

# Plant Species of the Cataract Gorge, Punch Bowl and Kate Reed Reserves

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## Abstract

This paper reports the results of a survey of the vascular plants, bryophytes and lichens of three reserves close to Launceston. The Cataract Gorge Reserve had the greatest total number of species, but its monocotyledon flora was less rich than that of the Punch Bowl and Kate Reed Reserves. The list of plants includes 21 vascular species that are either unreserved, poorly reserved or have very limited distributions in Tasmania, and some which are considered to be vulnerable.

## Introduction

The Cataract Gorge Reserve, Punch Bowl Reserve and Kate Reed State Recreation Area (SRA) are within a radius of 5 km near Launceston in Northern Tasmania (see *Pipers* Sheet 8315, Tasmania 1:100 000 Topographic Survey map). They all contain remnant native bushland with vegetation types which can be classified broadly as dry sclerophyll forest. At Punch Bowl and Kate Reed, the dominant eucalypts are black peppermint (*Eucalyptus amygdalina*) and white gum (*E. viminalis*), species which characterise dry sclerophyll forest throughout the northern Midlands. Silver wattle (*Acacia dealbata*) is common in both of these reserves. The Cataract Gorge Reserve differs somewhat from the other reserves in that it contains a much greater share of 'gully community' species and lesser abundances of the large, woody species that typify dry sclerophyll forest. Hence, dogwood (*Pomaderris apetala*), blanket leaf (*Bedfordia salicina*) and pinkwood (*Beyeria viscosa*) are abundant in Cataract Gorge, but only local, rare or absent at Punch

Bowl and Kate Reed, while black peppermint, white gum and silver wattle, although present in Cataract Gorge, occur with a lesser frequency there than at the other two reserves.

## Study area

Despite their close proximity, there are considerable differences between the three survey areas, not only in terrain, but also in their underlying geology and soils.

### *Cataract Gorge Reserve*

As its name suggests, Cataract Gorge is a gorge or canyon, formed by the South Esk River cutting its way through beds of Jurassic dolerite in its passage from near Hadspen to its junction with the North Esk River in the City of Launceston. The soils of the Cataract Gorge are exclusively derived from dolerite, having neither the alluvial soils that are found along the North Esk River, nor any soils on Tertiary clays, gravels and sands, the main soil type in Launceston. Another feature of the Cataract Gorge is the steepness of its sides, lacking flat areas subject to seasonal flooding, such as those found in the nearby Trevallyn SRA.

The Cataract Gorge Reserve (about 94 ha) is located on the banks of the South Esk River just before its confluence with the North Esk River. The 'Gorge', as the Reserve is commonly known, is basically a riparian strip on both sides of the South Esk River in an approximately 1 km section between First Basin and the West Tamar Road at Kings

Bridge. The two banks of the river are connected by the Alexandra Suspension Bridge, built in 1895 and restored several years after it was destroyed by a flood in 1929. South and west of First Basin is the Duck Reach Trail, which enables walkers to follow the true east bank of the river for approximately 2 km to the site of the now defunct Duck Reach Power Station, Australia's first municipal hydro-electric power station. The true west bank of the river is not readily accessible by foot south of First Basin, due to the steepness of the sides of the river and the lack of trails. That bushland is part of the Trevallyn SRA, a vegetation survey of which has been reported separately (Ratkowsky *et al.* 1993b). The area of the Gorge surveyed in the present study was, by the nature of the steepness of the terrain, confined to a narrow band in the vicinity of trails surrounding First Basin. Both banks of the river are accessible using trails but cross-country walking is difficult except in a few places. Trails lead to several steep lookouts, including Alexandra Lookout near the Suspension Bridge, Cataract Lookout, and Eagle Eyrie Lookout, a steep grade from the Cliff Grounds near the Reserve's northern boundary.

#### *Punch Bowl Reserve*

The Punch Bowl Reserve of the Launceston City Council (about 24 ha) is located in the south-eastern Launceston suburb of Punch Bowl, between Newstead and Norwood. Except for a small area where the Kings Meadows Rivulet has cut a steep canyon into the underlying doleritic rock, and a few isolated outcrops of dolerite, the Reserve is composed of soils on Tertiary clays, gravels and sands. These soils, which are widespread in the Launceston suburbs, tend to be moderately acidic and have a large variation in their underlying deposits. The soils themselves vary from grey loamy sands and sandy loams to brown or grey-brown clay loams.

The Punch Bowl Reserve adjoins the Launceston Golf Course (about 55 ha), which

in turn is adjacent to the Carr Villa Cemetery Reserve (about 40 ha). These contiguous reserves together act as a sanctuary for wildlife and native vegetation.

#### *Kate Reed State Recreation Area*

Kate Reed SRA (about 100 ha) was proclaimed on 27 May 1983. Some of the area has been reduced by urban development at the reserve's north-eastern end, as well as by a new section of the Bass Highway which cuts the SRA into two separate pieces, the north-western piece being much smaller than the remainder. The Kate Reed SRA contains both of the main soil types seen in the other two survey areas. The higher elevation, eastern portions of the reserve (130–170 m contour) are composed of soils derived from dolerite similar to those at Cataract Gorge, but the lower elevation, western and southern ends contain soils on Tertiary clays, gravels and sands in poorly drained, swampy areas.

#### **Methods**

Each of the areas was visited approximately once per week between September 1992 and March 1993, covering as much of the area as possible using available access tracks and roads. Wherever possible, cross-country travel was undertaken, this being easier in Punch Bowl Reserve and Kate Reed SRA than in the Cataract Gorge Reserve. Species of all plant groups except free-living fungi and algae were collected. Both native and introduced plant species were included in the survey; however, species which appeared to be deliberately planted were excluded from the survey. Garden escapes, whenever they were identifiable to species level, were included. A measure of abundance (local, rare, occasional, frequent or common) was given to each flowering plant or fern species in each Reserve, but only the presence or absence of bryophyte and lichen species was noted, owing to the difficulty of making a positive identification in the field. Only those lichen species which were readily separable from their substrate were collected. In

Table 1. Summary statistics of plant groups in the Reserves.

	Cataract Gorge	Punch Bowl	Kate Reed	Total
<b>Vascular plants</b>				
Dicotyledons	208	160	143	268
Monocotyledons	78	92	95	127
Ferns	13	4	5	14
Subtotals	299	256	243	409
<b>Bryophytes</b>				
Mosses	43	26	22	53
Liverworts	13	4	4	15
Subtotals	56	30	26	68
<b>Lichens</b>	20	11	29	39
<b>Grand totals</b>	375	297	298	516

consequence, most of the lichen species recorded in this survey are classified as 'macrolichens', with few crustose species being considered.

Scientific names of flowering plants and ferns follow the census of Buchanan *et al.* (1989), while those of the mosses follow Dalton *et al.* (1991) and those of the liverworts follow Ratkowsky (1987). For lichens, authorities are given with the scientific names because there have been many additions and alterations to the previously published checklist of Kantvilas (1989).

## Results and discussion

Appendix 1 lists all species observed in the survey, together with an assessment of abundance for the vascular species in each of the Reserves. Table 1 summarises the total number of species found in each Reserve, classified according to plant group.

A total of 409 vascular plant species was found in the present survey. Cataract Gorge had the largest total number of species (375), with Punch Bowl having 297 species and Kate

Reed having 298 species. The large number of species in Cataract Gorge may be attributed to its rich dicotyledon, fern and bryophyte floras, although its monocotyledon flora is smaller than that of either of the other two Reserves. This may be explained, at least in part, by differences in the underlying geology and soils of the survey areas. Punch Bowl and Kate Reed have substantial areas of 'poor' soils; that is, soils developed on clays, sands and gravels, whereas the richer soils of Cataract Gorge are wholly of doleritic origin. Monocotyledons, especially the species popularly called sedges, reeds and rushes, tend to grow better on poorer and wetter soils than on richer, well-drained soils, thereby being more prevalent at Punch Bowl and Kate Reed than at Cataract Gorge. Another factor that may reduce the number of monocotyledon species at Cataract Gorge is the lack of flat, poorly drained areas in that Reserve. For example, none of the three species of the Centrolepidaceae that were present in Kate Reed was found in Cataract Gorge.

