than 450 record sites.

Table 264 Combretaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Combretum trifoliatum</i>	34	0	0	NL
<i>Terminalia prostrata</i>	54	1	1	NL
<i>Terminalia cunninghamii</i>	40	2	2	NL
<i>Terminalia complanata</i>	38	3	2	NL
<i>Terminalia supranitifolia</i>	48	4	4	NL
<i>Terminalia</i> sp. <i>black point</i>	55	4	4	NL
<i>Terminalia petiolaris</i>	91	4	4	NL
<i>Macropteranthes leiocaulis</i>	102	4	4	NL
<i>Macropteranthes leichhardtii</i>	108	4	4	NL
<i>Terminalia fitzgeraldii</i>	133	4	4	NL
<i>Macropteranthes montana</i>	198	5	4	VU
<i>Macropteranthes kekwickii</i>	440	5	5	NL

Colchicaceae

The ANHAT database has 12426 records for 35 species and subspecies of Colchicaceae. No species of Colchicaceae are considered extinct.

One species alone accounts for approximately 50% of the total species records in ANHAT (

Table 265). This species has over 6000 records.

Table 265 Colchicaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Burchardia umbellata</i>	6172	49.67

Ten species had 30 or fewer individual site records in the ANHAT database (**Table 266**). Of those species, two species are classified as endangered. There are too few species and too little information available to confidently assess any patterns in the species in this category. However, all seven species with location information come from Western Australia. Exclusion of these poorly recorded species eliminates 177 records.

Table 266 Colchicaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Wurmbea</i> sp. <i>nilpinna</i>	2	0.00			100	NL
<i>Wurmbea calcicola</i>	3	66.67	SW		200	EN
<i>Wurmbea</i> sp. <i>cranbrook</i>	4	0.00			200	NL
<i>Wurmbea saccata</i>	18	100.00	W		500	NL
<i>Baeometra uniflora</i>	21	4.76	SW		1100	NL
<i>Wurmbea tubulosa</i>	22	0.00	W		1200	EN
<i>Wurmbea odorata</i>	26	46.15	W		1900	NL
<i>Wurmbea stellata</i>	26	11.54			1700	NL
<i>Wurmbea cernua</i>	27	51.85	SW		2600	NL

Wurmbea pygmaea 28 14.29 SW 2100 NL

Removal of the poorly recorded species leaves 12249 records in ANHAT for 25 species (and subspecies). The mean number of records per species for species with greater than 30 records was 490, with a mean of 28% of their records in PAs.

Three species of Colchicaceae had 45% or greater of individual site records located within PAs (**Table 267**). Of those three species, no species is classified as threatened.

Table 267 Colchicaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Wurmbea decumbens</i>	21	46	45.65			2300	NL
<i>Wurmbea inframediana</i>	21	46	45.65	W		3700	NL
<i>Wurmbea biglandulosa flindersica</i>	19	38	50.00			1500	NL

Two species had less than 10% of ANHAT records located within PAs (**Table 268**). Neither species is classified as threatened and both species have records in a PA.

Table 268 Colchicaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Wurmbea drummondii</i>	4	63	6.35	SW		3700	NL
<i>Wurmbea murchisoniana</i>	4	46	8.70	SW,W		1900	NL

A total of two Colchicaceae species had records in more than 100 separate reserves (**Table 269**). Both species in this list had over 3000 record sites. Neither species is classified as threatened.

Table 269 Colchicaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Burchardia umbellata</i>	6172	388	154	NL
<i>Wurmbea dioica</i>	3386	359	163	NL

A total of seven species had records in five or fewer PAs and eight species had records in five or fewer PAs greater than 1000 hectares (**Table 270**). No species are

listed as threatened. All species in this list had fewer than 100 individual site records and no species had more than 70 site records. All have a record in at least one PA.

Table 270 Colchicaceae species recorded from five or fewer PAs.

Species	No. Records	No. reserves	No. Reserves >1000ha	EPBC status
<i>Burchardia rosea</i>	34	1	1	NL
<i>Wurmbea biglandulosa flindersica</i>	38	3	3	NL
<i>Wurmbea latifolia</i>	43	3	3	NL
<i>Wurmbea murchisoniana</i>	46	3	3	NL
<i>Burchardia bairdiae</i>	54	4	2	NL
<i>Wurmbea drummondii</i>	63	4	0	NL
<i>Wurmbea dilatata</i>	35	5	5	NL

Centrolepidaceae

The ANHAT database has 8351 records for 32 species and subspecies of Centrolepidaceae. No species of Centrolepidaceae are considered extinct.

Three species account for approximately 50% of the total species records in ANHAT (

Table 271). These species have over 800 records each and *Centrolepis strigosa* over 2000 records.

Table 271 Centrolepidaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Centrolepis polygyna</i>	853	10.21
<i>Centrolepis aristata</i>	1565	18.74
<i>Centrolepis strigosa</i>	2137	25.58
Total	4555	54.53

Thirteen species had 30 or fewer individual site records in the ANHAT database (**Table 272**). This is approximately 40% of all species with records in the database. Of those species, two species are classified as threatened (including one species classified as endangered). There are too few species and too little information available to determine any patterns in the species in this category. Exclusion of these poorly recorded species eliminates 237 records.

Table 272 Centrolepidaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Gaimardia setacea</i>	7	100.00			700	NL
<i>Centrolepis strigosa rupestris</i>	9	44.44			800	NL
<i>Aphelia nutans</i>	10	30.00			1000	NL
<i>Centrolepis strigosa pulvinata</i>	12	100.00			500	NL
<i>Centrolepis alepyroides</i>	14	28.57			1400	NL
<i>Gaimardia amblyphylla</i>	15	100.00			1200	NL
<i>Centrolepis inconspicua</i>	16	25.00			1200	NL
<i>Centrolepis pedderensis</i>	16	100.00	TAS		700	VU

<i>Centrolepis curta</i>	25	48.00		1200	NL
<i>Centrolepis muscoides</i>	26	92.31	TAS	1400	NL
<i>Centrolepis mutica</i>	27	18.52	SW	2400	NL
<i>Centrolepis caespitosa</i>	30	20.00		1500	EN
<i>Gaimardia fitzgeraldii</i>	30	100.00	TAS	2800	NL

Removal of extinct and poorly recorded species leaves 8114 records in ANHAT for 19 species (and subspecies). The mean number of records per species for species with greater than 30 records was 427, with a mean of 40% of records in the NRS.

Three species of Centrolepidaceae had 45% or greater of individual site records located within PAs (**Table 273**). None are classified as threatened. One has over 90% of its record sites located within the NRS.

Table 273 Centrolepidaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Centrolepis cephaloformis</i>	141	256	55.08			17100	NL
<i>Centrolepis cephaloformis murrayi</i>	28	38	73.68			2300	NL
<i>Centrolepis monogyna</i>	91	99	91.92	TAS		9900	NL

No species had less than 10% of ANHAT records located within PAs.

