Appendices

Appendix 1
Final Determination for Ribbon Gum – Mountain Gum – Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion

NSW Scientific Committee
Final Determination

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion as an ENDANGERED ECOLOGICAL COMMUNITY in Part 3 of Schedule 1 of the Act. Listing of endangered ecological communities is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion is the name given to the ecological community characterised by the assemblage of species listed in paragraph 2 that typically occurs at elevations of 700 - 1500 m, and is mainly confined to the high undulating basalt plateau with deep, chocolate or krasnozem loam soils (Benson and Ashby 2000). The structure of the community is typically open forest 20 – 30 m tall, although it may assume the structure of woodland, sometimes less than 12 m tall, in exposed sites or where subject to past clearing or thinning. The understorey contains a sparse stratum of shrubs and a continuous groundcover composed mostly of grasses and herbs.

2. Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion is characterised by the following assemblage of species:

Acacia dealbata
Acaena novae-zelandiae
Ammobium alatum
Brachyscome nova-anglica
Bulbine bulbosa
Cullen tenax
Desmodium varians
Dichondra repens
Diuris abbreviate
Epilobium billardierianum
Eucalyptus pauciflora
Eucalyptus viminalis
Exocarpos cupressiformis
Geranium solanderi
Hybanthus monopetalus
Hypericum gramineum
Lomandra longifolia
Pimelea linifolia
Poa sieberiana var*. sieberiana*
Pteridium esculentum
Ranunculus lappaceus
Rumex brownii
Senecio bipinnatisectus
Senecio sp. E
Themeda australis
Veronica calycina
Wahlenbergia stricta subsp*. stricta*
Acaena agnipila
Ajuga australis
Asperula conferta
Bracteantha bracteata
Craspedia variabilis
Cynoglossum australe
Dichelachne micrantha
Dichopogon fimbriatus
Elymus scaber
Eucalyptus dalrympleana subsp*. heptantha*
Eucalyptus stellulata
Euchiton gymnocephalus
Galium ciliare
Glycine clandestina
Hydrocotyle laxiflora
Lachnagrostis filiformis
Luzula densiflora
Poa labillardierei var*. labillardierei*
Poranthera microphylla
Pultenaea microphylla
Rubus parvifolius
Scleranthus biflorus
Senecio diaschides
Stellaria pungens
Thesium australe
Viola betonicifolia

3. The total species list of the community is larger than that given above, with many species present only in one or two sites, or in low abundance. The species composition of a site will be influenced by the size of the site, recent rainfall or drought conditions and by its disturbance (including grazing, land clearing and fire) history. The number and relative abundance of species will change with time since fire, and may also change in response to changes in fire regimes. At any one time, above-ground individuals of some species may be absent, but the species may be represented below ground in the soil seed banks or as dormant structures such as bulbs, corms, rhizomes, rootstocks or lignotubers. The list of species given above is mainly of vascular plant species, however the community also includes micro-organisms, fungi, cryptogamic plants and a diverse fauna, both vertebrate and invertebrate. These components of the community are poorly documented.

4. Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion is characterised by a tree layer usually c. 20 m tall, reaching up to 30 m in resource-rich sites, but considerably shorter than 20m on exposed or damp sites or where past clearing has removed mature trees. Common overstorey species include *Eucalyptus viminalis* (Ribbon Gum), *E. dalrympleana* subsp. *heptantha* (Mountain Gum), *E. pauciflora* (Snow Gum or White Sallee) and occasionally *E. stellulata* (Black Sallee). The understorey comprises a sparse layer of shrubs including *Acacia dealbata*, *Pultenaea microphylla* and *Pimelea linifolia* and a dense to very dense grassy ground cover dominated by *Poa sieberiana* var. *sieberiana, P.labillardieri* var. *labillardieri, Themeda australis* and *Elymus scaber* with herbs such as *Acaena* spp. *Ammobium alatum, Asperula conferta, Geranium solanderi, Ranunculus lappaceus* and numerous other species (Benson and Ashby 2000).

5. Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion provides important habitat for the nationally vulnerable plant species *Thesium australe*, commonly known as 'Austral Toadflax' (Benson and Ashby 2000).

6. Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion is currently known from parts of the Local Government Areas of Armidale Dumaresq, Bellingen, Clarence Valley, Glen Innes Severn, Guyra, Inverell, Tenterfield, Uralla and Walcha but may occur elsewhere in this bioregion. Bioregions are defined in Thackway and Creswell (1995).

7. Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion includes Communities 6 and 7 of Benson and Ashby (2000) and Tableland Grasslands and Woodlands on Basaltic Soils (Vegetation Type 1b, *Eucalyptus viminalis*) of Clarke *et al.* (1995). There may be additional occurrences of the community within and beyond these surveyed areas. Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland belongs to the Tableland Clay Grassy Woodlands vegetation classs (Keith 2004).

8. Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion may co-occur with White Box Yellow Box Blakely's Red Gum Woodland, also listed under the *Threatened Species Conservation Act (1995)*. The two Endangered Ecological Communities may intergrade where they adjoin and in intermediate habitats such as occur in the vicinity of Armidale. All intermediate assemblages are collectively included within the two communities.

9. The extent of Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion prior to European settlement has not been mapped across its entire range. However, in the Guyra District, Benson and Ashby (2000) estimate that 85 per cent of their Map Units 6 and 7 have been cleared, leaving less than 8500 hectares, of which less than half still retains a largely native understorey. This indicates a large reduction in geographic distribution of the community. Throughout the range of this community most of the understorey is highly modified, with many weeds present and a reduced native species richness (J. T. Hunter pers. comm.). An unknown area persists as native grassland where the woody component of the community has been eliminated by clearing. Of the area still wooded, much is regrowth after clearing or has had its understorey adversely affected by grazing or weed invasion.

10. The remaining stands are severely fragmented by past clearing and further threatened by continuing fragmentation and degradation, high grazing pressure, inappropriate fire regimes and invasion by introduced taxa (Benson and Ashby 2000, Keith 2004). Common introduced taxa include *Hypochaeris radicata*, *Trifolium repens*, *Cirsium vulgare*, *Taraxacum officinale, Arenaria leptoclados* and *Petrorhagia nanteullii* (Benson and Ashby 2000). Exotic perennial grasses such as *Eragrostis curvula* and *Andropogon virginicus* also threaten the community at higher altitudes (J. T. Hunter pers. comm.). Grazing pressure within remnant stands may be intense at certain times and high frequency (in some cases, annual) fires are a common management practice, leading to reduced understorey diversity. Most remnants are in poor condition, with some of the best examples now found along roadsides where they are often susceptible to gradual attrition due to road maintenance activities (J. T. Hunter pers. comm.). Collectively these processes represent a large reduction in the ecological function of the community. Clearing of native vegetation, High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition and Invasion of native plant communities by exotic perennial grasses are listed as Key Threatening Processes under the NSW *Threatened Species Conservation Act 1995.*

11. The community is poorly represented in conservation reserves with only 17 hectares represented in Little Llangothlin Nature Reserve (Benson and Ashby 200).

12. In view of the above, the Scientific Committee is of the opinion that Ribbon Gum - Mountain Gum - Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion is likely to become extinct in nature in New South Wales unless the circumstances and factors threatening its survival cease to operate.

Dr Lesley Hughes
Chairperson
Scientific Committee
Proposed Gazettal date: 21/10/05
Exhibition period 21/10/05 – 16/12/05

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Appendix 2
Final Determination for White Box – Yellow Box – Blakely's Red Gum Woodland

NSW Scientific Committee
Final Determination

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list the White Box Yellow Box Blakely's Red Gum Woodland as an ENDANGERED ECOLOGICAL COMMUNITY on Part 3 of Schedule 1 of the Act. The listing of Endangered Ecological Communities is provided for by Part 2 of the Act.

The Scientific Committee previously made a Preliminary Determination to support the proposal to list the White Box-Yellow Box Woodland. The Scientific Committee considers that the White Box Yellow Box Blakely's Red Gum Woodland is a more appropriate name for this Community.

The Scientific Committee has found that:
1. White Box Yellow Box Blakely's Red Gum Woodland is the name given to the ecological community characterised by the assemblage of species listed in paragraph 3. White Box Yellow Box Blakely's Red Gum Woodland is found on relatively fertile soils on the tablelands and western slopes of NSW and generally occurs between the 400 and 800 mm isohyets extending from the western slopes, at an altitude of c. 170m to c. 1200 m, on the northern tablelands (Beadle 1981). The community occurs within the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands and NSW South Western Slopes Bioregions.

2. White Box Yellow Box Blakely's Red Gum Woodland includes those woodlands where the characteristic tree species include one or more of the following species in varying proportions and combinations - *Eucalyptus albens* (White Box), *Eucalyptus melliodora* (Yellow Box) or *Eucalyptus blakelyi* (Blakely's Red Gum). Grass and herbaceous species generally characterise the ground layer. In some locations, the tree overstorey may be absent as a result of past clearing or thinning and at these locations only an understorey may be present. Shrubs are generally sparse or absent, though they may be locally common.

