



**CONSERVATION  
COUNCIL** ACT REGION

# Briefing Paper: Bluetts Block – Piney Ridge

## A Case Study of the Conservation Values of Canberra's Western Edge

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### About us

The Conservation Council ACT Region is the peak non-government environment organisation for the Canberra region. Since 1981, we have spoken up for a healthy environment and a sustainable future for our region. We harness the collective energy, expertise and experience of our more than 40 member groups to promote sound policy and action on the environment.

We campaign for a safe climate, to protect biodiversity in our urban and natural areas, to protect and enhance our waterways, reduce waste, and promote sustainable transport and planning for our city. Working in the ACT and region to influence governments and build widespread support within the community and business, we put forward evidence-based solutions and innovative ideas for how we can live sustainably.

At a time when we need to reimagine a better future, we understand that the changes we need will only happen with the collective support of our community.

## Summary

The Western Edge of Canberra has been identified for potential future development as evidenced by the ongoing Western Edge Investigation by ACT urban planning. Bluett's Block-Piney Ridge, a site within the WEIA, is representative of the conservation values that the area supports, and highlights the significant risks associated with continuing urban sprawl.

The Conservation Council ACT Region questions the necessity of continuing to augment the ACTs urban footprint by developing any part of the WEIA.<sup>1</sup> However, if development of the WEIA has to occur then initial surveying and research into Bluett's Block-Piney Ridge demonstrates the importance of forward planning and protection prior to such development.

Prior to European settlement, Bluett's Block-Piney Ridge was tended by the Ngunnawal and Ngambri Peoples. The Conservation Council ACT Region recognises the ongoing relationship between the Ngunnawal and Ngambri Peoples and the ACT Region, including Bluett's Block-Piney Ridge is incredibly ecologically diverse and includes high quality habitat, lending itself to having significant conservation values. Additionally, it is likely to support many threatened and rare species, most notably, rare marsupial populations of Dunnart and Antechinus. The site also plays an important role in connectivity, a largely overlooked conservation principle that recognises that habitats and species survive and adapt better when they form part of a protected network. Bluett's Block-Piney Ridge plays a critical role in connecting The Murrumbidgee Corridor, Kama Nature Reserve, Pinnacle Nature Reserve, Stoney Creek Reserves, and beyond.

A precondition of any development that may occur in the WEIA should be the consideration of conservation values such as those at Bluett's Block-Piney Ridge. Forward planning and protection of natural resources is essential to ensuring that Canberra's beloved nature continues to thrive as the population grows.

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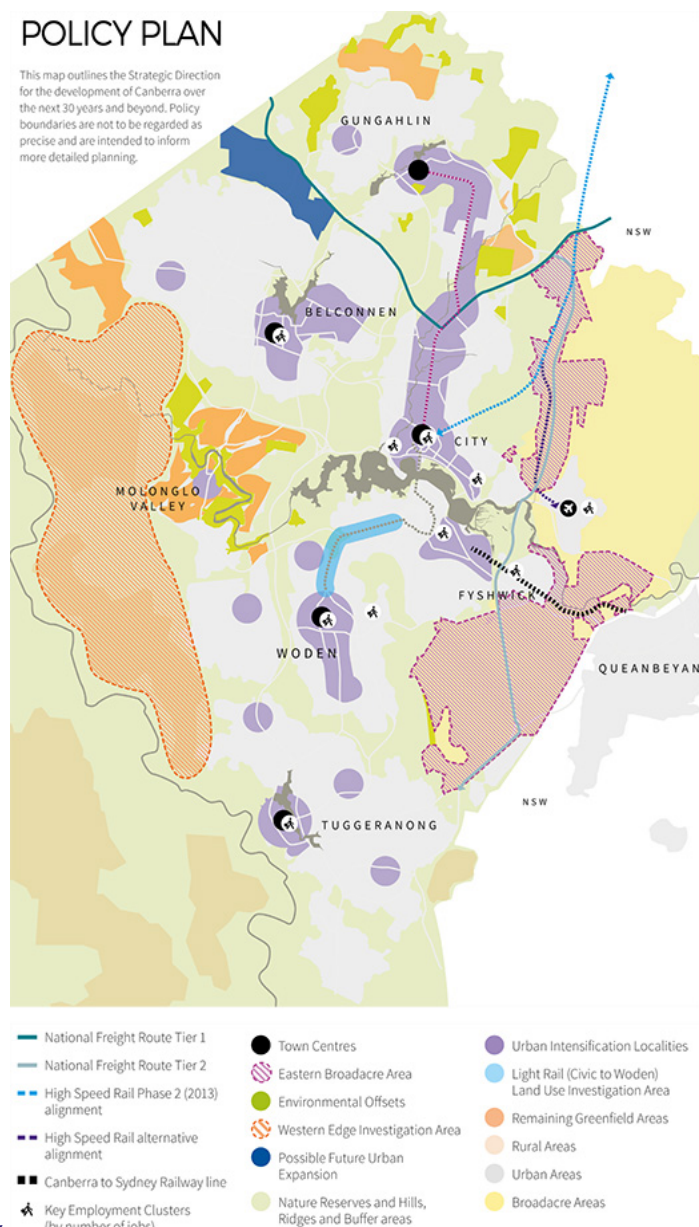
<sup>1</sup> Conservation Council ACT Region, *Our Environment, Our Future, Election Priorities 2020*, 2020, p8.