A total of three Centrolepidaceae species had records in more than 100 separate PAs (**Table 274**). Two species in this list had over 1000 records, with an average of 1518 records per species. None of these species are classified as threatened

Table 274 Centrolepidaceae species recorded at more than 100 reserves.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Centrolepis aristata</i>	1565	226	114	NL
<i>Centrolepis polygyna</i>	853	162	98	NL
<i>Centrolepis strigosa</i>	2137	307	160	NL

One species had records in five or fewer PAs and two species had records in five or fewer PAs greater than 1000 hectares (**Table 275**). This species is not listed as threatened. Both species have records within a PA.

Table 275 Centrolepidaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Centrolepis cephaloformis</i>				
<i>murrayi</i>	38	3	2	NL

Cycadaceae

The ANHAT database has 3822 records for 31 species and subspecies of Cycadaceae. No species of Cycadaceae are considered extinct.

Five species account for approximately 50% of the total species records in ANHAT (**Table 276**). These species each had over 250 records.

Table 276 Cycadaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Cycas angulata</i>	272	7.12
<i>Cycas media</i>	326	8.53
<i>Cycas arnhemica</i>	361	9.45
<i>Cycas megacarpa</i>	401	10.49
<i>Cycas armstrongii</i>	669	17.50
Total	2029	53.09

Eleven species, around one-third, had 30 or fewer individual site records in the ANHAT database (**Table 277**). None of these species are classified as threatened. There are too few species and too little information available to determine any patterns in the different categories of reservation for species of this family. Exclusion of these poorly recorded species eliminates 195 records.

Table 277 Cycadaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Cycas cupida</i>	6	0.00			100	NL
<i>Cycas desolata</i>	6	0.00			100	NL
<i>Cycas badensis</i>	8	0.00			400	NL
<i>Cycas semota</i>	13	0.00			200	NL
<i>Cycas tuckeri</i>	16	0.00			300	NL
<i>Cycas candida</i>	18	55.56			600	NL
<i>Cycas couttsiana</i>	21	0.00	EI		500	NL
<i>Cycas xipholepis</i>	24	0.00			900	NL
<i>Cycas brunnea</i>	25	92.00	CN,EI		400	NL
<i>Cycas arenicola</i>	28	0.00	CN		500	NL
<i>Cycas lane-poolei</i>	30	6.67	NW		1000	NL

Removal of poorly recorded species retains 3627 records in ANHAT for 20 species (and subspecies). The mean number of records per species for species with greater than 30 records was 181, with a mean of 17% of records in PAs.

One species of Cycadaceae had 45% or greater of individual site records located within PAs (**Table 278**). This species is not classified as threatened.

Table 278 Cycadaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
			48.7				
<i>Cycas furfuracea</i>	20	41	8	NW		1200	NL

Nine species, nearly 50% of the remaining species, had less than 10% of ANHAT records located within PAs (**Table 279**). Four of the nine species are classified as threatened, including one endangered species. The species in this category tend to be located in north-east Australia. Three species have no record sites located in a PA.

Table 279 Cycadaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Cycas media ensata</i>	0	32	0.00			700	NL
<i>Cycas silvestris</i>	0	44	0.00	NE		500	VU
<i>Cycas cairnsiana</i>	0	80	0.00	NE,E,EI		2500	VU
<i>Cycas maconochiei</i>	5	208	2.40	NW,CN		5600	NL
<i>Cycas yorkiana</i>	2	36	5.56	NE		1000	NL
<i>Cycas platyphylla</i>	11	190	5.79	NE,E		2100	VU
<i>Cycas basaltica</i>	5	80	6.25	NE,NW		3400	NL
<i>Cycas ophiolitica</i>	15	211	7.11			3500	EN
<i>Cycas arnhemica</i>	28	361	7.76	CN		6800	NL

No Cycadaceae species had records in more than 100 separate reserves.

A total of 15 species had records in five or fewer PAs (75% of species with more than 30 records) and 12 species had records in five or fewer PAs greater than 1000 hectares, (

Table 280). Four species are threatened, including one species classified as endangered.

Table 280 Cycadaceae species recorded from five or fewer PAs.

Species	No. Records	No. reserves	No. Reserves >1000ha	EPBC status
<i>Cycas media ensata</i>	32	0	0	NL
<i>Cycas silvestris</i>	44	0	0	VU
<i>Cycas cairnsiana</i>	80	0	0	VU
<i>Cycas yorkiana</i>	36	1	1	NL
<i>Cycas furfuracea</i>	41	1	1	NL
<i>Cycas arnhemica</i>	361	1	1	NL
<i>Cycas canalis</i>	49	2	2	NL
<i>Cycas conferta</i>	58	2	2	NL
<i>Cycas maconochiei</i>	208	2	2	NL
<i>Cycas basaltica</i>	80	3	3	NL
<i>Cycas pruinosa</i>	105	4	4	NL
<i>Cycas platyphylla</i>	190	4	3	VU
<i>Cycas angulata</i>	272	4	4	NL
<i>Cycas ophiolitica</i>	211	5	3	EN
<i>Cycas calcicola</i>	224	5	4	NL

Cunoniaceae

The ANHAT database has 6907 records for 31 species and subspecies of Cunoniaceae. Five species account for approximately 50% of the total species records in ANHAT (

Table 281). These species have over 300 records each and, in the case of the *Bauera rubioides*, over 1660 records.

Table 281 Cunoniaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Aphanopetalum resinosum</i>	338	4.89
<i>Callicoma serratifolia</i>	443	6.41
<i>Caldcluvia paniculosa</i>	544	7.88
<i>Schizomeria ovata</i>	625	9.05
<i>Bauera rubioides</i>	1668	24.15
Total	3618	52.38

Four species had 30 or fewer individual site records in the ANHAT database (**Table 282**). Of those species, none are classified as threatened. The few species in this family and the lack of detailed information available for them does not allow a reasonable assessment of patterns in the distribution or vegetation associations of species in each category. Exclusion of these poorly recorded species eliminates 48 records.

Table 282 Cunoniaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Pseudoweinmannia apetala</i>	3	33.33			300	NL
<i>Ceratopetalum</i> sp. <i>mt. hemmant</i>	6	50.00			100	NL
<i>Ceratopetalum iugumensis</i>	11	100.00			300	NL
<i>Gillbeea whypallana</i>	28	60.71			1000	NL

Removal of extinct and poorly recorded species leaves 6859 records in ANHAT for 27 species (and subspecies). The mean number of records per species for species with greater than 30 records was 254, with a mean of 59 for the percent of records in NRS.

Eighteen species of Cunoniaceae had 45% or greater of individual site records located within PAs (

Table 283). Of those 18 species, one species is classified as vulnerable. Two species had more than 90% of their available records located within PAs. All of the species in this category are located in eastern Australia.