3. White Box Yellow Box Blakely's Red Gum Woodland is characterised by the following assemblage of species.

Acacia buxifolia
Acacia paradoxa
Alectryon oleifolius
Aristida ramosa
Atalaya hemiglauca
Austrodanthonia bipartita
Austrodanthonia richardsonii
Austrostipa blackii
Austrostipa scabra
Brachychiton populneus
Bracteantha viscosa
Bulbine bulbosa
Callitris endlicheri
Capparis mitchellii
Cassinia quinquefaria
Chloris trucata
Chrysocephalum apiculatum
Dianella longifolia
Dichanthium sericeum
Dichelacne sciurea
Dodonaea viscosa
Ehretia membranifolia
Eremophila mitchellii
Eucalyptus albens
Eucalyptus bridgesiana
Eucalyptus goniocalyx
Eucalyptus microcarpa
Acacia implexa
Allocasuarina verticillata
Aristida behriana
Asperula conferta
Austrodanthonia auriculata
Austrodanthonia racemosa
Austrostipa aristiglumis
Austrostipa nodosa
Bothriochla macra
Brachyloma daphnoides
Brunoniella australis
Bursaria spinosa
Callitris glaucophylla
Cassinia longifolia
Cheilanthes sieberi
Chloris ventricosa
Cymbopogon refractus
Dianella revoluta
Dichelachne micrantha
Diuris dendrobioides
Echinopogon caespitosus
Elymus scaber
Eucalyptus blakelyi
Eucalyptus conica
Eucalyptus melliodora
Eucalyptus nortonii
Exocarpos cupressiformis

Eulalia aurea
Geijera parviflora
Glycine clandestina
Glycine tomentella
Goodenia pinnatifida
Hibbertia obtusifolia
Jacksonia scoparia
Jasminum suavissimum
Lissanthe strigosa
Melichrus urceolatus
Notelaea microcarpa
Olearia viscidula
Pandorea pandorana
Parsonsia eucalyptophylla
Plantago debilis
Poa labillardieri
Rostellularia adscendens
Sida corrugata
Stackhousia monogyna
Swainsona galegifolia
Themeda australis
Geranium solanderi
Glycine tabacina
Gonocarpus elatus
Hibbertia linearis
Hypericum gramineum
Jasminum lineare
Leptorhynchos squamatus
Lomandra filiformis
Microseris lanceolata
Olearia elliptica
Oxalis perennans
Panicum queenslandicum
Pimelea curviflora
Plantago gaudichaudii
Poa sieberiana
Rumex brownii
Sorghum leiocladum
Stackhousia viminea
Templetonia stenophylla
Wahlenbergia communis

The total flora and fauna species list for the community is considerably larger than that given above, with many species present in only some sites or in very small quantity. In any particular site not all of the assemblage listed above may be present. At any one time, seeds of some species may only be present in the soil seed bank with no above-ground individuals present. The species composition of the site will be influenced by the size of the site, recent rainfall or drought conditions, its disturbance history and geographic and topographic location. The community is an important habitat for a diverse fauna (vertebrates and invertebrates), but detailed records are not available from most stands and the invertebrate fauna is poorly known.

4. Woodlands with *Eucalyptus albens* are most common on the undulating country of the slopes region while *Eucalyptus blakelyi* and *Eucalyptus melliodora* predominate in grassy woodlands on the tablelands. Drier woodland areas dominated by *Eucalyptus albens* often form mosaics with areas dominated by *Eucalyptus blakelyi* and *Eucalyptus melliodora* occurring in more moist situations, while areas subject to waterlogging may be treeless. *E microcarpa* is often found in association with *E. melliodora* and *E. albens* on the south western slopes. Woodlands including *Eucalyptus crebra*, *Eucalyptus dawsonii* and *Eucalyptus moluccana* (and intergrades with *Eucalyptus albens*), for example in the Merriwa plateau, Goulburn River National Park and western Wollemi National Park, are also included. Intergrades between *Eucalyptus blakelyi* and *Eucalyptus tereticornis* may also occur here.

5. Latitudinal and climatic gradients in the patterns of species present are found across the range of the community (eg. see Prober 1996 for variation in White Box). This is reflected in a gradual change in herb and grass species from northern to southern NSW (eg. Prober 1996). Within White Box Yellow Box Blakely's Red Gum Woodland, species such as *Rostellularia adscendens, Chloris ventricosa, Austrodanthonia racemosa, Brunoniella australis, Cymbopogon refractus, Swainsona galegifolia, Notelaea microcarpa, Stackhousia viminea, Olearia elliptica, Jasminum suavissimum, Plantago gaudichaudii, Dichanthium sericeum, Plantago debilis* and *Wahlenbergia communis* are generally more restricted to more northern areas (eg. Prober 1996). Some other species in White Box Yellow Box Blakely's Red Gum Woodland were generally restricted to southern areas. These include *Gonocarpus elatus, Austrostipa blackii, Aristida behriana, Bracteantha viscosa, Austrodanthonia auriculata* and *Austrostipa nodosa* (Prober 1996).
6. White Box Yellow Box Blakely's Red Gum Woodland includes vegetation described as *Eucalyptus albens* alliance and *E. melliodora / E. blakelyi* alliance in Beadle (1981), the *Eucalyptus albens* alliance in Moore (1953a,b), the grassy white box woodlands of Prober and Thiele (1993,1995) and Prober (1996) and the Grassy white box woodland of the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999. In the southern tablelands and parts of the southwest slopes, White Box Yellow Box Blakely's Red Gum Woodland are described in Thomas *et al.* (2000).