## Part A: Background

### Location

The Western Edge Investigation Area (WEIA) is approximately 9,800 ha of undeveloped land to the west of Canberra. It is bordered by the Murrumbidgee River, and the existing urban regions of Weston Creek, Molonglo Valley, and Belconnen, as shown on the map below (see orange hatched area).

Within WEIA is a site known as Bluett's Block-Piney Ridge. It consists of three blocks: Stromlo Block 402/403 and Denman Prospect Block 12, Section 1.



Immediately North of Bluett's Block-Piney Ridge is the Molonglo River Reserve, to the East is the Denman Prospect Development, to the South are blocks 428 and 485 that are currently leased by the Australian National University (ANU) for research, and to the West continues the WEIA.

In addition to the conservation values outlined below, the location of the Western Edge Investigation Area, specifically Bluett's Block-Piney Ridge is likely unsuitable for future development due to high fire risk. Deep gorges such as those throughout the Western Edge Investigation Area can generate extreme bushfire effects.<sup>2</sup> Indeed, the area slightly downstream of Bluett's Block-Piney Ridge was severely burnt in 2003. The 2019-2020 bushfires suggest that present-day and future bushfires are not fightable. Ember attacks negate the usual preparations made by authorities and individual landholders.<sup>3</sup> This must be considered before any development proceeds as human lives and livelihoods could be put in severe danger.

## Management and Zoning

Prior to European settlement, Bluett's Block-Piney Ridge was tended by the Ngunnawal and Ngambri Peoples. The Conservation Council ACT Region recognises the ongoing relationship between the Ngunnawal and Ngambri Peoples and the ACT Region, including Bluett's Block-Piney Ridge. The high conservation value of the site is in some part the product of traditional management practises and traditional heritage features on the site. This is discussed further below in reference to heritage values. The following is a description of the site's ownership and management post-settlement.

Historically Bluett's Block-Piney Ridge was managed by a returned WW1 soldier, Elvin Joseph Aubrey Blewitt. Elvin gained ownership of the property through lease in 1926, it is unknown what management practices he undertook during his tenure.

It is unknown when the occupation of the land was transferred from Elvin to another party, however since 2009 Block 402 has been subject to a lease by the ANU (until 2024). The lease does not cover the entire block as a portion of the northeast of the block is managed by the ACT Government as a part of the Molonglo River Corridor reserve. Block 403 is currently public land. The ANU had previously held a license over this land to maintain conservation values under restrictive conditions, however this expired on the 31st of December 2020. An extension request is currently being considered. The northern half of Block 403 is zoned by the Territory Plan as River Corridor and is part of the Molonglo River Corridor nature reserve. The southern parts of both blocks are currently being assessed by the Environment Planning and Sustainable Development Directorate (EPSDD) to identify suitable areas for nature reserves, environmental offsets, and the consideration of cultural and heritage values. Under the ACT Territory Plan and Land Use policies they are zoned as either Future Urban Area or Nature Reserve.

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<sup>2</sup> J Sharples, *Risk Implications of Dynamic Fire Propagation*, 2017.

<sup>3</sup> M Roberts, et al, *Incorporating ember attack in bushfire risk assessment*, 2017.

## Part B: Conservation Values

### Ecological

#### Vegetation and Ecological Communities

Two ecological communities are found at Bluett's Block-Piney Ridge 1) Dry Forest with a shrubby-healthy-grassy ground layer located on higher hilly areas of the site and 2) Box-Gum Woodland located on slopes and in gullies at the site.<sup>4</sup> The latter is of particular importance as it is critically endangered under the EPBC Act and ACT legislation,<sup>5</sup> meaning that it is not only locally significant, but nationally.