Table 283 Cunoniaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Schizomeria ovata</i>	291	625	46.56	E		33200	NL
<i>Acrophyllum australe</i>	29	62	46.77	E		1100	VU
<i>Vesselowskya venusta</i>	26	54	48.15	E		2900	NL
<i>Caldcluvia paniculosa</i>	289	544	53.13	E		22300	NL
<i>Ceratopetalum apetalum</i>	162	302	53.64	E		21900	NL
<i>Pullea stutzeri</i>	192	299	64.21	NE,E		5900	NL
<i>Geissois biagiana</i>	86	133	64.66	NE		4100	NL
<i>Caldcluvia australiensis</i>	180	274	65.69	NE,E		5500	NL
<i>Anodopetalum biglandulosum</i>	126	186	67.74	TAS		23900	NL
<i>Gillbeea adenopetala</i>	160	227	70.48	NE,E,EI		6300	NL
<i>Acsmithia davidsonii</i>	74	104	71.15	NE		1700	NL
<i>Ceratopetalum succirubrum</i>	124	173	71.68	NE		2800	NL
<i>Vesselowskya rubifolia</i>	37	51	72.55	E		1700	NL
<i>Bauera sessiliflora</i>	113	130	86.92	SE		2800	NL
<i>Ceratopetalum hylandii</i>	29	33	87.88	NE		700	NL
<i>Ceratopetalum virchowii</i>	150	169	88.76	NE		1300	NL
<i>Ceratopetalum corymbosum</i>	28	31	90.32	NE		300	NL
<i>Ceratopetalum macrophyllum</i>	50	51	98.04	NE		500	NL

No species had less than 10% of ANHAT records located within PAs. This also means that all species have some records within the NRS.

One Cunoniaceae species had records in more than 100 separate reserves (**Table 284**). This species in this list had over 1000 records.

Table 284 Cunoniaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Bauera rubioides</i>	1668	126	93	NL

A total of nine species had records in five or fewer PAs and nine species had records in five or fewer PAs greater than 1000 hectares (**Table 285**). One species is classified as vulnerable. The majority of species in this list had fewer than 100 individual site records and no species had more than 200 site records. All species had records located within two PAs and within two PAs larger than 1000 ha.

Table 285 Cunoniaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Ceratopetalum macrophyllum</i>	51	2	2	NL
<i>Acrophyllum australe</i>	62	2	2	VU
<i>Ceratopetalum virchowii</i>	169	2	2	NL
<i>Ceratopetalum corymbosum</i>	31	3	2	NL
<i>Vesselowskyia venusta</i>	54	3	3	NL
<i>Ceratopetalum hylandii</i>	33	5	5	NL
<i>Aphanopetalum clematideum</i>	62	5	3	NL
<i>Acsmithia davidsonii</i>	104	5	5	NL
<i>Bauera sessiliflora</i>	130	5	4	NL

Iridaceae

The ANHAT database has 7594 records for 30 species and subspecies of Iridaceae. No species in this family are currently considered to be extinct.

Three species account for approximately 50% of the total species records in ANHAT (

Table 286). These species have over 900 records each and, in the case of the *Patersonia glabrata*, over 1500 records.

Table 286 Iridaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Patersonia occidentalis</i>	910	11.98
<i>Patersonia fragilis</i>	1154	15.20
<i>Patersonia glabrata</i>	1507	19.84
Total	3571	47.02

Nine species had 30 or fewer individual site records in the ANHAT database (**Table 287**). Of those species, one species is classified as endangered. All species with fewer than 30 records come from south-west Australia. Exclusion of these poorly recorded species eliminates 163 records.

Table 287 Iridaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Patersonia rudis velutina</i>	5	80.00			300	NL
<i>Patersonia argyrea</i>	10	50.00			600	NL
<i>Patersonia lanata</i>	10	20.00	SW		700	NL
<i>Moraea fugacissima</i>	18	5.56			900	NL
<i>Patersonia inaequalis</i>	19	89.47	SW		800	NL
<i>Patersonia maxwellii</i>	19	15.79	SW		1400	NL
<i>Orthrosanthus muelleri</i>	26	11.54	SW		1400	EN
<i>Patersonia limbata</i>	26	23.08	SW		2000	NL
<i>Patersonia rudis</i>	30	30.00			1900	NL

Removal of the records for the poorly recorded species leaves 7431 records in ANHAT for 21 species (and subspecies). The mean number of records per species for species with greater than 30 records was 354. They have a mean of 39% of records in the NRS.

Seven species of Iridaceae had 45% or greater of individual site records located within PAs (**Table 288**). Of those seven species, no species is classified as threatened. In contrast to the species with fewer than 30 records, those species with relatively high levels of reservation tend to come from eastern Australia, including Tasmania.

Table 288 Iridaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Diplarrena moraea</i>	250	536	46.64	E,SE, TAS		50400	NL
<i>Patersonia sericea</i>	262	552	47.46	E,SE		56600	NL
<i>Patersonia drummondii</i>	18	37	48.65	SW,W		2500	NL
<i>Libertia pulchella</i>	190	374	50.80	E,SE, TAS		14100	NL
<i>Patersonia fragilis</i>	595	1154	51.56	E,SE,CS, TAS		59500	NL
<i>Orthrosanthus multiflorus</i>	203	382	53.14	SW,SE, CS		8000	NL
<i>Isophysis tasmanica</i>	81	86	94.19	TAS		6700	NL

One species had less than 10% of ANHAT records located within PAs (**Table 289**). This species is not classified as threatened under the EPBC Act. This species has six records within the NRS.

Table 289 Iridaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Orthrosanthus laxus gramineus</i>	6	90	6.67			5200	NL

A total of two Iridaceae species had records in more than 100 separate PAs (

Table 19). Both species in this list had over 900 records. Neither species is classified as threatened.

Table 290 Iridaceae species recorded at more than 100 PAs.

Species	No. Records	No. Reserves	No. reserves >1000ha	EPBC status
<i>Patersonia occidentalis</i>	910	100	66	NL
<i>Patersonia fragilis</i>	1154	119	82	NL

A total of two species had records in five or fewer PAs and three species had records in five or fewer PAs greater than 1000 hectares (**Table 291**). Neither species are listed as threatened. Both had records in PAs, including PAs larger than 1000 ha.

Table 291 Iridaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Patersonia graminea</i>	42	4	3	NL
<i>Orthrosanthus laxus gramineus</i>	90	4	3	NL

Menyanthaceae

The ANHAT database has 4493 records for 29 species and subspecies of Menyanthaceae. No species of Menyanthaceae are considered extinct.

Four species account for approximately 50% of the total species records in ANHAT (Table 292). These species have over 300 records each.

Table 292 Menyanthaceae species that account for approximately 50% of the total species records for this family in ANHAT.

Species	No. Records	% total records
<i>Villarsia exaltata</i>	338	7.52
<i>Nymphoides aurantiaca</i>	350	7.79
<i>Nymphoides crenata</i>	594	13.22
<i>Villarsia reniformis</i>	867	19.30
Total	2149	47.83

Four species had 30 or fewer individual site records in the ANHAT database (

Table 293). Of those species, no species is listed as threatened. There are too few species and too little information available to confidently determine any patterns in the categories developed in the analyses of this family. Exclusion of these poorly recorded species eliminates 99 records.

Table 293 Menyanthaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Nymphoides spinulosperma</i>	22	22.73	SE		700	NL
<i>Villarsia congestiflora</i>	23	39.13			1500	NL
<i>Nymphoides planosperma</i>	24	62.50	CN		600	NL
<i>Nymphoides elliptica</i>	30	0.00	NE		800	NL

Removal of records for the poorly recorded species leaves 4394 records in ANHAT for 25 species (and subspecies). The mean number of records per species for species with greater than 30 records was 176, with a mean of 35% of records in the NRS.