7. Related communities are the *Eucalyptus microcarpa, Eucalyptus pilligaensis* Grey Box/ *Eucalyptus populnea* Poplar Box communities of the western slopes and plains and the *Eucalyptus moluccana*, Grey Box, communities of the Clarence, lower Hunter Valley and Western Sydney. These are not covered by this Determination. Similarly the natural temperate grasslands and the *Eucalyptus pauciflora* grassy woodlands of the cooler parts of the southern tablelands are not covered by this Determination.

8. White Box Yellow Box Blakely's Red Gum Woodland has been drastically reduced in area and highly fragmented because of clearance for cropping and pasture improvement. Austin *et al*. (2000) found the community had been reduced to less than 1% of its pre-European extent in the Central Lachlan region. Comparable degrees of reduction have been documented for NSW south western slopes and southern Tablelands (estimated <4% remaining, Thomas *et. al*. 2000), and for the Holbrook area (estimated <7% remaining, Gibbons and Boak (2000). Gibbons and Boak (2000) found remnants of woodlands dominated by *Eucalyptus albens, E. melliodora* and *E. blakelyi* were severely fragmented. Further remnants of the community are degraded as a consequence of their disturbance history. Some remnants of these communities survive with the trees partly of wholly removed by post European activities, and conversely, often remnants of these communities survive with these tree species largely intact but with the shrub or ground layers degraded to varying degrees through grazing or pasture modification. Remnants are subject to varying degrees of threat that jeopardise their viability. These threats include: further clearing (for cropping, pasture improvement or other development); deterioration of remnant condition (caused by firewood cutting, increased livestock grazing, weed invasion, inappropriate fire regimes, soil disturbance and increased nutrient loads); degradation of the landscape in which remnants occur (including soil acidification, salinity, and loss of connectivity between remnants).

9. The understorey may be highly modified by grazing history and disturbance. A number of native species appear not to tolerate grazing by domestic stock and are confined to the least disturbed remnants (*Dianella revoluta, Diuris dendrobioides, Microseris lanceolata, Pimelea curviflora, Templetonia stenophylla* (Prober & Thiele 1995). Dominant pasture species typically change from *Themeda australis, Austrostipa aristiglumis* and *Poa* spp. to *Austrostipa falcata, Austrodanthonia* spp. and *Bothriochla macra* as grazing intensity increases (Moore 1953a). This may reflect differences in palatability of these species and their ability to tolerate grazing pressure. Light grazing and burning may also be a problem and lead to *Aristida ramosa* dominance (Lodge & Whalley 1989).

10. The condition of remnants ranges from relatively good to highly degraded, such as paddock remnants with weedy understories and only a few hardy natives left. A number of less degraded remnants have survived in Travelling Stock Routes, cemeteries and reserves, although because of past and present management practices understorey species composition may differ between the two land uses. Some remnants of the community may consist of only an intact overstorey or an intact understorey, but may still have high conservation value due to the flora and fauna they support. Other sites may be important faunal habitat, have significant occurrences of particular species, form part of corridors or have the potential for recovery. The conservation value of remnants may be independent of remnant size.

11. Disturbed remnants are still considered to form part of the community including remnants where the vegetation, either understorey, overstorey or both, would, under appropriate management, respond to assisted natural regeneration, such as where the natural soil and associated seed bank are still at least partially intact.

12. The community is poorly represented in conservation reserves. There are small occurrences of White Box Yellow Box Blakely's Red Gum Woodland in Border Ranges National Park, Goobang National Park, Goulburn River National Park, Manobalai Nature Reserve, Mt Kaputar National Park, Oxley Wild Rivers National Park, Queanbeyan Nature Reserve, Towari National Park, Warrumbungle National Park, Wingen Maid Nature Reserve and Wollemi National Park. The community also occurs in the following State Recreation Areas, Copeton State Recreation Area, Lake Glenbawn State Recreation Area and Lake Keepit State Recreation Area.

