



# NARRABARBA HILL FLORA RESERVE NO. 170

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SITE SPECIFIC WORKING PLAN

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This site-specific working describes the important values of an individual flora reserve and identifies site-specific priorities for management. The plan is to be read in conjunction with the Flora Reserve Plan: Background and General Management document, which identifies Forestry Corporation's broad objectives and strategies for managing flora reserves. These two documents together form the flora reserve working plan in line with the requirements of section 25 of the *Forestry Act 2012*.

## 1. DETAILS OF THE RESERVE

### 1.1 LOCATION

Narrabarba Hill Flora Reserve is situated in the northwestern section of Nadgee State Forest on the far South Coast of New South Wales. It is approximately 23 kilometres south of Eden and about 3 kilometres southeast of Narrabarba settlement. See Locality Map in Appendix 1.

### 1.2 KEY ATTRIBUTES OF THE RESERVE

Under the *Forestry Act 2012*, flora reserves are set apart for the preservation of native flora.

The reserve possesses the following identified attributes that are to be protected:

- » populations of *Acacia constablei*, a species listed as vulnerable under NSW BCA and Commonwealth EPBA
- » areas of River-Flat Eucalypt Forest, a threatened ecological community
- » the southern rocky outcrop is a prominent feature, that is highly visible from the highway and surrounding forest roads
- » representative examples of forest ecosystems in the area.

### 1.3 GENERAL DESCRIPTION

#### Area

The reserve comprises an area of about 112 hectares. The boundary of the reserve follows Swamp Road and the Wonboyn River to the west, approximately the 50-metre contour to the north, and the eastern boundary follows a pair of ridgetops dissected by the Wonboyn River and Swamp Road. The southern boundary follows the 160-metre contour and crosses a gently sloping ridge.

#### Topography

The reserve consists of a pair of hills and associated ridges and gullies, that form an elevation range of 20 metres to 210 metres above sea level. The hills are separate by the Wonboyn River and Swamp Road. Slopes range from gentle up to very steep. The southern rocky outcrop is a prominent feature of the landscape being highly visible from the highway and surrounding forest roads. Refer to Appendix 2 for topographic map.

#### Geology and soils

The underlying geology is mainly Middle Devonian Rhyolite, which underlies the central portion of the reserve, and from which the rocky outcrops present in this reserve are formed. Ordovician sediments, consisting of Hornfels, Greywacke, Sandstone, and Shale occur around the perimeter of the reserve, with a small area of Tertiary and Recent Gravels and Sands occurring on the northern edge of the reserve.

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Soil depth is reasonably deep on the lower slopes and gullies, becoming skeletal as one approaches the ridges and rocky outcrops. Soils are mainly derived from the Rhyolite parent material.

## Climate

Mean annual rainfall recorded at Merimbula Airport is approximately 830mm. Rainfall distribution varies considerable between years; however, the general pattern is for the lowest monthly rainfall to occur in July, August, and September. Highest falls occur from January to April.

Winds over the area are mainly light to moderate but strong winds and wind squalls occur occasionally. Prevailing winds are from the west to southwest, and west to northwest in summer.

## Vegetation / flora and fauna

The peak of Narrabarba Hill is rock (forest type 234) and supports the reserve's major population of *Acacia constablei* (Narrabarba Wattle), which dominates the shrub layer (1-2 metres). Some *Eucalyptus sieberi* (Silver-top Ash) trees exist in a couple of locations. Other shrub and ground species occur on the peak are *Dodonaea triquetra*, *Notelaea venosa*, *Dendrobium speciosum*, and *Lomandra longifolia*.

The northern section of the reserve is dominated by *Eucalyptus globoidea* (White Stringybark), in association with *Angophora floribunda* (Rough-barked Apple), and *E. sieberi*. The understorey is mostly *Allocasuarina* and *Acacia*, with *Banksias* scattered through the forest.