Families of flowering plants with the highest number of species were the grasses (Poaceae) with 58 species, the daisies (Asteraceae) with

51 species and the 'pea' flowers and wattles (Fabaceae) with 29 species. Of interest was the virtual absence of orchids at Cataract Gorge, the one species observed there having only a local distribution, contrasting with the relatively large number of species (14) at Kate Reed.

Many rare or poorly reserved vascular species were identified during the survey. Information on the reservation and conservation status of these species was obtained from the report of Kirkpatrick *et al.* (1991), which examined the species present in National Parks and equivalent reserves in Tasmania. Their definition of 'equivalent reserves' does not include City Council Reserves or State Recreation Areas, although the latter are managed by the Department of Environment and Land Management, Tasmania, which also manages National Parks. Hence, none of the three areas surveyed here qualified as acceptable reserves for that report.

Kirkpatrick *et al.* (1991) classified taxa according to three categories of rareness in Tasmania: *r1* included taxa with a distribution not exceeding 100 km x 100 km; *r2* included taxa which occur in 20 or less 10 km x 10 km National Mapping grid squares; and *r3* included taxa which have very small or localised populations wherever they occur. Only one species found in the present survey, *Epacris exserta*, fits the last category, but it is listed as also being present in Alum Cliffs State Reserve. Other plants present in this survey which fit either the *r1* or *r2* categories and are not known from any secure reserve (i.e. World Heritage Area or reserves requiring the approval of both Houses of the Tasmanian Parliament for revocation) include *Millotia tenuifolia*, *Ranunculus sessiliflorus*, *Alisma plantago-aquatica*, *Bolboschoenus caldwellii* and *Caesia calliantha*. Other species whose distributions in Tasmania are less limited but are unreserved in the sense defined above include *Senecio squarrosus*, *Brunonia australis*, *Velleia paradoxa*, *Prostanthera rotundifolia*, *Lythrum salicaria* and *Persicaria decipiens*.

Species which are protected in only one reserve include *Hydrocotyle callicarpa*, *Cynoglossum australe*, *Gyrostemon thesioides*, *Viola caleyana*, the monocotyledons *Aphelia pumilio* and *Dichopogon strictus*, and the fern *Pleurosorus rutifolius*. The fact that a species may be unreserved or poorly reserved does not necessarily imply that the plant is rare. For example, of the plants listed above, *Hydrocotyle callicarpa* and *Dichopogon strictus* occurred abundantly in the areas surveyed, and *Brunonia australis* is a widespread and locally abundant species in the north of Tasmania.

Botanical specimens have been collected from Cataract Gorge since 1803, the early collectors including R. Brown, R.W. Lawrence, R.C. Gunn, S.G. Hannaford, L. Rodway and A. Simson. Species represented in the Tasmanian Herbarium which were collected in Cataract Gorge in the past but which are absent from the present survey, include *Atherosperma moschatum*, *Callitris oblonga*, *Carex cataractae*, *C. gaudichaudiana*, *Cotula australis*, *Cyperus gunnii*, *Derwentia derwentiana*, *Discaria pubescens*, *Dodonaea filiformis*, *Eryngium vesiculosum*, *Isolepis cernua*, *I. wakefieldiana*, *Juncus pauciflorus*, *Poa mollis*, *P. sieberiana*, *Podolepis jaceoides*, *Pomaderris pilifera* and *Tasmannia lanceolata*. In some cases, their absence from the present survey may be attributable either to oversight or misidentification by the present authors. For example, *Poa mollis*, for which Cataract Gorge is the type locality, differs in some characteristics of the hairs from *Poa rodwayi*, which was collected in the present survey. Similarly, *Pomaderris pilifera* differs from *P. elliptica* mainly in the hairs, and may have been overlooked. In other cases, the species may genuinely have disappeared: this has probably been the fate of *Callitris oblonga* and *Discaria pubescens*, species whose distributions in Tasmania are now restricted to a few localities.

Two species listed by Kirkpatrick *et al.* (1991) as being extinct in Tasmania were found in Cataract Gorge. The Tasmanian Herbarium holds two specimens of one of these species,

*Persicaria subsessilis* (R.Br.) K.L. Wilson, formerly known as *Polygonum subsessile* R.Br. One collection had been made in 1866 from Cataract Rocks (i.e. Cataract Gorge), with the second being more recent but of unclear origin. The other species that had been believed to be extinct is *Alternanthera denticulata* R.Br., two previous specimens of which are held in the Tasmanian Herbarium. One of those has no precise location, but the second specimen was collected in 1978 by D.I. Morris, growing in a consignment of glasshouse soil purchased by the Mount Pleasant Laboratories of the (then) Department of Agriculture. The exact origin of the soil is unknown, but is presumed to be somewhere in the north of Tasmania.

The bryophyte flora is much richer at Cataract Gorge than at either of the other two survey areas, the total number of species equalling the sum of the totals at Punch Bowl and Kate Reed. This is not surprising because most bryophytes require abundant moisture for reproduction. Although some moss and liverwort species can withstand long periods of dryness, the bryophyte flora of most regions of the world is better developed in areas of high rainfall than in areas of low rainfall. Since the Launceston area receives about 700 mm of annual rainfall, and there is a prolonged period of rather sparse rainfall during the summer months in most years, one might expect to find only those species which can survive desiccation. Most of the bryophyte species that were collected were growing in gullies or sheltered areas from which direct sunlight is totally absent or present only during a small fraction of the day. Since Cataract Gorge is a sheltered canyon, the greater abundance of mosses and liverworts there than at Punch Bowl or Kate Reed is to be expected.

Table 2 presents a comparison of the numbers of native species of vascular plants, bryophytes and lichens found in this survey with those from other recent surveys in dry sclerophyll forest in the Launceston area (Ratkowsky *et al.* 1993a, 1993b, 1993c). The comparison must be tempered by the

knowledge that the survey areas differ in size, sometimes substantially, and also differ in topography and previous or present land use. The area with the smallest number of native species, Carr Villa Cemetery (see Ratkowsky *et al.* 1993a), is only 40 ha in size and has a rather flat topography, preventing the development of gully communities and the growth of species which characterise such communities. Its soil types include moderately acidic sandy loam and clay loam. The area with the largest number of native species is Cataract Gorge, having not only high numbers of flowering plants, but also far exceeding all the other survey areas except for Trevallyn SRA in its number of ferns and bryophytes. Its sheltered aspect, allowing for the formation of gully communities while at the same time retaining the species that characterise dry sclerophyll forest or woodland, combined with the fertile soils that develop on dolerite, give it an advantage over the other survey areas, despite its relatively small size of 94 ha.

The largest area surveyed, Hummocky Hills, has a substantial number of native flowering species, rivalling that of Cataract Gorge, and a large complement of lichens. Part of its richness may be attributable to the size of the survey zone (about 1100 ha), but another important factor is the diversity of its soil types, ranging from soils developed on ancient river terraces in the lower, flat region, soils on steep dolerite rock at the higher elevations, and soils on mudstone (see Ratkowsky *et al.* 1993c). Kate Reed SRA has almost as many native flowering species as Cataract Gorge and Hummocky Hills, a result at least partly attributable to its diversity of soil types, having soils derived from dolerite as well as from gravels, sands and clays. Punch Bowl, although its number of flowering plants is the second lowest, has nevertheless a substantial representation of these species despite the very small size of its area (about 24 ha). The varied topography of that reserve, featuring some slopes in the loamy soils as well as a steep-sided canyon cut into the dolerite, undoubtedly helps increase its species richness.