13. Fauna species of conservation significance found in some stands of White Box Yellow Box Blakely's Red Gum Woodland include:

Aprasia parapulchella	Pink-tailed Legless Lizard
Burhinus grallarius	Bush Stone-curlew
Cacatua leadbeateri	Major Mitchell's Cockatoo
Climacteris picumnus victoriae	Brown Treecreeper
Dasyurus maculatus	Spotted-tailed Quoll
Delma impar	Striped Legless Lizard
Grantiella picta	Painted Honeyeater
Hoplocephalus bitorquatus	Pale-headed Snake
Lathamus discolor	Swift Parrot
Lophoictinia isura	Square-tailed Kite
Melanodryas cucullata cucullata	Hooded Robin
Melithreptus gularis gularis	Black-chinned Honeyeater
Neophema pulchella	Turquoise Parrot

Ninox connivens	Barking Owl
Petaurus norfolcensis	Squirrel Glider
Phascolarctos cinereus	Koala
Polytelis swainsonii	Superb Parrot
Pomatostomus temporalis temporalis	Grey-crowned Babbler
Pyrrholaemus sagittata	Speckled Warbler
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat
Stagonopleura guttata	Diamond Firetail
Synemon plana	Golden Sun Moth
Tyto novaehollandiae	Masked Owl
Varanus rosenbergi	Rosenberg's Goanna
Xanthomyza phrygia	Regent Honeyeater

14. A number of plant species of conservation significance are likely to occur in White Box Yellow Box Blakely's Red Gum Woodland:

Ammobium craspedioides
Bothriochloa biloba
Dichanthium setosum
Discaria pubescens
Diuris spp.
Prasophyllum petilum
Pterostylis spp.
Rutidosis leptorhynchoides
Swainsona spp.

A number of key threatening processes also occur in White Box Yellow Box Blakely's Red Gum Woodland. These include: Clearing of native vegetation, Predation by the European Red Fox *Vulpes vulpes,* Predation by the Feral Cat, *Felis catus.*

14. In view of the small size of existing remnants, and the threat of further clearing, disturbance and degradation, the Scientific Committee is of the opinion that White Box Yellow Box Blakely's Red Gum Woodland is likely to become extinct in nature in New South Wales unless the circumstances and factors threatening its survival or evolutionary development cease to operate and that listing as an endangered ecological community is warranted.

Proposed Gazettal date: 15/03/02
Exhibition period: 15/03/02 – 19/04/02

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Appendix 3
Plant Species List for the Project Area

Pteridophyta (Ferns)

Aspleniaceae

Asplenium flabellifolium	Necklace Fern

Blechnaceae

Doodia aspera	Prickly Rasp Fern

Dennstaedtiaceae

Pteridium esculentum	Bracken

Dryopteridaceae

Polystichum fallax	Shield fern

Sinopteridaceae

Pellaea falcata	Sickle Fern

Angiospermae (Flowering Plants)

Amaranthaceae

Alternanthera sp. 'A'	Joyweed
***Amaranthus retroflexus*	Redroot Amaranth

Apiaceae

Daucus glochidiatus (Labill.) Fischer,	
Hydrocotyle laxiflora	Stinking Pennywort
Oreomyrrhis eriopoda F. Caraway	
**Pastinaca sativa*	Parsnip

Asteraceae

Ammobium alatum	Tall Ammobium
Brachycome macrocarpa	Forest Daisy
Bracteantha bracteata	Golden Everlasting
Calotis dentax	Burr-daisy
Calotus lappulacea	Yellow Burr-daisy
Chrysocephalum apiculatum	Common Everlasting
Cymbonotus lawsonianus	Bear's Ear
Euchiton sphaericus	Cudweed
Olearia alpicola	Alpine Daisy Bush
Senecio linearifolius	Fireweed Groundsel
Senecio quadridentatus	Cotton Fireweed
Vittadinia cuneata	Fuzzweed
Vittadinia muelleri	Narrow-leaf New Holland Daisy
**Bidens pilosa*	Cobbler's Pegs
**Bidens subalternans*	Greater Beggar's Ticks
**Carthamus lanatus*	Saffron Thistle
**Centaurea solstitialis*	St Barnaby's thistle
**Cichorium intybus*	Chicory
**Cirsium vulgare*	Spear Thistle
**Conyza albida*	Tall Fleabane
**Crepis capillaris*	Smooth hawksbeard
**Galinsoga parviflora*	Potato Weed
**Gnaphalium americanum*	American Cudweed
**Hypochaeris radicata*	Flatweed