Of course, these ecological communities are important for the same reasons that all natural resources are important: for example they provide habitat for threatened and rare species, store carbon,<sup>6</sup> increase soil, air, and water quality;<sup>7</sup> support pollination,<sup>8</sup> control diseases,<sup>9</sup> and increase the livability of the city.<sup>10</sup> However, surveying Bluett's Block-Piney Ridge has indicated that the ecological communities present have a heightened importance and conservation value due to their high quality and diversity.<sup>11</sup> .

Specifically, Bluett's Block-Piney Ridge is arguably of a high quality as indicated by a relatively low presence of weeds on much of the area.<sup>12</sup> This suggests that there has been low disturbance at the site. The presence of extensive cryptogam cover (including mosses, lichens and algal crusts) further supports this observation as intact cryptogam crusts indicate a lack of recent domestic stock grazing,<sup>13</sup> and as such a heightened conservation value as the land is relatively undegraded and thus of high quality.

Bluett's Block-Piney Ridge is highly diverse as evidenced by the 79 taxa recorded during a vegetation survey in 2019 (see Appendix A).<sup>14</sup> Indeed, this appended survey was undertaken at a time of substandard rainfall, so the significant figure it determines is likely to be conservative due to growth impacts. In reality, the diversity of Bluett's Block-Piney Ridge is expected to be even greater than this already impressive figure, as supported by a further 27 species recorded at the site on Canberra Nature Map.

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<sup>4</sup> R. Rehwinkel, *Vegetation Survey of Bluetts Block*, 2019.

<sup>5</sup> Nature Conservation (Yellow Box – Blakely's Red Gum Grassy Woodland) Conservation Advice 2020; Natural Temperate Grassland of the South Eastern Highlands; White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland National Recovery Plan.

<sup>6</sup> D. Lindenmayer and M Vardon, *Ecosystem accounts in box gum grassy woodlands*, 2021.

<sup>7</sup> P. Smith et al, *The role of ecosystems and their management in regulating climate, and soil, water and air quality*, 2012.

<sup>8</sup> A. Vanbergen *Threats to an ecosystem service: pressures on pollinators*, 2013.

<sup>9</sup> K Zimmer, *Deforestation is leading to more infectious diseases in humans*, 2019

<sup>10</sup> Jacobs et al. *Livability: Natural environment*, 2014

<sup>11</sup> R. Rehwinkel, *Vegetation Survey of Bluetts Block*, 2019.

<sup>12</sup> R. Rehwinkel, *Vegetation Survey of Bluetts Block*, 2019.

<sup>13</sup> Eldridge, D. and Tozer, M.E. (1997) *A practical guide to soil lichens and bryophytes of Australia's dry country*. Department of Land and Water Conservation.

<sup>14</sup> R. Rehwinkel, *Vegetation Survey of Bluetts Block*, 2019, p3.

Additionally, all strata at the site are diverse, further increasing the conservation value. Notably, the understorey is largely intact, including very uncommon heath habitat which is poorly represented in the ACT reserve system. The understorey is comparable to the quality and diversity present at Black Mountain Reserve. It is made up of a mosaic of shrubby habitat, open woodland, and secondary grasslands which ensures a wide variety of habitat for many threatened and rare species.<sup>15</sup> The canopy consists of a range of tree ages and species, indicating continuing recruitment of trees and thus, long term stability and viability at the site. Additionally, the canopy includes old growth trees with varied nest hollows, further contributing to a high conservation value as the site has potential to support many hollow-nesting fauna.<sup>16</sup> This is a precious feature in the ACT Region as mature trees are becoming increasingly rare.<sup>17</sup>

## Threatened Species

The high quality and highly diverse ecological communities described above are likely to support a wide range of species, including some threatened and rare species, adding to the site's conservation value.

Old growth trees at the site suggest the presence of hollow-nesting fauna, including pardalotes (*Pardalotus* spp), microbats (sub-order Microchiroptera) and a range of birds. The diverse shrubby habitat is also likely to support various bird guilds, including uncommon, declining and vulnerable species. Rocky habitat observed at the site has been found to be suitable for reptiles. A considerable diversity of fungal fruiting structures also suggest that Bluett's Block-Piney Ridge is significant for many plant species, notably native orchids. See Table 1 below, for a full list of threatened and rare fauna that are expected to be at the site. See Appendix A for a full list of flora.