The gullies and the slopes either side of the Wondoyne River are occupied by Yellow Stringybark – Gum (forest type 157), with an overstorey of *E. cypellocarpa* (Mountain Grey Gum) and *E. muelleriana* (Yellow Stringybark). Other species here include *E. longifolia* (Woollybutt), and an understorey of *Allocasuarinas*, various *Acacias*, and species of the *Dodonaea* and *Goodia* genera.

Ridges and higher slopes are dominated by *E. globoidea*, *E. muelleriana*, and *E. sieberi*. *E. radiata* (Narrow-leaved Peppermint) and *Angophora floribunda* are also present but are more common on the western side of the reserve. Appendix 2 Map shows the various forest types and their locations within the reserve.

*Acacia constablei* is listed as a vulnerable species in both New South Wales under the *Biodiversity Conservation Act 2016* (BCA) and in the Commonwealth under the *Environment Protection and Biodiversity Act 1999* (EPBA). Appendices 3 and 4 outline a list of flora and fauna species known to occur within the reserve.

## 1.4 HISTORY

### Aboriginal History and Cultural Values

Narrabarba Hill Flora Reserve is situated within the traditional lands of the Yuin people and there are a number of Aboriginal cultural heritage sites located within or within the surrounding area. The area is part of a cultural landscape, used for everyday activities including seasonal food and resource gathering and also as a travel route from the mountains to the coast. Tangible aspects of these activities are evident as walking tracks and scar trees, the remains of camp sites with stone tools (isolated stone artefact and artefact scatters) as well as sacred features and places created at the beginning of time.

### Post European Settlement

#### Harvesting

Pit saws were operating in the Eden area by the 1850's, but it is unlikely that timber cutting would have been carried out in the vicinity of Narrabarba Hill until at least the early 1900's. The main exploitation of the surrounding area would have been by sleeper cutters up until the mid-1960's. 40 hectares of the reserve was treated under integrated logging operations over the period 1973 to 1978. The remainder of the area was not logged due to either having very low volumes, being too steep, rocky, or inaccessible.

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## Fire

Fire has been part of the Australian landscape for at least the last 60,000 years and most forests have experienced fire multiple times over many centuries. The reserve was severely burnt by wildfire in January 1952 and may have been lightly burnt in a mild fire in early 1964. The reserve and surrounding areas were again severely burnt in the 'Timbillica' wildfire in November 1980, which covered a total area of 44,000 hectares.

No evidence was found of any pre-fire *Acacia constablei* plants surviving and regenerating vegetatively after these major fires. Rather, mass seed regeneration was found to occur after each fire described by Mr. Constable as 'dense *Acacia* regeneration of whipstick habitat'.

The reserve was also impacted by wildfire during the 2019-20 summer season, with medium to high intensity fire recorded, resulting in the canopy being partially burnt in discrete areas.

## Establishment of Flora Reserve

In 1979, the importance of Narrabarba Hill as being the only known location of *Acacia constablei* was brought to the attention of the Research Forester in Eden. Action to proceed with preservation of the hill alone was decided in 1985. Narrabarba Hill Forest Preserve No. 283 was approved by the Commission for inclusion in the preservation programme in September 1986.

In November 1986, the Commission advised it would proceed with the notification of this area as a Flora Reserve. However, three additional nearby populations of *A. constablei* were investigated following this, and in April 1987, it was recommended that the reserve be extended to its present boundary to include these.

## 1.5 CURRENT USAGE

The reserve is dissected by Swamp Road and a number of old tracks and log dumps are still evident from past integrated logging operations. Apart from this there are no existing improvements or developments in the reserve. The area has little current recreational use. However, due to the high scientific value of the reserve and the fact that the southern hill is a prominent land feature, informal recreation will probably occur.

## 2. SYSTEM OF MANAGEMENT

### 2.1 OBJECTIVES OF MANAGEMENT

The objectives of management are to:

- » preserve populations of the vulnerable species, *Acacia constablei*
- » enhance the ecological quality of areas of River-Flat Eucalypt Forest, a threatened ecological community
- » protect the southern rocky outcrop as it is a prominent feature of the area
- » protect existing flora and fauna
- » protect representative examples of forest ecosystems in the area
- » protect Aboriginal cultural heritage sites and cultural values
- » maintain reference stands and provide for limited scientific study consistent with the protection of the area, including the development of an understanding of successional growth processes after

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disturbance and as a reference for assessing the effects of alternative land use in surrounding areas

- » provide for the continued protection of the reserve and neighboring areas from damaging wildfire and other agents.