**Lactuca saligna*	Willow-leaved Lettuce
**Schkuhria pinnata*	Dwarf Marigold
**Silybum marianum*	Variegated thistle
**Sonchus asper*	Prickly Sow-thistle
**Sonchus oleraceus*	Common Sow-thistle
**Taraxacum officinale*	Dandelion
**Xanthium spinosum*	Bathurst Burr
Boraginaceae	
Cynoglosum austral	Australian Hound's-tongue
**Echium plantagineum*	Paterson's Curse
Brassicaceae	
**Capsella bursa-pastoris*	Shepherd's Purse
**Hirschfeldia incana*	Buchan Weed
Brassica sp.	
Campanulaceae	
Wahlenbergia communis	Tufted Bluebell
Wahlenbergia gracilis	Australian Bluebell
Wahlenbergia luteola	Bluebells
Caryophyllaceae	
Stellaria pungens	Prickly Starwort
**Cerastium glomeratum*	Mouse-eared Chickweed
**Dianthus armeria*	Deptford Pink
**Paronychia brasiliana* DC.	Chilean Whitlow Wort
**Petrorhagia nanteuilii*	Proliferous Pink
**Stellaria media*	Common Chickweed
Chenopodiaceae	
Chenopodium pumilio	Small Crumbweed
Einadia nutans	Climbing Saltbush
**Chenopodium album*	Fat Hen
Clusiaceae	
Hypericum gramineum	Small St John's Wort
**Hypericum perforatum*	St John's Wort
Convolvulaceae	
Convolvulus erubescens	Common Bindweed
Dichondra repens	Kidney-weed
Crassulaceae	
Crassula sieberiana	Australian Stonecrop
Cyperaceae	
Carex inversa	Common Sedge
**Cyperus eragrostis*	Umbrella Sedge
Euphorbiaceae	
Chamaesyce drummondii	Caustic Weed
Fabaceae	
Faboideae (subfamily)	
Desmodium varians	Slender Tick-trefoil
Dillwynia sieberi	Parrot Pea
Glycine clandestina	Twining Glycine
Glycine tabacina	Variable Glycine

Hardenbergia violacea	Native Sarsaparilla
Indigofera australis	Austral Indigo
Lespedeza juncea	Bush Clover
Swainsona monticola	Notched Swainson-pea
**Medicago sativa*	Lucerne
**Melilotus albus*	Bokhara Clover
**Melilotus indicus*	Hexham Scent
**Trifolium pratense*	Red Clover
**Trifolium repens*	White Clover
**Vicia sativa*	Vetch
Mimosoideae (subfamily)	
Acacia filicifolia	Fern-leaved Wattle
Acacia implexa	Hickory Wattle
Acacia melanoxylon	Blackwood
Gentianaceae	
* *Centaurium erythraea*	Common Centaury
Geraniaceae	
Geranium solanderi	Austral Crane's-bill
**Erodium moschatum*	Musky Crowfoot
Juncaceae	
Juncus sp.	Rush
Juncus filicaulis	Thread Rush
Juncus usitatus	Common Rush
Lamiaceae	
Mentha satureioides	Creeping Mint
Scutellaria humilis	Dwarf Skullcap
**Marrubium vulgare*	Horehound
**Salvia reflexa*	Mintweed
**Salvia verbenaca*	Wild Sage
Lomandraceae	
Lomandra longifolia	Spiny-headed Mat-rush
Lomandra multiflora	Many-flowered Mat-rush
Loranthaceae	
Amyema pendulum	Drooping Mistletoe
Muelleriana eucalyptoides	Creeping Mistletoe
Malvaceae	
**Malva neglecta*	Dwarf Mallow
**Modiola caroliniana*	Red-flowered Mallow
Myrtaceae	
Angophora floribunda	Rough-barked Apple
Eucalyptus dalrympleana	Mountain Gum
Eucalyptus melliodora	Yellow Bow
Eucalyptus nova-anglica	New England Peppermint
Eucalyptus viminalis	Manna Gum
Oleaceae	
Jasminum suavissimum	Sweet Jasmine
Notelaea linearis	Yellow Mock-olive
Notelaea microcarpa	Native Olive
**Ligustrum lucidum*	Large-leaved Privet

Onagraceae	
Epilobium billardierianum	Willowherb
Oxalidaceae	
Oxalis exilis	
**Oxalis articulata*	Shamrock Oxalis
Philesiaceae	
Geitonoplesium cymosum	Scambling Lily
Phormiaceae	
Dianella longifolia	Long-leaved Flax-lily
Dianella revoluta	Spreading Flax-lily
Pittosporaceae	
Bursaria spinosa	Blackthorn
Plantaginaceae	
Plantago debilis	Slender Plantain
**Plantago lanceolata*	Ribbed Plantain
Poaceae	
Aristida vagans	Three-awned Speargrass
Bothriochloa macra	Red-leg Grass
Chloris truncata	Windmill Grass
Cymbopogon refractus	Barbed-wire Grass
Cynodon dactylon	Couch Grass
Danthonia racemosa	Wallaby Grass
Dichanthium sericeum	Queensland Bluegrass
Elymus scaber	Wheatgrass
Eragrostis parviflora	Weeping Love-grass
Echinopogon ovatus	Forest Hedgehog Grass
Eragrostis leptostachya	Paddock Love-grass
Eragrostis parviflora	Weeping Lovegrass
Imperata cylindrica	Blady Grass
Microlaena stipoides	Weeping Grass
Panicum effusum	Hairy Panic
Phragmites australis	Common Reed
Poa sieberiana	Poa Tussock
Sorghum leiocladum	Wild Sorghum
Sporobolus creber	Slender Rat's Tail Grass
Stipa rudis	Spear-grass
Stipa scabra	Corkscrew Speargrass
Bromus hordeaceus	Soft Brome
**Bromus cartharticus*	Prairie Grass
**Chloris virgata*	Feathertop Rhodes Grass
**Dactylis glomerata*	Cocksfoot
**Digitaria violascens*	Finger Grass
**Eleusine indica*	Crowsfoot Grass
**Eleusine tristachya*	Goose Grass
**Eragrostis curvula*	African Love Grass
**Hyparrhenia hirta*	Coolatai Grass
**Lolium perenne*	Perennial Grass
**Paspalum dilatatum*	Paspalum
**Pennisetum clandestinum*	Kikuyu Grass
**Pennisetum setaceum*	Fountain Grass
**Pennisetum villosum*	Feathertop
**Phalaris aquatica*	Phalaris
**Setaria pumila*	Pale Pigeon Grass