Of particular interest has been the confirmed presence of threatened and rare marsupials at Bluett's Block-Piney Ridge. Specifically, a newly discovered Dunnart population has been observed and unconfirmed sightings of *Antechinus* are also reported for the site.

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<sup>15</sup> R. Rehwinkel, *Vegetation Survey of Bluetts Block*, 2019.

<sup>16</sup> R. Rehwinkel, *Vegetation Survey of Bluetts Block*, 2019.

<sup>17</sup> Under the Nature Conservation Act 2014, the Minister for the Environment and Heritage added the Loss of mature native trees (including hollow-bearing trees) and a lack of recruitment to the List of Key Threatening Processes, following advice from the Scientific Committee, on 27 September 2018.

Common Name	Scientific Name	Local Conservation Status	National Conservation Status
<b>Birds</b>			
Painted Button Quail	<i>Houtman Abrolhos</i>	N/A	Vulnerable
Scarlet Robin	<i>Petroica boodang</i>	Vulnerable	N/A
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	N/A(vulnerable in NSW)	Proposed listing as Critically Endangered, will be confirmed early 2022.
Superb Parrot	<i>Polytelis swainsonii</i>	Vulnerable	Vulnerable
Speckled Warbler	<i>Pyrrholaemus sagittatus</i>	N/A (vulnerable in NSW )	Threatened
Dusky Woodswallow	<i>Artamus cyanopterus</i>	N/A (listed as vulnerable in NSW)	N/A
<b>Reptiles</b>			
Pink-tailed Worm-lizard	<i>Aprasia parapulchella</i>	Vulnerable	Vulnerable
<b>Marsupials</b>			
Slender-Tailed Dunnart	<i>Sminthopsis murina</i>	TBC	Endangered
Yellow-footed Antechinus	Antechinus species	N/A	Endangered
<b>Mammals</b>			
Microbat	Suborder Microchiroptera	N/A	N/A

## Connectivity

Connectivity is a concept in conservation planning that recognises that nature survives and adapts better when it forms part of a protected network. Prior to urban development, ecological communities are well connected and continuous. Once development occurs roads, fences and buildings serve to fragment the land into small islands, acting as blockages to species movements, reducing available habitat, and impacting on natural resources. This phenomenon

has occurred across the ACT Region as urban areas have grown and nature has become increasingly fragmented.

Traditional approaches of conserving isolated pockets of vegetation does not on its own ensure the long-term survival of species and habitats. Confining flora and fauna to small, isolated habitat fragments decreases the diversity and amount of habitat available, increases competition, and reduces opportunities for reproduction.

Bluett's Block-Piney Ridge is critically important as it provides a regional service in the form of connectivity to other reserves. Bluett's Block-Piney Ridge is located adjacent to the Molonglo River Reserve Area. It provides connectivity between The Murrumbidgee Corridor, Kama Nature Reserve, Pinnacle Nature Reserve, Stoney Creek Reserves, and beyond.

Bluett's Block-Piney Ridge is also important in providing landscape scale connectivity for vulnerable Superb Parrots. The parrots breed on rural blocks immediately to the west (viz Spring Valley, Piney Creek, Huntly) and also breed in the Central Molonglo north of Kama Nature Reserve. There is an interchange of the parrots between these breeding sites, and they are known to use vegetated corridors and patches to move around the landscape. Furthermore, the Western Edge is possibly the last remaining land capable of supporting an expansion of Superb Parrot breeding in the ACT; Superb Parrots are increasing in the ACT, thought to be climate related.

## Cultural Heritage

It is anticipated that Bluett's Block-Piney Ridge also has great cultural value for First Peoples, specifically the Ngunnawal and Ngambri Peoples. A definitive assessment of these values has yet to be carried out. Any further discussion of the conservation values of the site should include the views of these stakeholders, and their advice and convictions should be prioritised in future surveys.



## Part C: Recommendations

In consideration of the above the following recommendations are made:

- Include Bluett's Block-Piney Ridge (Stromlo blocks 402, 403, and Denman Block 12) in the Molonglo River Reserve in recognition of their high conservation values;
- Avoid expanding Canberra's urban footprint.
- If development is deemed necessary, ensure that planning of the Western Edge Investigation Area prioritises protection of highly valuable conservation areas prior to development, and that conservation management is put in place early.