## 2.2 MANAGEMENT STRATEGIES

The broad management strategies and related actions to preserve native flora and improve the value and extent of habitat in State forest flora reserves are detailed in the Flora Reserve Management Plan: Background and General Management document, which is to be read in conjunction with this plan. Specific additional management strategies applied in this flora reserve may include:

- » Property maintenance, through:
  - establishment and maintenance of appropriate fences, gates, and signs
  - removal of unnecessary fencing
  - maintenance of roads and trails
  - restricting visitor use to walking trails for educational activities.
- » Conservation and improvement of habitat, through:
  - maintenance of native vegetation, which may include manipulation by mechanical means for habitat improvement
  - regeneration of any cleared or degraded land, through plantings and natural recruitment
  - removal of rubbish
  - weed control
  - management of human disturbance, including harvesting and other forest product operations
  - retention of dead timber and other habitat resources
  - management of fire, including
    - prescribed or hazard reduction burning
    - fire-fighting activities where required to protect community assets outside of lands managed by Forestry Corporation.
- » Pest animal control.

### Cultural Values

Explore opportunities for Aboriginal community involvement in managing the flora reserve.

### Weeds

The vegetation within the flora reserve is in very healthy state with no obvious weeds present. As far as reasonably practicable, exotic species will be controlled, as detailed in section 2.4.

### Trail maintenance

Maintenance of roads and trails is important to enable access to the forest for forest management, firefighting, tourism and recreation. Poorly maintained roads can also transport significant levels of sediment, increasing the turbidity of water within creeks. This consequently reduces habitat quality and aquatic biodiversity and can take significant periods of time to recover.

### Permitted activities

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Under the Forest Management Zoning (FMZ) system, Narrabarba Hill Flora Reserve №. 170 is a dedicated reserve zoned FMZ 1 and therefore contributes to the dedicated reserve system in the Southern Region. Management will be consistent with the requirements of JANIS dedicated reserves.

The latest operational guide detailing activities not permitted in FMZ1 is published on the Forestry Corporation website.

The following activities may be permitted subject to standard conditions approved by the delegated Manager and consistent with the management objectives for the reserve, relevant codes of practice, forest practices / operational circulars, protocols, licenses, and management / recovery plans:

- » scientific studies (e.g., fauna surveys including trapping)
- » maintenance of existing roads and fire trails
- » maintenance of existing recreation facilities and upgrading where necessary to keep pace with demand while protecting the attributes of the reserve
- » limited tree and or limb removal for safety, viewing or construction of facilities in areas used for recreation
- » pest animal and weed control
- » general access for activities such as bush walking, photography and nature study
- » beekeeping (existing set-down consistent with the maintenance of the conservation attributes to be protected in the reserve)
- » fire management will be undertaken in a manner consistent with maintaining the health of forest ecosystems.

The following activities may only be permitted with special conditions:

- » Construction of new roads. Construction will only be permitted in exceptional instances and consistent with the following principles:
  - no practical alternative is available
  - the attributes of the reserve will not be significantly affected by the road or fire trail
  - opportunity is provided for public comment on the proposal, obtained through advertising in the local newspaper, either print or online, or by publication on a website considered reasonably likely to come to the attention of members of the local community
  - Ministerial approval is given for the proposal.

## Mining

There are no gazetted exemptions from provisions of the *Mining Act 1992* for this this flora reserve.

## 2.3 MANAGEMENT RESPONSIBILITY

The reserve will be administered by Forestry Corporation of NSW's Hardwood Division, with the authority for decision making delegated to the Senior Manager Forest Stewardship equivalent level manager.