**Sorghum bicolor*	Sorghum
**Sporobolus indicus*	Parramatta Grass

Polygonaceae

Rumex brownii	Swamp Dock
**Acetosella vulgaris*	Sheep Sorrel
**Fallopia convolvulus*	Black Bindweed
**Polygonum aviculare*	Wireweed
**Rumex crispus*	Swamp Dock

Portulacaceae

Portulaca oleracea	Purslane

Primulaceae

**Anagallis arvensis*	Blue Pimpernel

Ranunculaceae

Clematis aristata	Traveller's Joy

Rosaceae

Acaena novae-zelandiae	Bidgee-widgee
Acaena ovina	Sheep's Burr
Rubus parvifolius	Native Raspberry
**Cotoneaster* sp.	Cotoneaster
**Crataegus monogyna*	Hawthorn
**Malus x domestica*	Apple
**Prunus* sp.	Plum
**Pyrus communis*	Pear
**Rosa rubiginosa*	Briar Rose
**Rubus fruticosus* sp. agg.	Blackberry
**Sanguisorba minor*	Salad burnet

Rubiaceae

Asperula conferta	Common Woodruff
Galium sp.	Bedstraw

Salicaceae

**Populus* sp.	Poplar
**Salix babylonica*	Weeping Willow
**Salix* sp.	Willow

Santalaceae

Exocarpos cupressiformis	Native Cherry

Scrophulariaceae

Veronica plebeia	Trailing Speedwell
**Verbascum thapsus*	Blanket Weed

Smilacaceae

Smilax australis	Austral Sarsaparilla

Solanaceae

**Solanum nigrum*	Black Nightshade
**Solanum pseudocapsicum*	Madeira Winter Cherry

Sterculiaceae

Brachychiton populneus	Kurrajong

Thymelaeaceae

Pimelea curviflora	Curved Rice-flower
Typhaceae	
Typha orientalis	Cumbungi
Urticaceae	
Urtica incisa	Stinging Nettle
Verbenaceae	
**Verbena bonariensis*	Purpletop
**Verbena officinalis*	Common Verbena
**Verbena rigida*	Veined Verbena
Violaceae	
Hymenanthera dentata	Tree Violet
Viola betonicifolia	Purple Violet

Appendix 4
Control Classes for Noxious Weed Species

Weed control classes

(1) The following weed control classes may be applied to a plant by a weed control order:
   (a) Class 1, State Prohibited Weeds,
   (b) Class 2, Regionally Prohibited Weeds,
   (c) Class 3, Regionally Controlled Weeds,
   (d) Class 4, Locally Controlled Weeds,
   (e) Class 5, Restricted Plants.

(2) The characteristics of each class are as follows:
   (a) Class 1 noxious weeds are plants that pose a potentially serious threat to primary production or the environment and are not present in the State or are present only to a limited extent.
   (b) Class 2 noxious weeds are plants that pose a potentially serious threat to primary production or the environment of a region to which the order applies and are not present in the region or are present only to a limited extent.
   (c) Class 3 noxious weeds are plants that pose a serious threat to primary production or the environment of an area to which the order applies, are not widely distributed in the area and are likely to spread in the area or to another area.
   (d) Class 4 noxious weeds are plants that pose a threat to primary production, the environment or human health, are widely distributed in an area to which the order applies and are likely to spread in the area or to another area.
   (e) Class 5 noxious weeds are plants that are likely, by their sale or the sale of their seeds or movement within the State or an area of the State, to spread in the State or outside the State.

(3) A noxious weed that is classified as a Class 1, 2 or 5 noxious weed is referred to in this Act as a *notifiable weed*.