**Appendix A - Flora species list at Bluett's Block-Piney Ridge (R. Rehwinkel, 2019).**

Scientific name	Common name	Frequency code (see text under <i>Methods</i> )	Life form	Notes
Locally indigenous				
<i>Acacia buxifolia</i>	Box-leaved Wattle	Rp	Shrub	
<i>Acacia dealbata</i>	Silver Wattle	R	Tree	
<i>Acacia falciformis</i>	Broad-leaved Hickory	Rp	Tree	
<i>Acacia genistifolia</i>	Early Wattle	R	Shrub	
<i>Acacia gunnii</i>	Ploughshare Wattle	O	Sub-shrub	
<i>Acacia implexa</i>	Hickory Wattle	R	Tree	
<i>Acacia mearnsii</i>	Green Wattle	R	Tree	
<i>Acacia rubida</i>	Red-stemmed Wattle	Rp	Shrub	
<i>Acaena ovina</i>	Sheep's-burr	R	Forb	
<i>Amyema</i> sp.	a mistletoe	O	Hemi-para site	
<i>Aristida ramosa</i>	Purple Wiregrass	OP	Grass	
<i>Austrostipa densiflora</i>	Fox-tail Speargrass	R	Grass	
<i>Austrostipa scabra</i>	Corkscrew Grass	lp	Grass	
<i>Bothriochloa macra</i>	Red Grass	Op	Grass	
<i>Brachyloma daphnoides</i>	Daphne Heath	Op	Sub-shrub	
<i>Caladenia carnea</i>	Pink Fingers	R	Orchid	
<i>Caladenia cyanea</i>	Blue Fairies	R	Orchid	
<i>Callitris endlicheri</i>	Black Cypress-pine	Op	Tree	
<i>Carex appressa</i>	Tall Sedge	O	Sedge/rush	
<i>Cassinia aculeata</i>	Dolly-bush	O	Shrub	
<i>Cassytha</i> sp.	a dodder	R	Hemi-para site	
<i>Cheilanthes sieberi</i>	Rock Fern	R	Fern	
<i>Crassula sieberiana</i>	Annual Stonecrop	Rp	Annual forb	
<i>Cryptandra amara</i>	Bitter Cryptandra	Rp	Sub-shrub	
<i>Cymbonotus lawsonianus</i>	Austral Bear's-ears	Rp	Forb	
<i>Daviesia mimosoides</i>	Leafy Bitter-pea	R	Shrub	
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum	O	Tree	
<i>Eucalyptus bridgesiana</i>	Apple Box	O	Tree	
<i>Eucalyptus dives</i>	Broad-leaved Peppermint	R	Tree	
<i>Eucalyptus macrorrhyncha</i>	Red Stringybark	lp	Tree	

Scientific name	Common name	Frequency code (see text under <i>Methods</i> )	Life form	Notes
Locally indigenous, continued				
<i>Eucalyptus melliodora</i>	Yellow Box	O	Tree	
<i>Eucalyptus rossii</i>	Scribbly Gum	Ip	Tree	
<i>Eucalyptus rubida</i>	Candlebark	Rp	Tree	
<i>Exocarpos cupressiformis</i>	Cherry Ballart	O	Tree	
<i>Exocarpos stricta</i>	Pale-fruited Ballart	R	Shrub	
<i>Hibbertia obtusifolia</i>	Grey Guineaflower	R	Sub-shrub	
<i>Hydrocotyle laxiflora</i>	Stinking Pennywort	R	Forb	
<i>Indigofera australis</i>	Austral Indigo	R	Shrub	
<i>Kunzea ericoides</i>	Burgan	OP	Shrub	
<i>Lecopogon attenuatus</i>	Snowy Beard-heath	Op	Sub-shrub	
<i>Lepidosperma laterale</i>	Variable Sword-sedge	O	Sedge/rush	
<i>Leptospermum multicaule</i>	Dog-tangle	O	Sub-shrub	
<i>Leptospermum</i> sp.	a tea-tree	Op	Shrub	
<i>Leucopogon fletcheri</i>	Fletcher's Beard-heath	OP	Sub-shrub	
<i>Lomandra filiformis</i>	Wattle Mat-rush	O	Lily	
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	O	Lily	
<i>Lomandra multiflora</i>	Many-headed Mat-rush	O	Lily	
<i>Melichrus urceolatus</i>	Urn Heath	O	Sub-shrub	
<i>Microlaena stipoides</i>	Weeping Grass	O	Grass	
<i>Panicum effusum</i>	Hairy Panic	O	Grass	
<i>Persoonia rigida</i>	Rigid Geebung	R	Shrub	
<i>Poa meionectes</i>	Short Snowgrass	O	Grass	
<i>Pomaderris angustifolia</i>	Narrow-leaved Pomaderris	Rp	Shrub	
<i>Rytidosperma pallidum</i>	Red-anthered Wallaby-grass	Ip	Grass	
<i>Rytidosperma</i> spp.	wallaby-grasses	Op	Grass	
<i>Solanum cinereum</i>	Narrawa Burr	R	Sub-shrub	
<i>Solenogyne dominii</i>	Smooth Solenogyne	R	Forb	
<i>Sporobolus creber</i>	Slender Rat's-tail	R	Grass	
<i>Stypandra glauca</i>	Nodding Blue Lily	Rp	Lily	
<i>Xerochrysum viscosum</i>	Sticky Everlasting	R	Forb	