## 2.4 MONITORING, REPORTING AND REVIEW

The region will monitor changes to the key attributes of the reserve and will review the effectiveness of the management strategies designed to protect those attributes and to achieve the management objectives.

The results of this monitoring, review and management response will be included in annual reporting processes.

The provisions of this working plan will be amended, if necessary, in light of the results of the monitoring program and / or legislative change and with the approval of the Minister administering the *Forestry Act 2012*.

### 3. LIST OF APPENDICES

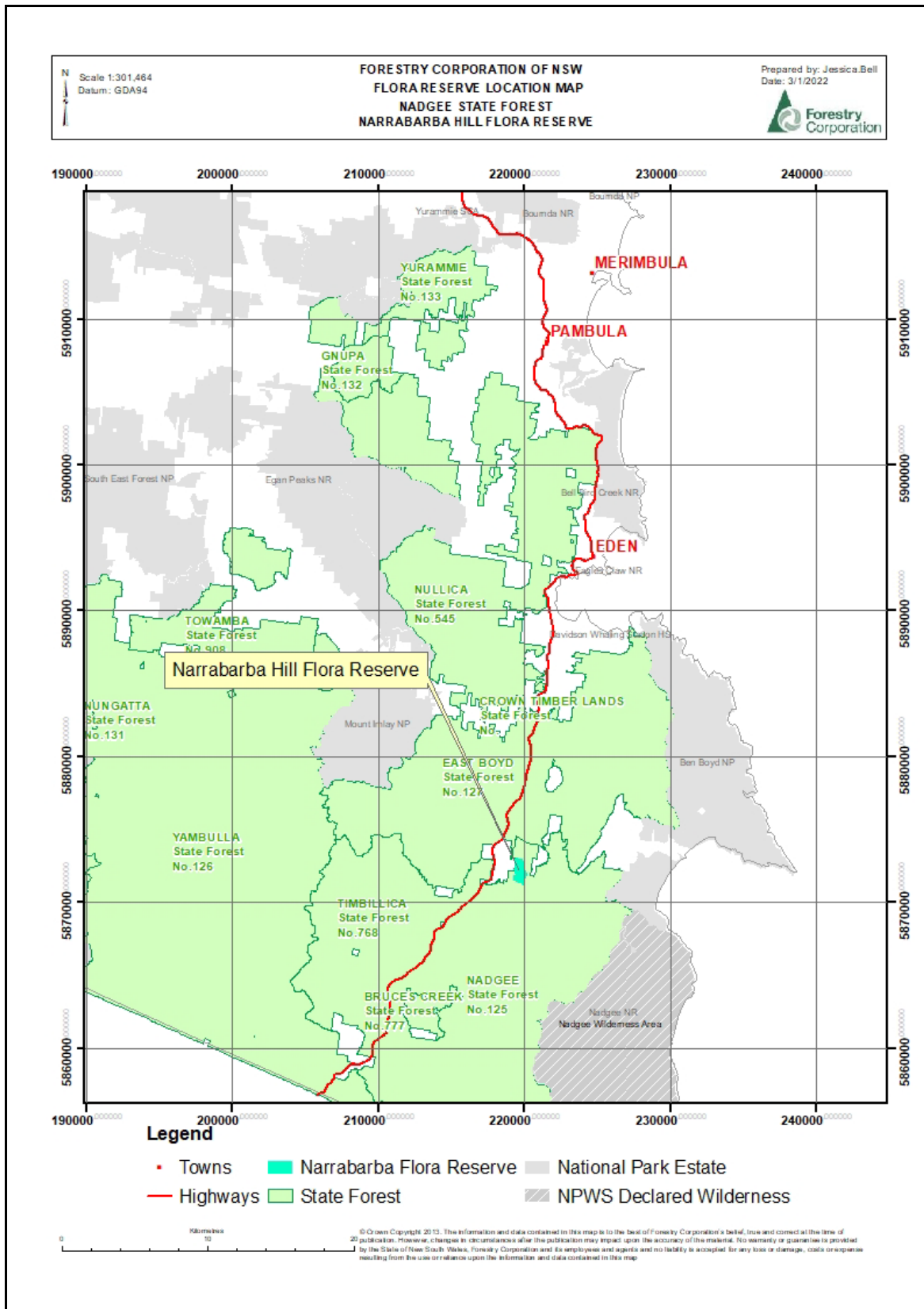
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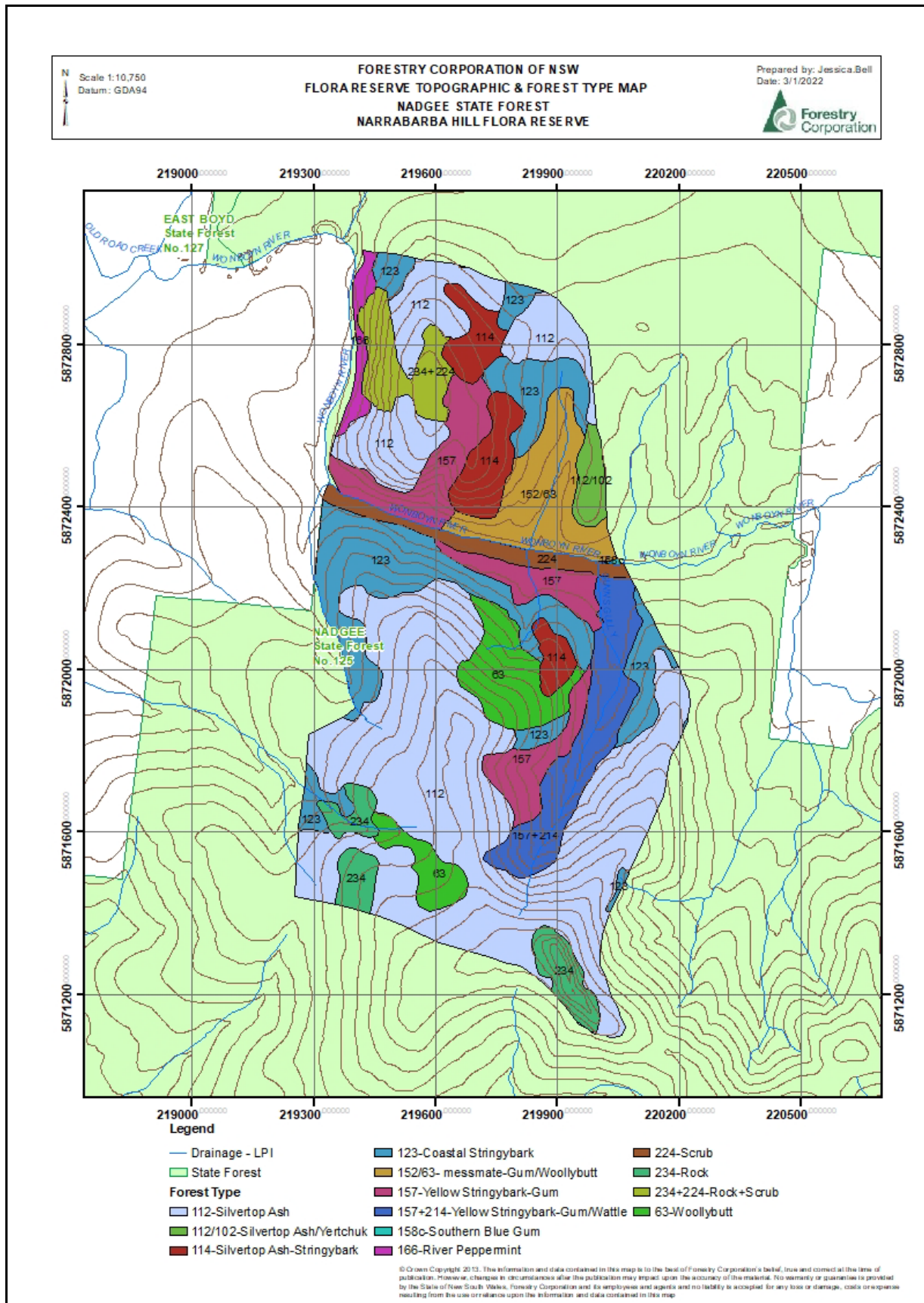
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# APPENDIX 1 – LOCALITY MAP