Table 2. Summary statistics of native species at Carr Villa Cemetery, Cataract Gorge Reserve, Hummocky Hills, Kate Reed SRA, Punch Bowl Reserve and Trevallyn SRA.

Study area	Area (ha)	Flowering plants	Ferns	Bryophytes	Lichens
Carr Villa Cemetery	40	117	2	10	21
Cataract Gorge Reserve	94	175	13	56	20
Hummocky Hills	1100	176	5	25	45
Kate Reed SRA	100	170	5	26	29
Punch Bowl Reserve	24	142	4	30	11
Trevallyn SRA	400	161	10	57	57

Table 3. Number of exotic species of flowering plants at Carr Villa Cemetery, Cataract Gorge Reserve, Hummocky Hills, Kate Reed SRA, Punch Bowl Reserve and Trevallyn SRA, with the ratio of exotic to native species given in parentheses.

Study area	Dicotyledons	Monocotyledons	Total flowering plants
Carr Villa Cemetery	64 (0.88)	19 (0.43)	83 (0.71)
Cataract Gorge Reserve	80 (0.63)	31 (0.66)	111 (0.63)
Hummocky Hills	45 (0.42)	16 (0.23)	61 (0.35)
Kate Reed SRA	47 (0.49)	21 (0.28)	68 (0.40)
Punch Bowl Reserve	76 (0.92)	34 (0.59)	110 (0.77)
Trevallyn SRA	53 (0.50)	17 (0.30)	70 (0.43)

The number of native species in Trevallyn SRA (see Ratkowsky *et al.* 1993b) is comparable to that in Cataract Gorge. This is not surprising because the two reserves share a common boundary as well as both containing part of the gorge of the South Esk River. The much larger size of the Trevallyn SRA serves to underline the richness of the flora of Cataract Gorge Reserve, although one needs to consider that a substantial part of what is now the Trevallyn SRA was used as a farm prior to its proclamation in 1980, a land use which is likely to have lessened its diversity of native species.

An attempt to examine whether some of the areas surveyed had a greater occurrence of introduced species than others is provided by Table 3, which gives the ratio of exotic to native species at each reserve. The Cataract Gorge and Punch Bowl Reserves have high numbers of introduced species and also high

ratios of introduced to natives compared with Hummocky Hills, Kate Reed SRA and Trevallyn SRA. Carr Villa Reserve had a moderate number of exotic flowering plants but, like the Cataract Gorge and Punch Bowl Reserves, also had a high exotic to native species ratio. However, there does not seem to be any obvious relationship between previous or present land use and the occurrence of exotic species in these survey areas.

Despite the differences between the species numbers in the six survey areas listed in Tables 2 and 3, there are many similarities among the floras of these areas, all of which contain remnant elements of dry sclerophyll forest in the northern Midlands of Tasmania. It appears that 230–300 vascular plant species, with approximately 60% being native, may be typical of remnant native bushland in the northern Midlands for areas up to about

1000 ha. In addition, one might expect up to 60 species of bryophytes, the numbers being high where topography and aspect favour the development of gully communities and low in flat areas lacking perennial streams. The conditions favouring large numbers of lichens do not necessarily parallel those for bryophyte development, as a high proportion of lichens occur on rocks and as epiphytes on trees.

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Appendix 1. Species found in the Cataract Gorge Reserve (CG), Punch Bowl Reserve (PB), and Kate Reed State Recreation Area (KR). Abundance is given for flowering plants (dicotyledons and monocotyledons) and ferns but presence-absence data only is provided for bryophytes (mosses and liverworts) and lichens. (Abbreviations: I = introduced into Tasmania; l = local (growing in a few places only, sometimes abundantly); r = rare, only 1-3 plants observed; o = widespread but only occasional; f = widespread and frequent; c = widespread and common.)

Family	Species	Reserve		
		CG	PB	KR
<b>DICOTYLEDONS</b>				
Amaranthaceae	<i>Alternanthera denticulata</i> (lesser joyweed)	l	-	-
	<i>Amaranthus powellii</i> (amaranth) (I)	-	r	-
Apiaceae	<i>Daucus glochidiatus</i> (austral carrot)	o	-	-
	<i>Eryngium vesiculosum</i> (prickfoot)	-	-	l
	<i>Hydrocotyle callicarpa</i> (pennywort)	f	f	f
	<i>Hydrocotyle hirta</i> (hairy pennywort)	o	-	o
Apocynaceae	<i>Vinca major</i> (blue periwinkle) (I)	l	-	-
Asteraceae	<i>Arctotheca calendula</i> (cape weed) (I)	-	f	-
	<i>Bedfordia salicina</i> (blanket leaf)	f	-	-
	<i>Bellis perennis</i> (daisy) (I)	-	l	o
	<i>Brachyscome aculeata</i> (daisy)	l	-	-
	<i>Brachyscome spathulata</i> ssp. <i>glabra</i> (daisy)	-	o	r
	<i>Carduus tenuiflorus</i> (winged slender thistle) (I)	f	f	r
	<i>Cassinia aculeata</i> (dolly bush)	o	r	o
	<i>Centipeda minima</i> (sneezeweed)	-	-	l
	<i>Chrysanthemoides monilifera</i> (boneseed) (I)	o	o	-
	<i>Cirsium vulgare</i> (spear thistle) (I)	o	o	l
	<i>Conyza albida</i> (tall fleabane) (I)	l	l	l
	<i>Craspedia glauca</i> var. <i>glauca</i> (billy buttons)	r	f	-
	<i>Dittrichia graveolens</i> (stinkwort) (I)	-	-	l
	<i>Erigeron karvinskianus</i> (fleabane) (I)	o	-	-
	<i>Filago gallica</i> (French filago) (I)	l	l	l
	<i>Gnaphalium involucreatum</i> (common cudweed)	o	f	o
	<i>Gnaphalium purpureum</i> (purple cudweed) (I)	-	-	r
	<i>Helichrysum apiculatum</i> (everlasting)	o	o	-
	<i>Helichrysum bicolor</i> (everlasting)	o	-	-
	<i>Helichrysum dendroideum</i> (everlasting)	-	r	r
	<i>Helichrysum scorpioides</i> (button everlasting)	-	f	o
	<i>Helichrysum semipapposum</i> (clustered everlasting)	o	r	r
	<i>Hypochaeris glabra</i> (smooth cat's ear) (I)	r	-	-
	<i>Hypochaeris radicata</i> (flat-weed, cat's ear) (I)	o	f	o
	<i>Lactuca serriola</i> (prickly lettuce, compass plant) (I)	l	-	-
	<i>Lagenifera huegelii</i> (coarse bottle-daisy)	o	o	o
	<i>Lagenifera stipitata</i> (blue bottle-daisy)	-	l	o
	<i>Lapsana communis</i> (nipplewort) (I)	l	-	l
	<i>Leontodon taraxacoides</i> (hawkbit) (I)	o	o	l
	<i>Leptorhynchos squamatus</i> (scaly buttons)	o	f	o
	<i>Microseris lanceolata</i> (native dandelion)	-	r	l
	<i>Millotia tenuifolia</i> (soft millotia)	o	-	r
	<i>Olearia erubescens</i> (daisy bush)	-	-	r
	<i>Olearia lirata</i> (daisy bush)	-	r	-
	<i>Olearia myrsinoides</i> (daisy bush)	-	-	r
	<i>Olearia phlogopappa</i> (daisy bush)	l	-	-
	<i>Olearia ramulosa</i> (daisy bush)	r	-	-
	<i>Pseudognaphalium luteo-album</i> (cudweed)	o	-	-
	<i>Senecio glomeratus</i> (fireweed)	o	o	l
	<i>Senecio hispidulus</i> (scabrid fireweed)	o	o	l
<i>Senecio jacobea</i> (ragwort) (I)	o	l	l	



Appendix 1. Continued.