Five species of Menyanthaceae had 45% or greater of individual site records located within PAs (Table 295). Of those five species, one species is classified as endangered. No species has more than 70% of its records located within PAs. No pattern can be seen in the location of these species or their range sizes.

Table 294 Menyanthaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Nymphoides minima</i>	82	180	45.56	NE,NW CN		7600	NL
<i>Villarsia calthifolia</i>	19	33	57.58	SW		600	EN
<i>Nymphoides spongiosa</i>	59	98	60.20	CN		2900	NL
<i>Nymphoides furculifolia</i>	107	154	69.48	CN		3900	NL
<i>Nymphoides exigua</i>	37	53	69.81	TAS		7400	NL

One species had less than 10% of ANHAT records located within PAs (**Table 295**). This species is not classified as threatened. This species has no records currently recorded within a PA.

Table 295 Menyanthaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Nymphoides triangularis</i>	0	50	0	NE		1500	NL

No Menyanthaceae species had records in more than 100 separate PAs.

Five species had records in five or fewer PAs and eight species had records in five or fewer PAs greater than 1000 hectares (**Table 296**). One species is threatened, listed as endangered. None of these species had more than 160 record sites.

Table 296 Menyanthaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Nymphoides triangularis</i>	50	0	0	NL
<i>Nymphoides beaglensis</i>	31	1	1	NL
<i>Villarsia calthifolia</i>	33	1	1	EN
<i>Nymphoides subacuta</i>	49	3	2	NL
<i>Nymphoides furculifolia</i>	154	3	3	NL

Cupressaceae

The ANHAT database has 14539 records for 26 species and subspecies of Cupressaceae. No species of Cupressaceae are considered extinct.

Three species account for approximately 50% of the total species records in ANHAT (

Table 297). These species have over 1500 records each. *Callitris glaucophylla* is known from over 3400 record sites.

Table 297 Cupressaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Callitris verrucosa</i>	1552	10.67
<i>Callitris gracilis</i>	1590	10.94
<i>Callitris glaucophylla</i>	3476	23.91
Total	6618	45.52

Two species had 30 or fewer individual site records in the ANHAT database (

Table 16). Both species are classified as vulnerable. There are too few species and too little information available to confidently determine any patterns in the categories developed in the analysis of this family. Exclusion of these poorly recorded species eliminates 35 records.

Table 298 Cupressaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Callitris oblonga corangensis</i>	17	35.29			200	VU
<i>Callitris oblonga</i>	18	27.78	E,TAS		1300	VU

Removal of the records for poorly recorded species leaves 14504 records in ANHAT for 24 species (and subspecies). The mean number of records per species with greater than 30 records was 604. These have a mean of 41% of their records in PAs.

Nine species of Cupressaceae had 45% or greater of individual site records located within PAs (**Table 299**). Of those nine species, none are classified as threatened. All of the species in this category are from eastern Australia. Only one of these species was recorded to have greater than 90% of its available records located within the NRS.

Table 299 Cupressaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Callitris macleayana</i>	104	231	45.02	NE,E		8800	NL
<i>Callitris gracilis</i>	730	1590	45.91	E,SE,CS		75000	NL
<i>Callitris muelleri</i>	54	112	48.21	E		4800	NL
<i>Callitris verrucosa</i>	848	1552	54.64	SW,E,C I,CS		65900	NL
<i>Callitris rhomboidea</i>	766	1339	57.21	E,SE,CS ,TAS		40400	NL
<i>Callitris monticola</i>	123	209	58.85	E		6200	NL
<i>Athrotaxis selaginoides</i>	112	133	84.21	TAS		6800	NL
<i>Athrotaxis cupressoides</i>	168	188	89.36	TAS		5200	NL
<i>Diselma archeri</i>	116	128	90.63	TAS		5500	NL

Only one species had less than 10% of ANHAT records located within PAs (**Table 300**). This species is not classified as threatened. It is known to have 18 records within the NRS.

Table 300 Cupressaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Callitris baileyi</i>	18	199	9.04	E		4900	NL

A total of two Cupressaceae species had records in more than 100 separate PAs (**Table 301**). Both species in this list had over 1000 records. Neither species is classified as threatened.

Table 301 Cupressaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Callitris verrucosa</i>	1552	115	75	NL

<i>Callitris gracilis</i>	1590	138	59	NL
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Four species had records in five or fewer PAs and four species had records in five or fewer PAs greater than 1000 hectares (**Table 302**). Three species are listed as threatened, including one species classified as endangered. The majority of species in this list had fewer than 100 individual site records and no species had more than 200 site records. All had records within a PA, including at least one PA greater than 1000 ha in area.

Table 302 Cupressaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Callitris oblonga corangensis</i>	17	1	1	VU
<i>Callitris oblonga</i>	18	5	4	VU
<i>Callitris oblonga oblonga</i>	55	5	3	EN
<i>Callitris baileyi</i>	199	5	4	NL

Lythraceae

The ANHAT database has 8620 records for 25 species and subspecies of Lythraceae. No species of Lythraceae are considered extinct.

Two species account for approximately 50% of the total species records in ANHAT (Table 303). These species have over 1300 records each. *Lythrum hyssopifolia* is represented in ANHAT by over 3300 records.

Table 303 Lythraceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Ammannia multiflora</i>	1371	15.90
<i>Lythrum hyssopifolia</i>	3304	38.33
Total	4675	54.23

Seven species had 30 or fewer individual site records in the ANHAT database (Table 304) and are excluded from any further analyses. None of these species are classified as threatened. Exclusion of these poorly recorded species eliminates 103 records. There are too few species and too little information available to confidently determine any patterns in the categories developed in the analysis of this family.

Table 304 Lythraceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Lagerstroemia archeriana</i>						
<i>divaricatiflora</i>	2	0.00	200			NL
<i>Lagerstroemia speciosa</i>	5	20.00	200			NL
<i>Rotala rosea</i>	6	33.33	300	CN		NL
<i>Ammannia pubiflora</i>	11	0.00	700	CN		NL
<i>Nesaea crinipes</i>	24	0.00	1000	CN		NL
<i>Rotala rotundifolia</i>	27	7.41	1000	E		NL
<i>Nesaea striatiflora</i>	28	50.00	1300	NW,CN		NL

Removal of the records for the poorly recorded species leaves 8517 records in ANHAT for 18 species (and subspecies). The mean number of records per species for species with greater than 30 records was 473, with a mean of 21% of these records in the NRS.

No species of Lythraceae had 45% or greater of individual site records located within PAs.

Two species had less than 10% of ANHAT records located within PAs (**Table 305**). Neither of these species are classified as threatened. One species does not yet have any records within a PA.

Table 305 Lythraceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Nesaea repens</i>	0	60	0.00	NW,CN		2900	NL
<i>Ammannia multiflora multiflora</i>	7	77	9.09			5600	NL

A total of one Lythraceae species had records in more than 100 separate reserves (**Table 306**). This species had over 3000 records. It is not classified as threatened.

Table 306 Lythraceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Lythrum hyssopifolia</i>	3304	268	97	NL

Five species had records in five or fewer PAs and five species had records in five or fewer PAs greater than 1000 hectares (**Table 307**). No species are listed as threatened. The majority of species in this list had fewer than 100 individual site records and no species had more than 110 site records. Apart from the species with no records in a PA, the species on this list had records within at least one PA, including at least one PA greater than 1000 ha in size.