# APPENDIX 2 – TOPOGRAPHIC & FOREST TYPE MAP



## APPENDIX 3 – FLORA SPECIES LIST

### Flora found within 5000m of Flora Reserve, desktop search undertaken February 2022

Scientific name
<i>Acacia aculeatissima</i>
<i>Acacia cognata</i>
<i>Acacia constablei</i>
<i>Acacia implexa</i>
<i>Acacia longifolia</i>
<i>Acacia longifolia subsp. longifolia</i>
<i>Acacia mearnsii</i>
<i>Acacia myrtifolia</i>
<i>Acacia rubida</i>
<i>Acacia spp.</i>
<i>Acacia suaveolens</i>
<i>Acacia terminalis</i>
<i>Acacia terminalis subsp. angustifolia</i>
<i>Acacia verticillata subsp. verticillata</i>
<i>Acaena novae-zelandiae</i>
<i>Acianthus pusillus</i>
<i>Acmena smithii</i>
<i>Acrotriche serrulata</i>
<i>Adiantum aethiopicum</i>
<i>Aira cupaniana</i>
<i>Allocastrum littoralis</i>
<i>Allocastrum paludosa</i>
<i>Amperea xiphoclada</i>
<i>Amyema pendula</i>
<i>Angophora floribunda</i>
<i>Anisopogon avenaceus</i>
<i>Aotus ericoides</i>
<i>Arthrochilus huntianus</i>
<i>Asplenium flabellifolium</i>
<i>Astroloma humifusum</i>
<i>Astrotricha sp. 'Nadgee'</i>
<i>Australina pusilla</i>
<i>Austrostipa mollis</i>
<i>Austrostipa rudis</i>
<i>Austrostipa spp.</i>
<i>Banksia cunninghamii</i>
<i>Banksia paludosa</i>
<i>Banksia serrata</i>

Scientific name
<i>Banksia spinulosa var. spinulosa</i>
<i>Baumea gunnii</i>
<i>Bedfordia arborescens</i>
<i>Billardiera mutabilis</i>
<i>Billardiera scandens</i>
<i>Blechnum cartilagineum</i>
<i>Blechnum neohollandicum</i>
<i>Blechnum nudum</i>
<i>Blechnum spinulosum</i>
<i>Boronia nana var. hyssopifolia</i>
<i>Bossiaea heterophylla</i>
<i>Bossiaea prostrata</i>
<i>Bossiaea spp.</i>
<i>Brunoniella pumilio</i>
<i>Burchardia umbellata</i>
<i>Bursaria spinosa subsp. lasiophylla</i>
<i>Caesia parviflora</i>
<i>Caesia spp.</i>
<i>Caladenia catenata</i>
<i>Caladenia praecox</i>
<i>Caladenia pusilla</i>
<i>Callistemon citrinus</i>
<i>Callitriche muelleri</i>
<i>Callitris rhomboidea</i>
<i>Calochlaena dubia</i>
<i>Calytrix tetragona</i>
<i>Carex appressa</i>
<i>Carex breviculmis</i>
<i>Carex fascicularis</i>
<i>Carex longebrachiata</i>
<i>Cassinia aculeata</i>
<i>Cassinia longifolia</i>
<i>Cassinia trinerva</i>
<i>Cassytha glabella</i>
<i>Cassytha pubescens</i>
<i>Cassytha spp.</i>
<i>Caustis flexuosa</i>
<i>Centaurium erythraea</i>