Family	Species	Reserve		
		CG	PB	KR
	<i>Senecio linearifolius</i> (fireweed)	l	o	l
	<i>Senecio quadridentatus</i> (cotton fireweed)	o	r	o
	<i>Senecio squarrosus</i> (groundsel)	-	o	o
	<i>Senecio vulgaris</i> (groundsel) (I)	r	l	-
	<i>Silybum marianum</i> (variegated or milk thistle) (I)	l	-	-
	<i>Sonchus asper</i> (prickly sow thistle) (I)	l	r	-
	<i>Sonchus oleraceus</i> (sow thistle) (I)	o	f	l
	<i>Tolpis barbata</i> (yellow hawkweed) (I)	l	-	-
	<i>Taraxacum officinale</i> (dandelion) (I)	-	o	o
	<i>Vellereophyton dealbatum</i> (silver cudweed) (I)	-	l	l
Boraginaceae	<i>Cynoglossum australe</i> (hound's-tongue)	r	-	-
	<i>Cynoglossum suaveolens</i> (hound's-tongue)	o	o	o
	<i>Lithospermum officinale</i> (gromwell) (I)	l	-	-
	<i>Myosotis discolor</i> (forget-me-not) (I)	l	-	-
	<i>Myosotis laxa</i> ssp. <i>caespitosa</i> (forget-me-not) (I)	l	-	-
	<i>Myosotis sylvatica</i> (wood forget-me-not) (I)	-	r	r
	<i>Pentaglottis sempervirens</i> (alkannet) (I)	l	r	-
Brassicaceae	<i>Barbarea verna</i> (early winter-cress) (I)	o	-	r
	<i>Cardamine gunnii</i> (bitter-cress)	l	-	-
	<i>Cardamine hirsuta</i> (bitter-cress) (I)	o	-	o
	<i>Coronopus didymus</i> (lesser swine-cress) (I)	l	l	l
	<i>Lepidium campestre</i> (field cress) (I)	l	-	-
	<i>Lepidium pseudotasmanicum</i> (peppercress)	l	l	-
	<i>Nasturtium officinale</i> (watercress) (I)	l	l	-
	<i>Raphanus raphanistrum</i> (wild radish) (I)	o	f	-
	<i>Rapistrum rugosum</i> (turnip-weed) (I)	o	-	-
	<i>Rorippa palustris</i> (yellow marsh-cress)	l	-	-
	<i>Sinapsis arvensis</i> (charlock) (I)	r	-	-
Brunoniaceae	<i>Brunonia australis</i> (blue pincushion)	l	o	o
Campanulaceae	<i>Pratia pedunculata</i> (matted pratia)	l	-	-
	<i>Wahlenbergia stricta</i> (bluebell)	o	o	o
Caprifoliaceae	<i>Sambucus gaudichaudiana</i> (native elder)	l	-	-
Caryophyllaceae	<i>Cerastium glomeratum</i> (sticky mouse-eared chickweed) (I)	o	c	l
	<i>Moenchia erecta</i> (erect chickweed) (I)	l	o	-
	<i>Polycarpon tetraphyllum</i> (four-leaved allseed) (I)	l	l	l
	<i>Sagina apetala</i> (annual pearlwort) (I)	r	r	r
	<i>Silene gallica</i> (French catchfly) (I)	o	r	-
	<i>Silene nocturna</i> (catchfly) (I)	r	-	-
	<i>Spergularia rubra</i> (sand spurrey) (I)	-	l	l
	<i>Stellaria pungens</i> (prickly starwort)	o	-	-
	<i>Stellaria media</i> (chickweed) (I)	-	f	-
Casuarinaceae	<i>Allocasuarina littoralis</i> (bull oak)	-	l	f
	<i>Allocasuarina verticillata</i> (she-oak)	c	-	-
Chenopodiaceae	<i>Atriplex prostrata</i> (hastate orachne) (I)	-	l	-
	<i>Chenopodium album</i> (fat hen) (I)	r	l	r
Clusiaceae	<i>Hypericum gramineum</i> (small St. John's wort)	o	o	f
	<i>Hypericum</i> sp. (large species, garden escape) (I)	l	-	-
Convolvulaceae	<i>Convolvulus arvensis</i> (field bindweed) (I)	-	r	-
	<i>Convolvulus erubescens</i> (Australian bindweed)	r	r	-
	<i>Dichondra repens</i> (kidney-weed)	f	o	f

Family	Species	Reserve		
		CG	PB	KR
Crassulaceae	<i>Crassula decumbens</i> (spreading crassula)	o	o	f
	<i>Crassula peduncularis</i> (purple crassula)	l	-	-
	<i>Crassula sieberana</i> (Sieber's crassula)	l	o	l
Dilleniaceae	<i>Hibbertia riparia</i> (guinea flower)	f	c	c
	<i>Hibbertia serpyllifolia</i> (guinea flower)	-	-	l
Dipsacaceae	<i>Dipsacus sylvestris</i> (teasel) (I)	-	l	-
Droseraceae	<i>Drosera peltata</i> ssp. <i>auriculata</i> (sundew)	o	f	c
	<i>Drosera peltata</i> ssp. <i>peltata</i> (sundew)	f	f	c
	<i>Drosera pygmaea</i> (pygmy sundew)	-	-	r
Epacridaceae	<i>Acrotiche serrulata</i> (ant's delight)	o	o	f
	<i>Astroloma humifusum</i> (native cranberry)	o	o	o
	<i>Epacris exserta</i> (heath)	l	-	-
	<i>Epacris impressa</i> (common heath)	-	o	c
	<i>Leucopogon collinus</i> (fringed beard-heath)	r	-	-
	<i>Lissanthe strigosa</i> (peach berry)	l	o	o
Ericaceae	<i>Erica lusitanica</i> (Spanish heath) (I)	-	r	o
Euphorbiaceae	<i>Amperea xiphoclada</i> (broom spurge)	-	-	r
	<i>Beyeria viscosa</i> (pinkwood)	c	l	r
	<i>Euphorbia peplus</i> (petty spurge) (I)	o	l	-
	<i>Micrantheum hexandrum</i> (box micrantheum)	l	-	-
	<i>Poranthera microphylla</i> (small-leaf poranthera)	o	o	o
Fabaceae	<i>Acacia dealbata</i> (silver wattle)	f	c	c
	<i>Acacia genistifolia</i> (spreading wattle)	l	o	o
	<i>Acacia mearnsii</i> (black wattle)	o	o	r
	<i>Acacia melanoxylon</i> (blackwood)	f	o	r
	<i>Acacia mucronata</i> (narrow-leaved wattle)	o	-	-
	<i>Acacia stricta</i> (wattle)	-	r	-
	<i>Acacia</i> sp. (possibly <i>longifolia</i> var. <i>longifolia</i> ) (I)	-	-	r
	<i>Bossiaea prostrata</i> (creeping bossiaea)	r	-	o
	<i>Cytisus scoparius</i> (broom) (I)	l	o	-
	<i>Daviesia latifolia</i> (bitter leaf)	o	o	o
	<i>Dillwynia sericea</i> (showy parrot pea)	-	-	l
	<i>Gompholobium huegelii</i> (bladder pea)	-	r	r
	<i>Hovea linearis</i> (hovea)	r	o	r
	<i>Indigofera australis</i> (native indigo)	r	r	-
	<i>Kennedia prostrata</i> (running postman)	o	o	o
	<i>Lotus pedunculatus</i> (greater trefoil) (I)	l	-	-
	<i>Lotus subbiflorus</i> (hairy bird's-foot trefoil) (I)	-	l	-
	<i>Medicago polymorpha</i> (burr medick) (I)	-	o	-
	<i>Platylobium obtusangulum</i> (common flat-pea)	o	o	o
	<i>Trifolium campestre</i> (hop clover) (I)	l	l	r
	<i>Trifolium dubium</i> (yellow suckling clover) (I)	o	f	o
	<i>Trifolium glomeratum</i> (cluster clover) (I)	-	l	l
	<i>Trifolium pratense</i> (red clover) (I)	-	-	l
	<i>Trifolium repens</i> (white clover, Dutch clover) (I)	l	o	l
	<i>Trifolium subterraneum</i> (subterranean clover) (I)	-	f	o
	<i>Ulex europaeus</i> (gorse, furze) (I)	o	f	c
	<i>Vicia hirsuta</i> (hairy vetch) (I)	-	l	l
	<i>Vicia sativa</i> (common vetch) (I)	o	o	-
	<i>Vicia tetrasperma</i> (four-seeded slender vetch) (I)	l	l	-
Fumariaceae	<i>Fumaria muralis</i> (fumitory) (I)	o	o	-