Table 307 Lythraceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Nesaea repens</i>	60	0	0	NL
<i>Nesaea arnhemica</i>	85	4	3	NL
<i>Ammannia multiflora multiflora</i>	77	5	5	NL
<i>Nesaea muelleri</i>	107	5	5	NL
<i>Rotala tripartita</i>	110	5	4	NL

Onagraceae

The ANHAT database has 12424 records for 23 species and subspecies of Onagraceae. No species of Onagraceae are currently considered to be extinct.

Four species account for approximately 50% of the total species records in ANHAT (Table 308). All have substantial proportions of the total available records for this family.

Table 308 Onagraceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Epilobium billardierianum</i>	2106	16.95
<i>Epilobium billardierianum cinereum</i>	2028	16.32
<i>Ludwigia octovalvis</i>	1547	12.45
<i>Epilobium hirtigerum</i>	1523	12.26
Total	7204	57.98

Seven species had 30 or fewer individual site records in the ANHAT database (Table 309). Of those species, one species is classified vulnerable. Exclusion of these poorly recorded species eliminates 105 records. There are too few species and too little information available to easily determine any patterns in the categories developed in the analysis of this family. All species within the category of 30 records or fewer are located within eastern Australia.

Table 309 Onagraceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Epilobium glabellum</i>	3	0.00	E		200	NL
<i>Epilobium pedunculare</i>	5	60.00	TAS		400	NL
<i>Epilobium brunnescens beagleholei</i>	10	100.00			100	VU
<i>Epilobium fugitivum</i>	16	81.25	TAS		900	NL
<i>Ludwigia peploides</i>	19	15.79	E		1400	NL
<i>Epilobium hirsutum</i>	25	16.00	E,SE		1600	NL
<i>Epilobium perpusillum</i>	27	96.30			1700	NL

Removal of poorly recorded species leaves 12319 records in ANHAT for 16 species (and subspecies). The mean number of records per species for species with greater than 30 records was 770, with a mean of 45% of their records in the NRS. Six species of Onagraceae had 45% or greater of individual site records located within PAs (**Table 310**). Of those six species, no species are classified as threatened. All are located within eastern Australia. One species had over 95% of its records falling within the NRS.

Table 310 Onagraceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Epilobium billardierianum</i>						1610	
<i>hydrophilum</i>	138	306	45.10			0	NL
<i>Epilobium gunnianum</i>	536	912	58.77	E,SE, TAS		3020	NL
<i>Epilobium curtisiae</i>	94	144	65.28	SE,TAS		6100	NL
<i>Epilobium sarmentaceum</i>	160	200	80.00	SE,TAS		1050	NL
<i>Epilobium willisii</i>	36	41	87.80	TAS		0	NL
<i>Epilobium tasmanicum</i>	108	112	96.43	SE,TAS		1600	NL
						4000	NL

No species had less than 10% of ANHAT records located within PAs.

A total of three Onagraceae species had records in more than 100 separate reserves (**Table 311**). All species in this list had over 1000 records, with an average of 5657 records per species. No species are classified as threatened.

Table 311 Onagraceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Epilobium hirtigerum</i>	1523	129	65	NL
<i>Epilobium billardierianum</i>	2106	196	109	NL
<i>Epilobium billardierianum cinereum</i>	2028	222	129	NL

Only one species had records in five or fewer PAs and the same species had records in five or fewer PAs greater than 1000 hectares (**Table 312**), but did have records in the NRS, including large PAs. This species is not listed as threatened.

Table 312 Onagraceae species recorded from five or fewer PAs.

Species	No.	No. PAs	No. PAs	EPBC
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	Records		>1000ha	status
<i>Epilobium willisii</i>	41	5	5	NL

Nyctaginaceae

The ANHAT database has 6508 records for 21 species and subspecies of Nyctaginaceae. No species of Nyctaginaceae are considered extinct.

Two species account for approximately 50% of the total species records in ANHAT (Table 313). These species have over 1500 records each.

Table 313 Nyctaginaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Boerhavia coccinea</i>	1506	23.14
<i>Boerhavia dominii</i>	1574	24.19
Total	3080	47.33

Five species had 30 or fewer individual site records in the ANHAT database (Table 314). Of those species, no species are classified as threatened. There are too few species and too little information available to confidently determine any patterns in the categories developed in the analysis of this family. Exclusion of these poorly recorded species eliminates 59 records.

Table 314 Nyctaginaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Pisonia brunoniana</i>	2	100.00	E		300	NL
<i>Boerhavia albiflora heronensis</i>	4	100.00			900	NL
<i>Commicarpus insularum</i>	7	57.14	NE,NW,C		1400	NL
<i>Boerhavia repens</i>	22	18.18	N		1500	NL
<i>Boerhavia sp. winton</i>	24	12.50			800	NL

Removal of data for poorly recorded species leaves 6449 records in ANHAT for 16 species (and subspecies). The mean number of records for species with more than 30 records is 403. These have a mean 25% of their records in the NRS.

Two species of Nyctaginaceae had 45% or greater of individual site records located within PAs (Table 315). Neither species is classified as threatened. Neither species had more than 75% of its record sites located within PAs.

Table 315 Nyctaginaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Boerhavia albiflora</i>	22	37	59.46	NE NE,C		6500	NL
<i>Pisonia grandis</i>	24	32	75.00	N		3500	NL

Two species had less than 10% of ANHAT records located within PAs (**Table 316**). Neither species are classified as threatened. Both have records from within PAs.

Table 316 Nyctaginaceae species with <10% of ANHAT records located within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Boerhavia sp. st george</i>	9	141	6.38			6000	NL
<i>Boerhavia sp. bargara</i>	6	69	8.70			3100	NL

No Nyctaginaceae species had records in more than 100 separate PAs.

Two species had records in five or fewer PAs and five species had records in five or fewer PAs greater than 1000 hectares (**Table 317**). Neither species is listed as threatened and both have been recorded in PAs greater than 1000 ha.

Table 317 Nyctaginaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Boerhavia sp. Bargara</i>	69	2	2	NL
<i>Boerhavia sp. st george</i>	141	4	4	NL

Smilacaceae

The ANHAT database has 15069 records for 19 species and subspecies of Smilacaceae. No species of Smilacaceae are considered extinct.

One species accounts for approximately 40% of the total species records in ANHAT (**Table 318**). This species has over 6000 records.

Table 318 Smilacaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Smilax australis</i>	6045	40.11

Six species had 30 or fewer individual site records in the ANHAT database (**Table 319**). Of those species, no species are classified as threatened. There are too few species available to realistically determine any patterns in the data. Exclusion of these poorly recorded species eliminates 67 records.

Table 319 Smilacaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Smilax macrophylla</i>	2	0.00			100	NL
<i>Smilax</i> sp. <i>bamaga</i>	4	0.00			200	NL
<i>Smilax kaniensis</i>	11	0.00			500	NL
<i>Smilax</i> sp. <i>cardwell</i>	15	66.67			600	NL
<i>Smilax blumei</i>	17	5.88			1200	NL
<i>Smilax</i> sp. <i>hinchinbrook island</i>	18	100.00	NE		400	NL

Removal of the poorly recorded species leaves 15002 records in ANHAT for 13 species (and subspecies). The mean number of records per species for species with greater than 30 records was 1154, with a mean of 46% of records in the NRS.