Scientific name
<i>Centaurium spp.</i>
<i>Centrolepis spp.</i>
<i>Cheilanthes austrotenuifolia</i>
<i>Chrysocephalum baxteri</i>
<i>Cirsium vulgare</i>
<i>Cissus hypoglauca</i>
<i>Clematis aristata</i>
<i>Clematis glycinoides</i>
<i>Comesperma volubile</i>
<i>Conyza sumatrensis</i>
<i>Cooperhookia barbata</i>
<i>Coprosma quadrifida</i>
<i>Coronidium scorpioides</i>
<i>Correa reflexa</i>
<i>Correa reflexa var. reflexa</i>
<i>Craspedia canens</i>
<i>Crassula decumbens var. decumbens</i>
<i>Crassula sieberiana</i>
<i>Crowea exalata</i>
<i>Cryptandra amara</i>
<i>Cryptandra amara var. amara</i>
<i>Cryptostylis leptochila</i>
<i>Cryptostylis spp.</i>
<i>Cullen microcephalum</i>
<i>Cyanicula caerulea</i>
<i>Cyathea australis</i>
<i>Cyathochaeta diandra</i>
<i>Cyperus gunnii subsp. gunnii</i>
<i>Cyperus lucidus</i>
<i>Dampiera stricta</i>
<i>Dendrobium speciosum</i>
<i>Dendrobium speciosum var. speciosum</i>
<i>Dendrobium striolatum</i>
<i>Desmodium gunnii</i>
<i>Deyeuxia quadriseta</i>
<i>Deyeuxia spp.</i>
<i>Dianella caerulea</i>
<i>Dianella caerulea var. caerulea</i>

Scientific name
<i>Dianella revoluta</i>
<i>Dianella tasmanica</i>
<i>Dichelachne inaequiglumis</i>
<i>Dichelachne parva</i>
<i>Dichondra repens</i>
<i>Dicksonia antarctica</i>
<i>Dillwynia rudis</i>
<i>Dillwynia sericea</i>
<i>Diuris maculata</i>
<i>Dodonaea triquetra</i>
<i>Drosera auriculata</i>
<i>Drosera peltata</i>
<i>Drosera pygmaea</i>
<i>Echinopogon ovatus</i>
<i>Elaeocarpus reticulatus</i>
<i>Entolasia marginata</i>
<i>Entolasia stricta</i>
<i>Epacris impressa</i>
<i>Epacris obtusifolia</i>
<i>Eucalyptus agglomerata</i>
<i>Eucalyptus angophoroides</i>
<i>Eucalyptus consideriana</i>
<i>Eucalyptus conspicua</i>
<i>Eucalyptus cypellocarpa</i>
<i>Eucalyptus elata</i>
<i>Eucalyptus globoidea</i>
<i>Eucalyptus ignorabilis</i>
<i>Eucalyptus longifolia</i>
<i>Eucalyptus obliqua</i>
<i>Eucalyptus ovata</i>
<i>Eucalyptus sieberi</i>
<i>Eucalyptus spp.</i>
<i>Eucalyptus viminalis</i>
<i>Euchiton japonicus</i>
<i>Euchiton spp.</i>
<i>Eustrephus latifolius</i>
<i>Exocarpos cupressiformis</i>
<i>Exocarpos spp.</i>
<i>Exocarpos strictus</i>
<i>Gahnia clarkei</i>
<i>Gahnia melanocarpa</i>
<i>Gahnia radula</i>
<i>Gahnia spp.</i>
<i>Galium binifolium</i>
<i>Galium leiocarpum</i>
<i>Galium propinquum</i>