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		CG	PB	KR
Gentianaceae	<i>Centaurium erythraea</i> (common centaury) (I)	f	f	f
	<i>Cicendia filiformis</i> (slender cicendia) (I)	-	-	r
Geraniaceae	<i>Erodium moschatum</i> (musk storksbill) (I)	-	o	-
	<i>Geranium potentilloides</i> (geranium)	o	o	o
	<i>Geranium solanderi</i> (geranium)	o	o	o
	<i>Pelargonium australe</i> (pelargonium, 'geranium')	o	l	-
Goodeniaceae	<i>Goodenia lanata</i> (native primrose)	r	o	o
	<i>Velleia paradoxa</i> (spur velleia)	l	-	l
Gyrostemonaceae	<i>Gyrostemon thespioides</i> (didymotheca)	l	-	-
Haloragaceae	<i>Gonocarpus micranthus</i> (creeping raspwort)	-	-	l
	<i>Gonocarpus tetragynus</i> (common raspwort)	f	f	f
Lamiaceae	<i>Prostanthera rotundifolia</i> (round-leaf mint-bush)	o	-	-
	<i>Prunella vulgaris</i> (self-heal) (I)	o	o	o
	<i>Stachys arvensis</i> (stagger-weed) (I)	r	l	l
Lauraceae	<i>Cassytha melantha</i> (native dodder)	o	-	o
Linaceae	<i>Linum marginale</i> (wild flax)	o	o	o
	<i>Linum trigynum</i> (French flax) (I)	c	o	l
Lythraceae	<i>Lythrum hyssopifolia</i> (hyssop loosestrife)	r	l	r
	<i>Lythrum salicaria</i> (purple loosestrife)	r	-	-
Myrtaceae	<i>Baeckea ramosissima</i> (rosy baeckea)	l	-	-
	<i>Callistemon pallidus</i> (lemon bottlebrush)	l	-	-
	<i>Calytrix tetragona</i> (fringe myrtle)	l	-	-
	<i>Eucalyptus amygdalina</i> (black peppermint)	o	c	c
	<i>Eucalyptus globulus</i> (Tasmanian blue gum)	-	r	-
	<i>Eucalyptus ovata</i> (swamp gum)	-	-	l
	<i>Eucalyptus viminalis</i> (white gum, manna gum)	o	c	f
	<i>Leptospermum lanigerum</i> (woolly tea-tree)	l	-	-
	<i>Leptospermum</i> sp. (possibly a hybrid, or introduced)	-	r	-
<i>Melaleuca ericifolia</i> (paperbark)	l	l	l	
Oleaceae	<i>Notelaea ligustrina</i> (native olive)	o	r	-
Onagraceae	<i>Epilobium</i> spp. (willowherb)	o	-	l
Oxalidaceae	<i>Oxalis corniculata</i> (yellow wood sorrel)	c	c	f
	<i>Oxalis incarnata</i> (pale wood sorrel) (I)	l	-	-
	<i>Oxalis latifolia</i> (broad-leaved wood sorrel) (I)	-	l	-
Passifloraceae	<i>Passiflora cinnabarina</i> (passion-flower) (I)	o	-	-
Pittosporaceae	<i>Billardiera procumbens</i> (Mary's flower)	-	-	r
	<i>Billardiera scandens</i> (apple berry)	o	o	o
	<i>Bursaria spinosa</i> (Australian prickly box)	c	c	f
Plantaginaceae	<i>Plantago coronopus</i> (buck's-horn plantain) (I)	f	f	c
	<i>Plantago lanceolata</i> (ribwort) (I)	f	c	o
	<i>Plantago major</i> (great plantain) (I)	r	r	-
	<i>Plantago varia</i> (variable plantain)	o	-	o
Polygalaceae	<i>Comesperma volubile</i> (blue love creeper)	o	o	f
Polygonaceae	<i>Persicaria decipiens</i> (slender knotweed)	l	-	-
	<i>Persicaria hydropiper</i> (water pepper) (I)	l	-	-
	<i>Persicaria subsessilis</i> (hairy knotweed)	r	-	-

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		CG	PB	KR
	<i>Polygonum arenastrum</i> (small-leaved knotgrass) (I)	-	l	-
	<i>Polygonum aviculare</i> (knotgrass) (I)	r	-	-
	<i>Rumex acetosella</i> (dock, sheep's sorrel) (I)	l	o	o
	<i>Rumex conglomeratus</i> (clustered dock) (I)	r	l	-
	<i>Rumex crispus</i> (curled dock) (I)	l	o	-
	<i>Rumex obtusifolius</i> (broad-leaved dock) (I)	-	o	-
	<i>Rumex pulcher</i> (fiddle dock) (I)	-	l	-
Portulacaceae	<i>Calandrinia calyptrata</i> (pink purslane)	r	-	-
	<i>Montia fontana</i> (water-blinks)	l	-	-
	<i>Portulaca oleracea</i> (common purslane) (I)	-	l	-
Primulaceae	<i>Anagallis arvensis</i> ssp. <i>arvensis</i> (pimpernel) (I)	o	o	o
Proteaceae	<i>Banksia marginata</i> (honeysuckle)	o	o	f
	<i>Grevillea australis</i> (grevillea)	l	-	-
	<i>Grevillea</i> sp. (grevillea) (I)	-	r	-
	<i>Hakea microcarpa</i> (small-fruited hakea)	l	-	r
	<i>Lomatia tinctoria</i> (guitar plant)	r	-	l
	<i>Persoonia juniperina</i> (prickly geebung)	-	-	r
Ranunculaceae	<i>Clematis aristata</i> (Australian clematis)	f	f	f
	<i>Clematis gentianoides</i> (gentian clematis)	l	r	r
	<i>Clematis vitalba</i> (traveller's joy, old man's beard) (I)	l	-	-
	<i>Ranunculus lappaceus</i> (common buttercup)	o	o	o
	<i>Ranunculus muricatus</i> (sharp buttercup) (I)	l	r	-
	<i>Ranunculus sessiliflorus</i> (small-flowered buttercup)	r	-	-
Rhamnaceae	<i>Pomaderris apetala</i> (dogwood, native hazel)	f	l	-
	<i>Pomaderris elliptica</i> (yellow dogwood)	o	-	r
	<i>Spyridium ulicinum</i> (spyridium)	r	-	-
	<i>Spyridium vexilliferum</i> (winged spyridium)	r	-	-
Rosaceae	<i>Acaena echinata</i> (sheep's burr)	f	c	f
	<i>Acaena novae-zelandiae</i> (buzzy, biddy-widdy)	f	f	o
	<i>Aphanes arvensis</i> (parsley piert) (I)	l	-	-
	<i>Cotoneaster</i> sp. (cotoneaster) (I)	-	o	o
	<i>Crataegus monogyna</i> (hawthorn) (I)	f	c	o
	<i>Rosa rubiginosa</i> (sweet briar) (I)	o	o	l
	<i>Rubus fruticosus</i> (blackberry) (I)	o	c	l
	<i>Rubus parvifolius</i> (native raspberry)	o	l	-
Rubiaceae	<i>Asperula conferta</i> (common woodruff)	o	-	-
	<i>Coprosma quadrifida</i> (native currant)	o	-	-
	<i>Galium aparine</i> (cleavers, goosegrass) (I)	o	f	-
	<i>Galium australe</i> (tangled bedstraw)	r	-	-
	<i>Galium gaudichaudii</i> (rough bedstraw)	o	-	o
	<i>Galium murale</i> (small bedstraw) (I)	o	-	-
	<i>Opercularia ovata</i> (broad-leaved stinkweed)	-	-	l
	<i>Opercularia varia</i> (variable stinkweed)	o	o	o
Rutaceae	<i>Boronia nana</i> (dwarf boronia)	-	-	o
	<i>Correa reflexa</i> (native fuchsia)	o	o	-
	<i>Phebalium squameum</i> ssp. <i>retusum</i> (satinwood, lancewood)	r	-	-
Salicaceae	<i>Salix 'fragilis'</i> (crack willow) (I)	l	l	-
Santalaceae	<i>Exocarpos cupressiformis</i> (native cherry)	f	c	f
Sapindaceae	<i>Dodonaea viscosa</i> (native hop)	f	-	-