Seven species of Smilacaceae had 45% or greater of individual site records located within PAs (

Table 320). Of those seven species, none are classified as threatened. These species are located within eastern Australia. All have less than 80% of their record sites within PAs.

Table 320 Smilacaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Ripogonum fawcettianum</i>	31	68	45.59	E		7200	NL
<i>Ripogonum elseyanum</i>	96	188	51.06	E		9500	NL
<i>Petermannia cirrosa</i>	76	148	51.35	E		6400	NL
<i>Ripogonum album</i>	290	559	51.88	NE,E		30900	NL
<i>Smilax glyciophylla</i>	418	786	53.18	NE,E		55700	NL
<i>Ripogonum discolor</i>	122	219	55.71	E		13000	NL
<i>Smilax aculeatissima</i>	89	113	78.76			2500	NL

No species had less than 10% of ANHAT records located within PAs.

A total of four Smilacaceae species had records in more than 100 separate reserves (**Table 321**). Three species in this list had over 1000 records, with a mean of 3338 records per species. No species are classified as threatened.

Table 321 Smilacaceae species recorded at more than 100 PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
<i>Smilax glyciophylla</i>	786	113	88	NL
<i>Geitonoplesium cymosum</i>	1676	217	149	NL
<i>Eustrephus latifolius</i>	4844	312	226	NL
<i>Smilax australis</i>	6045	325	243	NL

One species only had records in five or fewer PAs and in five or fewer PAs greater than 1000 hectares (**Table 322**). This species is not listed as threatened.

Table 322 Smilacaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
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<i>Smilax sp. watson river</i>	42	5	5	NL
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Ericaceae

The ANHAT database has 4089 records for 18 species and subspecies of Ericaceae. No species of Ericaceae are considered extinct.

Two species account for approximately 50% of the total species records in ANHAT (Table 323). *Acrothamnus hookeri* has over 1700 records.

Table 323 Ericaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Acrothamnus maccraei</i>	489	11.96
<i>Acrothamnus hookeri</i>	1745	42.68
Total	2234	54.64

Five species had 30 or fewer individual site records in the ANHAT database (Table 324). Of those species, one species is classified as vulnerable. Exclusion of these poorly recorded species eliminates 87 records. There are too few species and too little information available to accurately determine any patterns in the reservation categories.

Table 324 Ericaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Gaultheria viridicarpa</i>	13	100.00			300	VU
<i>Rhododendron viriosum</i>	14	100.00			500	NL
<i>Gaultheria</i> sp. <i>point lookout</i>	16	93.75			700	NL
<i>Agortia cicatricata</i>	20	75.00	E		1600	NL
<i>Pernettya lanceolata</i>	24	83.33			900	NL

Removal of poorly recorded species leaves 4002 records in ANHAT for 13 species (and subspecies). The mean number of records per species for species with greater than 30 records was 308, with a mean of 65% of records in the NRS.

Eleven species of Ericaceae had 45% or greater of individual site records located within PAs (Table 325). Of those 11 species, none are classified as threatened. Two species have more than 90% of their records within PAs.

Table 325 Ericaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Pernettya tasmanica</i>	22	40	55.00			3700	NL
<i>Gaultheria hispida</i>	164	281	58.36			21200	NL
<i>Acrothamnus hookeri</i>	1027	1745	58.85	E		36000	NL
<i>Acrothamnus maccraei</i>	288	489	58.90	SE		7200	NL
<i>Gaultheria appressa</i>	252	422	59.72			13600	NL
<i>Acrothamnus montanus</i>	196	289	67.82			14100	NL
<i>Gaultheria tasmanica</i>	52	73	71.23			5900	NL
<i>Acrothamnus spathaceus</i>	170	229	74.24	NE		4000	NL
<i>Agapetes meiniana</i>	96	105	91.43	NE		1500	NL
<i>Rhododendron lochiaie</i>	92	100	92.00			1700	NL
<i>Gaultheria depressa</i>	38	40	95.00			2600	NL

No species had less than 10% of ANHAT records located within PAs.

No Ericaceae species had records in more than 100 separate reserves.

No Ericaceae species had records in five or fewer PAs or records in five or fewer PAs greater than 1000 hectares.

Asteliaceae

The ANHAT database has 3316 records for 18 species and subspecies of Asteliaceae. No species of Asteliaceae are considered extinct.

Three species account for approximately 50% of the total species records in ANHAT (

Table 326). These species have over 350 records each.

Table 326 Asteliaceae species that account for approximately 50% of the total species records in ANHAT.

Species	No. Records	% total records
<i>Cordyline petiolaris</i>	396	11.94
<i>Cordyline rubra</i>	465	14.02
<i>Cordyline cannifolia</i>	740	22.32
Total	1601	48.28

Three species had 30 or fewer individual site records in the ANHAT database (

Table 327). Of those species, one species is classified as vulnerable. There are too few species to reasonably attempt to determine any patterns in this category. Exclusion of these poorly recorded species eliminates 75 records.

Table 327 Asteliaceae species with 30 or fewer individual site records in the ANHAT database.

Species	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Milligania longifolia</i>	22	95.45	TAS		1400	NL
<i>Neoastelia spectabilis</i>	25	84.00	E		600	VU
<i>Milligania johnstonii</i>	28	96.43	TAS		900	NL

Removal of the poorly recorded species leaves 3241 records in ANHAT for 15 species (and subspecies). The mean number of records per species for species with greater than 30 records was 216, with a mean 61% of records in the NRS. This is a high level of reservation compared to most other families.

Ten species of Asteliaceae had 45% or greater of individual site records located within PAs (

Table 328). This is two-thirds of the species with more than 30 records in the database. Of those 10 species, no species are classified as threatened. These species generally are located in eastern Australia, including Tasmania. One species has all of its record sites located within the NRS.

Table 328 Asteliaceae species with >45% of site records within PAs.

Species	No. Records in NRS	No. Records	% in NRS	Location	Veg type	Area km ²	EPBC status
<i>Cordyline petiolaris</i>	186	396	46.97	E		23100	NL
<i>Cordyline stricta</i>	130	274	47.45	E		22700	NL
<i>Cordyline rubra</i>	227	465	48.82	E		19800	NL
<i>Cordyline cannifolia</i>	375	740	50.68	NE,CN E		18100	NL
<i>Astelia alpina novae-hollandiae</i>	306	352	86.93			3700	NL
<i>Milligania lindoniana</i>	51	57	89.47	TAS		1800	NL
<i>Astelia alpina</i>	85	93	91.40	SE,TAS		5600	NL
<i>Milligania densiflora</i>	77	83	92.77	TAS		3700	NL
<i>Milligania stylosa</i>	40	41	97.56	TAS		1300	NL
<i>Astelia psychrocharis</i>	78	78	100.00	SE		1500	NL

No Asteliaceae species had less than 10% of ANHAT records located within PAs.

No Asteliaceae species had records in more than 100 separate reserves.