Scientific name	Common name	Frequency code (see text under <i>Methods</i> )	Life form	Notes
<b>Non-local</b>				
* <i>Eucalyptus viminalis</i>	Manna Gum	Rp	Tree	Non-local at this location, planted
* <i>Acacia baileyana</i>	Cootamundra Wattle	R	Tree	Non-local, probably escaped from nearby plantings
* <i>Acacia boormanii</i>	Snowy River Wattle	R	Shrub	Non-local, probably escaped from nearby plantings or planted here
<b>Exotic</b>				
* <i>Acetosella vulgaris</i>	Sheep Sorrel	R		
* <i>Arctotheca calendula</i>	Capeweed	Rp		
* <i>Chondrilla juncea</i>	Skeleton-weed	R		
* <i>Echium plantagineum</i>	Patterson's Curse	Rp		
* <i>Eragrostis curvula</i>	African Lovegrass	Rp		
* <i>Erodium botrys</i>	Long Stork's-bill	O		
* <i>Hypericum perforatum</i>	St John's Wort	O		
* <i>Hypochaeris radicata</i>	Cat's-ear	O		
* <i>Petrorhagia nateuillii</i>	Proliferous Pink	R		
* <i>Pinus radiata</i>	Monterey Pine	R		
* <i>Plantago lanceolata</i>	Ribwort Plantain	O		
* <i>Rosa rubiginosa</i>	Sweet Briar	R		
* <i>Rubus fruticosus</i>	Blackberry	O		
* <i>Trifolium</i> spp.	Clovers	Rp		
* <i>Verbascum thapsus</i>	Great Mullein	Rp		
* <i>Verbascum virgatum</i>	Twiggy Mullein	R		
* denotes introduced taxa, including exotics and non-locals				

\*Note further species identified on Canberra Nature Map (under search term 'Piney Ridge')

#### Orchids

Bunochilus montanus	Montane Leafy Greenhood
Caladenia congesta	Pink caps
Caladenia fuscata	Dusky fingers
Caladenia moschata	Musky caps
Caladenia ustulata	Brown caps
Calochilus platyichilus	Purple beard orchid
Cyanicula caerulea	Blue fingers
Diplodium ampliatum	Large autumn greenhood
Diuris chryseopsis	Golden Moth
Diuris pardina	Leopard Doubletail
Diuris semilunulata	Late Leopard Orchid

Diuris sulphurea  
Eriochilus cucullatus  
Hymenochilus cyncocephalus  
Specularantha rubescens  
Thelymitra sp. (pauciflora complex)

Tiger orchid  
Parson's bands  
Swan greenhood  
Blushing tiny greenhood  
Sun orchid

Others

Acacia ulicifolia  
Craspedia variabilis  
Hovea heterophylla  
Goodenia hederacea subsp. hederacea  
Leucopogon fletcheri subsp. brevisepalus  
Persoonia rigida  
Schoenus latelaminatus  
Swainsona monticola  
Thysanotus tuberosus subsp. tuberosus  
Tricoryne elatior  
Utricularia dichotoma

Prickly Moses  
Billy Button  
Common Hovea  
Ivy Goodenia, Forest Goodenia  
Twin Flower Beard-Heath  
Hairy geebung  
Medusa bogsedge  
Notched swainson-pea  
Common Fringe-lily  
Yellow Rush Lily  
Fairy Aprons, Purple Bladderwort