Family	Species	Reserve		
		CG	PB	KR
Scrophulariaceae	<i>Cymbalaria muralis</i> (ivy-leaved toadflax) (I)	l	-	-
	<i>Gratiola latifolia</i> (broad-leaved brooklime)	l	-	-
	<i>Kickxia spuria</i> (blunt-leaved fluellen) (I)	-	l	-
	<i>Parentucellia latifolia</i> (common bartsia) (I)	r	o	-
	<i>Parentucellia viscosa</i> (sticky bartsia) (I)	r	o	-
	<i>Verbascum virgatum</i> (twiggy mullein) (I)	l	-	-
	<i>Veronica arvensis</i> (wall speedwell) (I)	r	-	-
	<i>Veronica calycina</i> (hairy speedwell)	-	-	r
	<i>Veronica formosa</i> (beautiful speedwell)	r	r	-
	<i>Veronica gracilis</i> (slender speedwell)	r	o	o
Solanaceae	<i>Solanum laciniatum</i> (kangaroo apple)	r	-	-
	<i>Solanum nigrum</i> (black nightshade) (I)	l	l	r
Stackhousiaceae	<i>Stackhousia monogyna</i> (native mignonette, candles)	o	o	o
Stylidiaceae	<i>Stylidium graminifolium</i> (trigger plant)	o	o	o
Thymelaeaceae	<i>Pimelea humilis</i> (common rice-flower)	-	f	f
	<i>Pimelea nivea</i> (cotton bush)	r	-	-
Tremandraceae	<i>Tetratheca pilosa</i> (hairy lilac-bells)	r	r	r
Urticaceae	<i>Parietaria debilis</i> (shade pellitory)	r	-	-
	<i>Urtica incisa</i> (nettle)	r	-	-
Valerianaceae	<i>Centranthus ruber</i> (red valerian) (I)	c	-	-
	<i>Valerianella eriocarpa</i> (Italian corn-salad) (I)	l	-	-
Violaceae	<i>Hymenanthera dentata</i> (tree violet)	r	-	r
	<i>Viola caleyana</i> (swamp violet)	r	-	-
	<i>Viola hederacea</i> (ivy-leaf violet)	f	c	c
<b>MONOCOTYLEDONS</b>				
Alismataceae	<i>Alisma plantago-aquatica</i> (water plantain)	l	-	-
Alliaceae	<i>Allium triquetrum</i> (three-cornered garlic) (I)	c	l	-
Centrolepidaceae	<i>Aphelia pumilio</i> (dwarf aphelia)	-	-	r
	<i>Centrolepis aristata</i> (pointed centrolepis)	-	l	o
	<i>Centrolepis strigosa</i> (hairy centrolepis)	-	o	o
Cyperaceae	<i>Baumea rubiginosa</i> (soft twig-rush)	-	-	l
	<i>Bolboschoenus caldwellii</i> (club-rush)	-	l	l
	<i>Carex appressa</i> (tall sedge)	l	l	l
	<i>Carex inversa</i> (sedge)	l	r	r
	<i>Carex longebrachiata</i> (drooping sedge)	r	o	o
	<i>Cyperus eragrostis</i> (umbrella sedge) (I)	l	l	-
	<i>Cyperus tenellus</i> (tiny flat-sedge)	l	r	f
	<i>Eleocharis acuta</i> (common spike-rush)	-	-	l
	<i>Gahnia grandis</i> (cutting grass)	r	r	r
	<i>Isolepis fluitans</i> (floating club-rush)	l	-	r
	<i>Isolepis marginata</i> (club-rush)	r	l	l
	<i>Isolepis platycarpa</i> (club-rush)	-	-	l
	<i>Lepidosperma concavum</i> (sand-hill sword-sedge)	-	-	r
	<i>Lepidosperma elatius</i> var. <i>ensiforme</i> (tall sword-sedge)	o	l	f
	<i>Lepidosperma inops</i> (little sword-sedge)	-	r	r
	<i>Lepidosperma laterale</i> (variable sword-sedge)	f	f	c
<i>Lepidosperma lineare</i> (narrow sword-sedge)	f	o	f	

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		CG	PB	KR
	<i>Schoenus apogon</i> (common bog-rush)	f	f	f
Hypoxidaceae	<i>Hypoxis glabella</i> (yellow star)	-	-	o
	<i>Hypoxis hygrometrica</i> (golden weather-glass)	-	l	o
Iridaceae	<i>Diplarrhena moraea</i> (white iris)	l	o	o
	<i>Freesia</i> aff. <i>refracta</i> (common freesia) (I)	l	l	-
	<i>Ixia polystachya</i> (variable ixia) (I)	-	l	-
	<i>Romulea rosea</i> (onion grass) (I)	f	f	l
Juncaceae	<i>Juncus articulatus</i> (jointed rush) (I)	l	o	o
	<i>Juncus bufonius</i> (toad rush)	l	o	f
	<i>Juncus caespiticius</i> (grassy rush)	-	-	l
	<i>Juncus pallidus</i> (pale rush)	-	-	o
	<i>Juncus procerus</i> (robust rush)	-	l	l
	<i>Juncus subsecundus</i> (finger rush)	l	o	o
	<i>Luzula densiflora</i> (woodrush)	o	f	o
Juncaginaceae	<i>Triglochin procerum</i> (water ribbons)	-	l	-
	<i>Triglochin striata</i> (streaked arrowgrass)	-	-	l
Liliaceae	<i>Arthropodium milleflorum</i> (pale vanilla-lily)	o	o	o
	<i>Asparagus officinalis</i> (asparagus) (I)	r	-	-
	<i>Bulbine bulbosa</i> (bulbine lily)	f	f	r
	<i>Burchardia umbellata</i> (milkmaids)	l	f	f
	<i>Caesia calliantha</i> (blue grass-lily)	-	r	r
	<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i> (blue stars)	r	f	o
	<i>Dianella revoluta</i> var. <i>revoluta</i> (flax-lily)	f	f	f
	<i>Dianella tasmanica</i> (blueberry flax-lily)	-	l	l
	<i>Dichopogon strictus</i> (chocolate lily)	f	c	o
	<i>Smilax</i> sp.	o	-	-
	<i>Thysanotus patersonii</i> (twining fringe-lily)	r	-	r
	<i>Wurmbea dioica</i> (early Nancy)	-	f	-
	<i>Wurmbea uniflora</i> (single-flowered wurmbea)	-	-	o
Orchidaceae	<i>Acianthus reniformis</i> (gnat orchid)	-	-	r
	<i>Caladenia angustata</i> (slender caladenia)	-	-	o
	<i>Caladenia catenata</i> (pink fingers)	-	r	o
	<i>Calochilus robertsonii</i> (red beard-orchid)	-	-	r
	<i>Chiloglottis gunnii</i> (common bird orchid, ant orchid)	-	-	r
	<i>Dipodium punctatum</i> (hyacinth orchid)	-	-	r
	<i>Diuris maculata</i> (leopard orchid)	-	l	-
	<i>Diuris sulphurea</i> (tiger orchid)	-	o	l
	<i>Eriochilus cucullatus</i> (parson's bands)	-	-	r
	<i>Glossodia major</i> (parson-in-the-pulpit, wax lip)	-	r	r
	<i>Microtis unifolia</i> (common onion-orchid)	l	r	l
	<i>Pterostylis nutans</i> (nodding greenhood)	-	o	o
	<i>Thelymitra aristata</i> (great sun-orchid)	-	-	r
	<i>Thelymitra pauciflora</i> (slender sun-orchid)	-	o	o
<i>Thelymitra rubra</i> (pink sun-orchid)	-	-	o	
Poaceae	<i>Agrostis aemula</i> (blown grass)	l	l	l
	<i>Agrostis avenacea</i> (blown grass)	o	o	f
	<i>Agrostis capillaris</i> (brown-top bent) (I)	o	o	o
	<i>Aira caryophyllea</i> (silvery hair grass) (I)	f	c	f
	<i>Aira elegantissima</i> (elegant hair grass) (I)	f	o	f
	<i>Anthoxanthum odoratum</i> (sweet vernal grass) (I)	l	o	o
	<i>Arrhenatherum elatius</i> var. <i>bulbosum</i> (onion twitch) (I)	o	o	l