Four species had records in five or fewer PAs and four species had records in five or fewer PAs greater than 1000 hectares (

Table 329). One species is classified as vulnerable. The majority of species in this list had fewer than 100 individual site records and no species had more than 140 site records. All species in this category have records in at least one PA, including at least one PA larger than 1000 ha.

Table 329 Asteliaceae species recorded from five or fewer PAs.

Species	No. Records	No. PAs	No. PAs >1000ha	EPBC status
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<i>Astelia psychrocharis</i>	78	2	2	NL
<i>Astelia australiana</i>	136	2	1	VU
<i>Milligania stylosa</i>	41	3	3	NL
<i>Milligania lindoniana</i>	57	4	4	NL

Final Discussion

The 50 most speciose families of Australian vascular plants contain a very large number of species, particularly in comparison with the vertebrates and invertebrates analysed in Part A. As was typical of the invertebrates, nearly all of the families of vascular plants included in this report had substantial numbers of species that had very few records (considered to be 30 records or fewer) available for them. These species could not realistically be assessed in terms of their true distributions or status in the NRS. Typically, 25-40% of species within a family fell within this category, although there were exceptions, with the Stylidiaceae having over 50% of species with few records and the Mimosaceae only around 10%. Inland species appear to be more likely to fall into the category of fewer than 30 records. Hence, they do not appear often on the lists of well or under-reserved species. Inland species need more work to obtain records on which to base assessments of distribution, relative abundance and vegetation/habitat associations. Poorly recorded species require further study or survey so that their ranges can be accurately assessed and, where deemed necessary, this can then lead to better targeting of available PAs to determine more accurately their current reservation status.

The number of species within families with relatively high levels of reservation (more than 45% of records within PAs), varied much more greatly. Relatively few species had 100% of their records within PAs, although most families had some species with at least 90% of their records in PAs. Any species with such levels of records in a PA presumably have reasonable protection against threats such as land clearance, but still may be under threat from fires or feral animals that do not recognise the boundaries of a PA. It is hard to recognise any patterns in such a broad category, but there may be a trend for species found in eastern Australia to be more likely to fall into this category.

Typically, species with 10% or less of records within reserves constitute around one-third of all species within a family. There are species in most families that have no records within a PA in the ANHAT database. These species may still be known from a PA, but any records that exist are either not in ANHAT or do not have an accuracy that allows them to be included in the analyses. All of these species would benefit from further work to determine the PAs in which they may occur, or from which they are reported without verification, which can then be followed up by surveys to clarify the understanding of their reservation in the NRS.

The numbers of species that did not have a record currently recorded within a PA did not appear to be great with most families, being represented, as already noted, by no more than one or two species. It would appear likely that most of these species have PAs within their known or expected ranges and may occur in a PA. Whether this will greatly decrease the threat to the survival of any given species in the near future will depend on the species. It was notable that, in nearly all cases where a species has been recorded from at least one PA, the PA is more than 1000 hectares in size. These larger reserves will potentially hold populations that are more robust to disturbance and also will have greater genetic diversity and so be better able to adapt to any changes in the PA. This is an encouraging result, but there is clearly room for improvement.

Where a family of vascular plants was represented by fewer than 70 species with records in ANHAT, we did not attempt to determine patterns of distribution or vegetation types within the various reservation tables. There were often very few species in a table, making it unclear if a pattern would exist if several more species with information were added. Furthermore, data usually was not available on the distribution and vegetation associations of up to half the species. It was not clear whether the species without information would have followed the same pattern and so it was considered unwise to make any judgements. Also, smaller families often are relatively localised in Australia.

We consider that a thorough review of the vascular plants in Australia would be of great benefit, along the lines of reviews undertaken or proposed for the vertebrates (e.g. the global amphibian assessment). Such a review is highly likely to lead to a very large number of species being listed in the Data Deficient category of the IUCN, but this would greatly assist in providing an accurate representation of vascular plants in Australia as the review would include experts and authorities on each family of vascular plants. The limitations of the project meant that floristic specialists could not be used to supplement published or online information.

Any such review would be assisted or could otherwise lead to the development of some form of consolidated information base for each family. Such a resource would greatly assist in the continued development of our understanding of many of these families of vascular plants. A few families have available either books or websites that summarise the known information and/or profile many, most or all species within a family, but this was a rarity. For most families, no books exist that provide even a basic summary of up-to-date knowledge on the families and searches on the internet produced mixed results relating mainly to scientific papers covering few species. The information on most families was time consuming to obtain (if available) and often involved going to several websites for each species. This is a very direct contrast to the Australian vertebrate fauna, which are covered by either field guides or websites with extensive information on families and the species within them. A provision of online resources on all families of Australian vascular (and non-vascular) plants would be of great benefit in future decision-making processes in regards to plant conservation.

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Data acknowledgements

The ANHAT data used for this report comes from authoritative sources, but these sources are not perfect. All species names have been confirmed as valid species names, but it is not possible to confirm all species locations. The summary summarises the input data, so errors found in the original data would also be reflected in this report.

The scientific names and taxonomic concepts used in this report reflect an ANHAT view of the data and not necessarily that found in government censuses, databases or other authoritative lists.

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- Australian Museum
- CSIRO Australian National Insect Collection
- Museum and Art Gallery of the Northern Territory
- Museum Victoria
- Queen Victoria Museum and Art Gallery (Launceston)
- Queensland Museum
- South Australian Museum
- Tasmanian Museum and Art Gallery (Hobart)
- Western Australian Museum

The taxonomic concepts used in this report reflect an ANHAT view of the data and not necessarily that of the CHAFC parent fauna collections.

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- Australian National Herbarium (CANB)
- National Herbarium of New South Wales (NSW) Botanic Gardens Trust
- Herbarium of the Northern Territory (DNA, NT)
- Queensland Herbarium (BRI)
- State Herbarium of South Australia (AD)
- Tasmanian Herbarium (HO)
- National Herbarium of Victoria (MEL) Royal Botanic Gardens Melbourne
- Western Australian Herbarium (PERTH).

The taxonomic concepts used in this report reflect an ANHAT view of the data and not necessarily that of the AVH parent herbaria.

Other Government Organisations

- Commonwealth Department of Defence
- Commonwealth Department of the Environment, Water, Heritage and the Arts
- New South Wales - Department of Environment, Climate Change and Water
- New South Wales - Department of Industry and Investment (Forests NSW)
- Northern Territory - Department of Natural Resources, Environment, the Arts and Sport
- Queensland – Department of Environment and Resource Management (WildNet)
- South Australia - Department for Environment and Heritage (Biological Survey of South Australia Database)
- Tasmania - Department of Primary Industries, Parks, Water and Environment (Natural Values Atlas)
- Victoria - Department of Sustainability and Environment
- Western Australia - Department of Environment and Conservation

Non-government

- Birds Australia
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- The AAU Herbarium Database (accessed through GBIF data portal, <http://data.gbif.org/datasets/resource/224> 10/06/2009)
- Australian National Herbarium (CANB) (accessed through GBIF data portal, <http://data.gbif.org/datasets/resource/47> 10/06/2009)
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Appendix 1. Summary of Australian vascular plant numbers by family.