Appendix 5
Fauna Species List for the Project Area

PHALANGERIDAE	
Common Brushtail Possum	*Trichosurus vulpecula*
MACROPODIDAE	
Eastern Grey Kangaroo	*Macropus giganteus*
Common Wallaroo	*Macropus robustus*
Red-necked Wallaby	*Macropus rufogriseus*
Swamp Wallaby	*Wallabia bicolor*
CANIDAE	
Fox*	*Vulpes vulpes*
LEPORIDAE	
Rabbit*	*Oryctolagus cuniculus*
EQUIDAE	
Domestic Horse*	*Equus caballus*
BOVIDAE	
Domestic Cattle*	*Bos taurus*
Domestic Sheep*	*Ovis aries*
CERVIDAE	
Rusa Deer*	*Cervus timorensis*

BIRDS

ANATIDAE	
Australian Wood Duck	*Chenonetta jubata*
Pacific Black Duck	*Anas superciliosa*
PODICIPEDIDAE	
Australasian Grebe	*Tachybaptus novaehollandiae*
PHALACROCORACIDAE	
Little Pied Cormorant	*Phalacrocorax melanoleucos*
ARDEIDAE	
White-faced Heron	*Egretta novaehollandiae*
White-necked Heron	*Ardea pacifica*
THRESKIORNITHIDAE	
Australian White Ibis	*Threskiornis molucca*
Straw-necked Ibis	*Threskiornis spinicollis*
Royal Spoonbill	*Platalea regia*
ACCIPITRIDAE	
Black-shouldered Kite	*Elanus axillaris*
Brown Goshawk	*Accipiter fasciatus*
FALCONIDAE	
Nankeen Kestrel	*Falco cenchroides*
CHARADRIIDAE	

Masked Lapwing	*Vanellus miles*

COLUMBIDAE

Rock Dove*	*Columba livia*
Spotted Turtle-Dove*	*Streptopelia chinensis*
Crested Pigeon	*Ocyphaps lophotes*

CACATUIDAE

Galah	*Cacatua roseicapilla*
Sulphur-crested Cockatoo	*Cacatua galerita*

PSITTACIDAE

Rainbow Lorikeet	*Trichoglossus haematodus*
Musk Lorikeet	*Glossopsitta concinna*
Crimson Rosella	*Platycercus elegans*
Eastern Rosella	*Platycercus eximius*

STRIGIDAE

Southern Boobook	*Ninox novaeseelandiae*

HALCYONIDAE

Laughing Kookaburra	*Dacelo novaeguineae*

CLIMACTERIDAE

White-throated Treecreeper	*Cormobates leucophaeus*

MALURIDAE

Superb Fairy-wren	*Malurus cyaneus*

PARDALOTIDAE

Spotted Pardalote	*Pardalotus punctatus*
Striated Pardalote	*Pardalotus striatus*
Brown Thornbill	*Acanthiza pusilla*
Buff-rumped Thornbill	*Acanthiza reguloides*
Yellow-rumped Thornbill	*Acanthiza chrysorrhoa*

MELIPHAGIDAE

Red Wattlebird	*Anthochaera carunculata*
Noisy Friarbird	*Philemon corniculatus*
Noisy Miner	*Manorina melanocephala*
Yellow-faced Honeyeater	*Lichenostomus chrysops*
White-naped Honeyeater	*Melithreptus lunatus*
Eastern Spinebill	*Acanthorhynchus tenuirostris*

PACHYCEPHALIDAE

Grey Shrike-thrush	*Colluricincla harmonica*

DICRURIDAE

Magpie-lark	*Grallina cyanoleuca*
Grey Fantail	*Rhipidura fuliginosa*
Willie Wagtail	*Rhipidura leucophrys*
Spangled Drongo	*Dicrurus bracteatus*

CAMPEPHAGIDAE

Black-faced Cuckoo-shrike	*Coracina novaehollandiae*

ARTAMIDAE

Grey Butcherbird	*Cracticus torquatus*
Australian Magpie	*Gymnorhina tibicen*

Pied Currawong	*Strepera graculina*

CORVIDAE

Australian Raven	*Corvus coronoides*
Little Raven	*Corvus mellori*

MOTACILLIDAE

Richard's Pipit	*Anthus novaeseelandiae*

PASSERIDAE

House Sparrow*	*Passer domesticus*

DICAEIDAE

Mistletoebird	*Dicaeum hirundinaceum*

ZOSTEROPIDAE

Silvereye	*Zosterops lateralis*

STURNIDAE

Common Starling*	*Sturnus vulgaris*

FROGS

Nil

REPTILES

CHELIDAE

Long-necked Tortoise	*Chelodina longicollis*

SCINCIDAE

Delicate Skink	*Lampropholis delicata*

ELAPIDAE

Red-bellied Black Snake	*Pseudechis porphyriacus*