Family	Species	Reserve		
		CG	PB	KR
	<i>Avena barbata</i> (bearded wild oat) (I)	l	-	-
	<i>Avena fatua</i> (common wild oat) (I)	l	l	-
	<i>Briza maxima</i> (quaking grass) (I)	c	c	o
	<i>Briza minor</i> (lesser quaking grass) (I)	f	c	f
	<i>Bromus catharticus</i> (prairie grass) (I)	-	r	-
	<i>Bromus diandrus</i> (great brome) (I)	o	o	l
	<i>Bromus hordeaceus</i> (brome) (I)	o	o	l
	<i>Bromus madritensis</i> var. <i>ciliatus</i> (brome) (I)	l	-	-
	<i>Cynodon dactylon</i> (couch, doob) (I)	l	l	-
	<i>Cynosurus cristatus</i> (crested dog's-tail) (I)	r	-	-
	<i>Cynosurus echinatus</i> (rough dog's-tail) (I)	l	o	-
	<i>Dactylis glomerata</i> (cocksfoot) (I)	o	f	o
	<i>Danthonia caespitosa</i> (wallaby grass)	o	o	o
	<i>Danthonia decumbens</i> (wallaby grass) (I)	-	r	l
	<i>Danthonia dimidiata</i> (wallaby grass)	o	-	l
	<i>Danthonia penicillata</i> (wallaby grass)	-	l	l
	<i>Danthonia pilosa</i> (wallaby grass)	o	o	o
	<i>Danthonia racemosa</i> (wallaby grass)	o	-	-
	<i>Danthonia setacea</i> (wallaby grass)	o	o	f
	<i>Deyeuxia quadriseta</i> (bent grass)	o	o	o
	<i>Dichelachne crinita</i> (long-haired plumegrass)	o	o	-
	<i>Dichelachne rara</i> (plumegrass)	-	o	o
	<i>Digitaria sanguinalis</i> (summer grass) (I)	l	l	l
	<i>Ehrharta distichophylla</i> (ricegrass)	o	c	c
	<i>Ehrharta erecta</i> (panic veldt grass) (I)	l	-	-
	<i>Ehrharta stipoides</i> (weeping grass)	o	o	o
	<i>Elymus scabrus</i> (common wheat-grass)	r	-	-
	<i>Eragrostis molybdea</i> (love-grass)	l	l	l
	<i>Festuca arundinacea</i> (tall fescue) (I)	-	l	l
	<i>Hemarthria uncinata</i> (mat grass)	l	-	-
	<i>Holcus lanatus</i> (Yorkshire fog) (I)	o	f	o
	<i>Hordeum murinum</i> ssp. <i>leporinum</i> (barley grass) (I)	-	l	-
	<i>Lolium perenne</i> (perennial rye-grass) (I)	l	o	o
	<i>Paspalum dilatatum</i> (paspalum) (I)	l	l	l
	<i>Pentapogon quadrifidus</i> (five-awned speargrass)	-	r	-
	<i>Phalaris aquatica</i> (canary grass) (I)	l	l	-
	<i>Phragmites australis</i> (common reed)	-	l	-
	<i>Poa annua</i> (annual poa) (I)	f	c	f
	<i>Poa clelandii</i> (tussock grass)	-	-	l
	<i>Poa labillardierei</i> (tussock grass)	f	f	c
	<i>Poa rodwayi</i> (tussock grass)	o	o	o
	<i>Polypogon monspeliensis</i> (annual beard-grass) (I)	-	r	-
	<i>Setaria verticillata</i> (whorled pigeon-grass) (I)	-	l	-
	<i>Setaria italica</i> (foxtail millet) (I)	-	l	-
	<i>Stipa bigeniculata</i> (speargrass)	l	-	-
	<i>Stipa mollis</i> (speargrass)	f	o	c
	<i>Stipa pubinodis</i> (speargrass)	f	f	f
	<i>Stipa semibarbata</i> (speargrass)	-	o	-
	<i>Stipa stiposa</i> (speargrass)	f	-	-
	<i>Themeda triandra</i> (kangaroo grass)	c	c	c
	<i>Vulpia bromoides</i> (squirrel-tail fescue) (I)	o	o	f
Typhaceae	<i>Typha latifolia</i> (bulrush) (I)	r	l	l
Xanthorrhoeaceae	<i>Lomandra longifolia</i> (sagg)	f	f	f
	<i>Lomandra nana</i> (dwarf sagg)	-	-	l

## Appendix 1. Continued.

Family	Species	Reserve		
		CG	PB	KR
<b>FERNS</b>				
Adiantaceae	<i>Adiantum aethiopicum</i> (common maidenhair)	o	o	o
Aspidiaceae	<i>Polystichum proliferum</i> (mother shield-fern)	l	r	-
Aspleniaceae	<i>Asplenium flabellifolium</i> (necklace fern)	o	-	r
	<i>Pleurosorus rutifolius</i> (blanket fern)	r	-	-
Blechnaceae	<i>Blechnum nudum</i> (fishbone water-fern)	l	-	-
	<i>Blechnum watsii</i> (hard water-fern)	l	-	-
	<i>Doodia media</i> (common rasp-fern)	r	-	-
Dennstaedtiaceae	<i>Hypolepis rugosula</i> (ruddy ground-fern)	-	-	r
	<i>Pteridium esculentum</i> (austral bracken)	f	f	f
Dicksoniaceae	<i>Dicksonia antarctica</i> (soft tree-fern, manfern)	l	-	-
Hymenophyllaceae	<i>Hymenophyllum cupressiforme</i> (common filmy-fern)	o	-	-
Polypodiaceae	<i>Microsorium diversifolium</i> (kangaroo-fern)	l	-	-
Sinopteridaceae	<i>Cheilanthes austrotenuifolia</i> (rock-fern)	f	o	o
	<i>Pellaea falcata</i> (sickle fern)	l	-	-
<b>MOSSES</b>				
Amblystegiaceae	<i>Acrocladium chlamydophyllum</i>	-	x	-
	<i>Calliergonella cuspidata</i>	x	-	-
Aulacomniaceae	<i>Leptotheca gaudichaudii</i>	-	x	-
Bartramiaceae	<i>Bartramia ithyphylla</i>	x	-	-
	<i>Breutelia affinis</i>	x	x	x
	<i>Breutelia elongata</i>	x	-	-
	<i>Conostomum pusillum</i>	x	-	-
	<i>Philonotis scabrifolia</i>	x	-	-
	<i>Philonotis tenuis</i>	x	-	-
Brachytheciaceae	<i>Kindbergia praelonga</i>	x	x	-
Bryaceae	<i>Bryum argenteum</i>	-	-	x
	<i>Bryum billardierei</i>	x	x	x
	<i>Bryum capillare</i>	-	x	x
	<i>Bryum</i> spp.	x	x	x
	<i>Orthodontium lineare</i>	-	x	-
Cryphaeaceae	<i>Cryphaea tasmanica</i>	x	-	-
Dicranaceae	<i>Campylopus clavatus</i>	x	x	x
	<i>Campylopus introflexus</i>	x	x	x
	<i>Dicnemoloma pallidum</i>	x	x	-
Ditrichaceae	<i>Ceratodon purpureus</i>	x	x	x
	<i>Ecchremidium pulchellum</i> (?)	-	-	x
Fissidentaceae	<i>Fissidens leptocladus</i>	x	x	-
	<i>Fissidens oblongifolius</i>	-	-	x
	<i>Fissidens taylorii</i>	x	x	-
	<i>Fissidens tenellus</i>	x	x	-
Funariaceae	<i>Funaria hygrometrica</i>	x	x	x