Family	No. Species	Total No. Records	no spp >30 records	no records >30	Total No Records in NRS (>30)	Mean no records/species >30recs	No Species ≤30 records	no records ≤30	% of species ≤30 records	% total in NRS	Average % in NRS	No species less than 10%	% sp <10%	No Species more than 45%	% sp >45%
Myrtaceae	2253	786448	1791	780365	228028	435.71	461	6068	20.46	29.22	32.64	258	14.41	406	22.67
Fabaceae	1350	353042	1065	349031	101806	327.73	284	3997	21.04	29.17	29.4	149	13.99	197	18.50
Proteaceae	1240	222127	971	217581	79785	224.08	269	4546	21.69	36.67	37.3	63	6.49	296	30.48
Orchidaceae	1203	159594	732	153380	52416	209.54	468	6195	38.90	34.17	35.49	32	4.37	173	23.63
Asteraceae	1086	390038	832	386652	124207	464.73	252	3356	23.20	32.12	34.76	92	11.06	211	25.36
Mimosaceae	1080	380731	901	377883	91240	419.40	178	2824	16.48	24.15	25.6	203	22.53	132	14.65
Rutaceae	591	91955	402	89088	35862	221.61	188	2856	31.81	40.25	44.1	26	6.47	168	41.79
Euphorbiaceae	481	103355	346	101525	30005	293.42	135	1830	28.07	29.55	35.1	32	9.25	93	26.88
Epacridaceae	463	121043	350	119441	54546	341.26	111	1600	23.97	45.67	50.36	9	2.57	186	53.14
Chenopodiaceae	365	188712	318	188038	45143	591.31	47	674	12.88	24.01	19.4	73	22.96	18	5.66
Stylidiaceae	278	22832	163	21273	6904	130.51	115	1559	41.37	32.45	32.4	12	7.36	34	20.86
Sterculiaceae	252	29919	161	28623	8158	177.78	90	1294	35.71	28.50	29.4	21	13.04	26	16.15
Sapindaceae	233	71201	205	70778	22121	345.26	28	423	12.02	31.25	35.1	21	10.24	59	28.78
Solanaceae	228	53203	172	52297	12812	304.05	56	906	24.56	24.50	27.5	32	18.60	27	15.70
Dilleniaceae	221	43146	135	42038	16617	311.39	86	143	38.91	39.53	35.7	10	7.41	47	34.81
Amaranthaceae	192	49668	127	48768	9630	384.00	65	900	33.85	19.75	19.3	31	24.41	6	4.72
Scrophulariaceae	161	29021	103	28282	9901	274.58	56	733	34.78	35.01	41	8	7.77	33	32.04
Lauraceae	140	47052	130	46876	20733	360.58	10	176	7.14	44.23	50.1	3	2.31	72	55.38
Caesalpiniaceae	136	46165	111	45900	10483	413.51	25	265	18.38	22.84	22.5	24	21.62	10	9.01
Tiliaceae	121	11372	64	10636	2308	166.19	57	736	47.11	21.70	25.4	11	17.19	7	10.94
Convolvulaceae	117	41140	91	40800	9337	448.35	26	340	22.22	22.88	22.3	15	16.48	3	3.30
Thymelaeaceae	112	45371	97	45137	14987	465.33	14	229	12.50	33.20	34	11	11.34	21	21.65
Anthericaceae	105	36803	79	36443	12584	461.30	26	360	24.76	34.53	32.2	1	1.27	12	15.09
Haemodoraceae	100	9849	66	9347	2691	141.62	34	502	34.00	28.79	24.6	6	9.09	2	3.03
Casuarinaceae	89	35069	71	34782	11995	489.89	18	287	20.22	34.49	37.7	4	5.63	21	29.58
Phormiaceae	75	37676	55	37363	12446	679.33	20	313	26.67	33.31	32.3	4	7.27	10	18.18
Lentibulariaceae	63	8526	38	8267	3153	217.55	25	259	39.68	38.14	39.4	0	0.00	10	26.32
Portulacaceae	63	14287	41	14007	5152	341.63	22	280	34.92	36.78	30.69	2	4.88	7	17.07
Zygophyllaceae	61	26875	50	26748	6903	534.96	11	127	18.03	25.81	22	5	10.00	2	4.00

Family	No. Species	Total No. Records	no spp >30 records	no records >30	Total No Records in NRS (>30)	Mean no records/species >30recs	No Species ≤30 records	no records ≤30	% of species ≤30 records	% total in NRS	Average % in NRS	No species less than 10%	% sp <10%	No Species more than 45%	% sp >45%
Arecaceae	58	10669	43	10400	4535	241.86	15	269	25.86	43.61	48	1	2.33	23	53.49
Caryophyllaceae	48	17601	40	17510	6690	437.75	8	91	16.67	38.21	40.1	5	12.50	12	30.00
Meliaceae	45	13615	41	13580	5064	331.22	4	35	8.89	37.29	43.9	2	4.88	18	43.90
Aizoaceae	44	19047	37	18990	6253	513.24	6	56	13.64	32.93	22.4	9	24.32	3	8.11
Araceae	44	5188	25	4992	1752	199.68	19	196	43.18	35.10	37.6	2	8.00	9	36.00
Zamiaceae	42	4147	38	4058	1334	106.79	4	89	9.52	32.87	34.8	4	10.53	12	31.58
Combretaceae	39	17998	37	17984	5456	486.05	2	14	5.13	30.34	25	8	21.62	6	16.22
Monimiaceae	39	9926	31	9801	316	316.16	8	125	20.51	3.22	55.2	0	0.00	20	64.52
Colchicaceae	35	12426	25	12249	3936	489.96	10	177	28.57	32.13	28	2	8.00	3	12.00
Centrolepidaceae	32	8351	19	8114	3277	427.05	13	237	40.63	40.39	40.1	0	0.00	3	15.79
Cunoniaceae	31	6907	27	6859	3515	254.04	4	48	12.90	51.25	58.7	0	0.00	18	66.67
Cycadaceae	31	3822	20	3627	606	181.35	11	195	35.48	16.71	16.6	9	45.00	1	5.00
Iridaceae	30	7594	21	7431	3073	353.86	9	163	30.00	41.35	39.4	1	4.76	7	33.33
Menyanthaceae	29	4493	25	4394	1375	175.76	4	99	13.79	31.29	35.2	1	4.00	5	20.00
Cupressaceae	26	14539	24	14504	5346	604.33	2	35	7.69	36.86	40.6	1	4.17	9	37.50
Lythraceae	25	8620	18	8517	174	473.17	7	103	28.00	2.04	21	2	11.11	0	0.00
Onagraceae	23	12424	16	12319	770	769.94	7	105	30.43	6.25	45	0	0.00	6	37.50
Nyctaginaceae	21	6508	16	6449	1183	403.06	5	59	23.81	18.34	24.5	2	12.50	2	12.50
Smilacaceae	19	15069	13	15002	5236	1154.00	6	67	31.58	34.90	45.7	0	0.00	7	53.85
Asteliaceae	18	3316	15	3241	1766	216.07	3	75	16.67	54.49	60.6	0	0.00	10	66.67
Ericaceae	18	4089	13	4002	2456	307.85	5	87	27.78	61.37	65	0	0.00	11	84.62
Total	13556	3662569	10211	3615372	1106066		3329	46103				1207		2474	