## Appendix 1. Continued.

Family	Species	Reserve		
		CG	PB	KR
Grimmiaceae	<i>Grimmia laevigata</i>	-	x	-
	<i>Grimmia pulvinata</i>	x	x	x
	<i>Racomitrium crispulum</i>	x	-	x
	<i>Schistidium apocarpum</i>	x	-	-
Hedwigiaceae	<i>Hedwigia ciliata</i>	x	-	-
	<i>Hedwigium integrifolium</i>	-	x	x
	<i>Rhacocarpus purpurascens</i>	x	-	-
Hypnaceae	<i>Hypnum cupressiforme</i>	x	x	x
	<i>Isopterygium limatum</i>	x	-	-
Hypopterygiaceae	<i>Hypopterygium rotulatum</i>	x	-	-
Lembophyllaceae	<i>Camptochaete arbuscula</i>	x	-	-
	<i>Lembophyllum divulsum</i> var. <i>divulsum</i>	x	x	-
Orthotrichaceae	<i>Macromitrium acheri</i>	x	-	-
	<i>Orthotrichum tasmanicum</i>	x	-	-
	<i>Zygodon intermedius</i>	x	-	x
Polytrichaceae	<i>Polytrichum juniperinum</i>	x	x	x
Pottiaceae	<i>Barbula calycina</i>	x	x	x
	<i>Barbula crinita</i>	x	x	x
	<i>Tortula muralis</i>	x	-	-
	<i>Tortula princeps</i>	x	-	-
	<i>Triquetrella papillata</i>	-	x	-
	<i>Weissia controversa</i>	x	-	x
Ptychomniaceae	<i>Ptychomnion aciculare</i>	x	-	-
Racopilaceae	<i>Racopilum convolutaceum</i>	x	-	-
Sematophyllaceae	<i>Wijkia extenuata</i>	x	-	-
Thuidiaceae	<i>Thuidium furfurosum</i>	x	x	x
	<i>Thuidium laeviusculum</i>	x	-	x
<b>LIVERWORTS</b>				
Acrobolbaceae	<i>Lethocolea squamata</i>	-	-	x
Aytoniaceae	<i>Asterella drummondii</i>	x	-	x
Chaetophyllopsaceae	<i>Chaetophyllopsis whiteleggei</i>	-	x	-
Fossombroniaceae	<i>Fossombronia</i> sp.	x	-	x
Frullaniaceae	<i>Frullania clavata</i>	x	-	-
	<i>Frullania falciloba</i>	x	-	-
	<i>Frullania probosciphora</i>	x	-	-
	<i>Frullania rostrata</i>	x	-	-
Geocalycaceae	<i>Chiloscyphus semiteres</i>	x	x	x
	<i>Chiloscyphus</i> sp.	x	x	-
Jungermanniaceae	<i>Jamesoniella colorata</i>	x	-	-
Lejeuneaceae	<i>Cheilolejeunea mimosa</i>	x	-	-
Marchantiaceae	<i>Lunularia cruciata</i>	x	x	-
Metzgeriaceae	<i>Metzgeria</i> sp.	x	-	-

## Appendix 1. Continued.

Family	Species	Reserve		
		CG	PB	KR
Plagiochilaceae	<i>Plagiochila fasciculata</i>	x	-	-
<b>LICHENS</b>				
	<i>Buellia disciformis</i> (Fr.) Mudd aggr.	x	-	-
	<i>Calicium</i> sp.	-	-	x
	<i>Candelariella xanthostigmoides</i> (Müll. Arg.) R.W. Rogers	x	x	-
	<i>Cladia aggregata</i> (Sw.) Nyl.	x	x	x
	<i>Cladia schizopora</i> (Nyl.) Nyl.	x	x	x
	<i>Cladonia capitellata</i> (J.D. Hook. & Taylor) Church, Bab. var. <i>squamata</i> Archer	-	-	x
	<i>Cladonia cervicornis</i> (Ach.) Flotow ssp. <i>verticillata</i> (Hoffm.) Ahti	x	-	x
	<i>Cladonia corniculata</i> Ahti & Kashiwadani	-	-	x
	<i>Cladonia cryptochlorophaea</i> Asahina	-	-	x
	<i>Cladonia enantia</i> Nyl.	-	-	x
	<i>Cladonia neozelandica</i> Vainio	x	-	x
	<i>Cladonia ochrochlora</i> Flörke	-	-	x
	<i>Cladonia pyxidata</i> (L.) Hoffm.	-	-	x
	<i>Cladonia ramulosa</i> (With.) Laundon	-	x	x
	<i>Cladonia rigida</i> (J.D. Hook. & Taylor) Hampe var. <i>rigida</i>	x	x	x
	<i>Flavoparmelia haysomii</i> (Dodge) Hale	x	x	-
	<i>Flavoparmelia rutidota</i> (J.D. Hook. & Taylor) Hale	-	-	x
	<i>Hypogymnia pulverata</i> (Nyl.) Elix	x	-	x
	<i>Lepraria lobificans</i> Nyl.	x	-	-
	<i>Menegazzia caesiopruinosa</i> P. James	-	-	x
	<i>Micarea</i> sp.	-	x	-
	<i>Neofuscelia pulla</i> (Ach.) Esslinger	x	x	x
	<i>Ochrolechia</i> sp.	-	-	x
	<i>Parmelina conlabrosa</i> (Hale) Elix & Johnston	-	x	x
	<i>Parmelina pseudorelicina</i> (Jatta) Kantvilas & Elix	-	-	x
	<i>Parmotrema chinense</i> (Osbeck) Hale & Ahti	x	-	x
	<i>Pertusaria gibberosa</i> Müll. Arg.	x	-	-
	<i>Pseudocyphellaria neglecta</i> (Müll. Arg.) Magnusson	x	-	-
	<i>Punctelia subrudecta</i> (Nyl.) Krog	x	x	x
	<i>Thysanothecium scutellatum</i> (Fr.) D. Galloway	-	-	x
	<i>Usnea inermis</i> Motyka	-	-	x
	<i>Usnea oncodes</i> Stirton	x	-	-
	<i>Usnea scabrida</i> Taylor ssp. <i>tayloriana</i> Stevens	x	-	x
	<i>Xanthoparmelia elixii</i> Filson	-	-	x
	<i>Xanthoparmelia flaviscentireagens</i> (Gyelnik) D. Galloway	-	-	x
	<i>Xanthoparmelia mexicana</i> (Gyelnik) Hale	x	-	-
	<i>Xanthoparmelia neotinctina</i> (Elix) Elix & Johnston	-	-	x
	<i>Xanthoparmelia tasmanica</i> (J.D. Hook. & Taylor) Hale	x	x	x
	<i>Xanthoparmelia thamnoides</i> (Kurok.) Hale	x	-	-