Scientific name
<i>Gamochaeta spp.</i>
<i>Genoplesium pumilum</i>
<i>Genoplesium spp.</i>
<i>Geranium homeanum</i>
<i>Geranium potentilloides</i> var. <i>potentilloides</i>
<i>Geranium solanderi</i> var. <i>solanderi</i>
<i>Glossodia spp.</i>
<i>Glycine clandestina</i>
<i>Glycine microphylla</i>
<i>Gompholobium huegelii</i>
<i>Gompholobium inconspicuum</i>
<i>Gompholobium latifolium</i>
<i>Gonocarpus micranthus</i> subsp. <i>micranthus</i>
<i>Gonocarpus tetragynus</i>
<i>Gonocarpus teucroides</i>
<i>Goodenia ovata</i>
<i>Goodenia spp.</i>
<i>Goodia lotifolia</i>
<i>Gratiola peruviana</i>
<i>Gynochthodes jasminoides</i>
<i>Hakea dactyloides</i>
<i>Hakea decurrens</i>
<i>Hakea decurrens</i> subsp. <i>physocarpa</i>
<i>Hakea decurrens</i> subsp. <i>platytaenia</i>
<i>Hakea teretifolia</i> subsp. <i>teretifolia</i>
<i>Hardenbergia violacea</i>
<i>Hedycarya angustifolia</i>
<i>Helichrysum leucopsidium</i>
<i>Hibbertia aspera</i>
<i>Hibbertia dentata</i>
<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>
<i>Hibbertia riparia</i>
<i>Hierochloe rariflora</i>
<i>Hovea heterophylla</i>
<i>Hybanthus vernonii</i> subsp. <i>scaber</i>
<i>Hybanthus vernonii</i> subsp. <i>vernonii</i>
<i>Hydrocotyle acutiloba</i>
<i>Hydrocotyle geraniifolia</i>
<i>Hydrocotyle hirta</i>
<i>Hydrocotyle sibthorpioides</i>

Scientific name
<i>Hydrocotyle tripartita</i>
<i>Hypericum gramineum</i>
<i>Hypochaeris radicata</i>
<i>Hypolepis glandulifera</i>
<i>Hypolepis muelleri</i>
<i>Hypolepis spp.</i>
<i>Indigofera australis</i>
<i>Isachne globosa</i>
<i>Isolepis cernua</i>
<i>Isolepis fluitans</i>
<i>Isolepis inundata</i>
<i>Juncus articulatus</i>
<i>Juncus bufonius</i>
<i>Juncus gregiflorus</i>
<i>Juncus prismatocarpus</i>
<i>Juncus procerus</i>
<i>Juncus sarophorus</i>
<i>Kennedia prostrata</i>
<i>Kennedia rubicunda</i>
<i>Kunzea ambigua</i>
<i>Kunzea ericoides</i>
<i>Lagenifera stipitata</i>
<i>Lagenophora gracilis</i>
<i>Lagenophora stipitata</i>
<i>Lapsana communis</i> subsp. <i>communis</i>
<i>Lasiopetalum ferrugineum</i> var. <i>cordatum</i>
<i>Lasiopetalum spp.</i>
<i>Lastreopsis acuminata</i>
<i>Laxmannia gracilis</i>
<i>Laxmannia orientalis</i>
<i>Laxmannia spp.</i>
<i>Lepidosperma concavum</i>
<i>Lepidosperma elatius</i>
<i>Lepidosperma filiforme</i>
<i>Lepidosperma gunnii</i>
<i>Lepidosperma laterale</i>
<i>Lepidosperma neesii</i>
<i>Lepidosperma spp.</i>
<i>Lepidosperma tortuosum</i>
<i>Lepidosperma urophorum</i>
<i>Leptocarpus tenax</i>
<i>Leptospermum continentale</i>
<i>Leptospermum myrsinoides</i>
<i>Leptospermum trinervium</i>



Scientific name
<i>Leucopogon attenuatus</i>
<i>Leucopogon lanceolatus</i>
<i>Leucopogon lanceolatus</i> var. <i>lanceolatus</i>
<i>Leucopogon</i> spp.
<i>Libertia paniculata</i>
<i>Lindsaea linearis</i>
<i>Lobelia purpurascens</i>
<i>Logania pusilla</i>
<i>Lomandra confertifolia</i> subsp. <i>leptostachya</i>
<i>Lomandra filiformis</i>
<i>Lomandra glauca</i>
<i>Lomandra longifolia</i>
<i>Lomandra micrantha</i> subsp. <i>tuberculata</i>
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>
<i>Lomandra</i> spp.
<i>Lomatia ilicifolia</i>
<i>Lomatia myricoides</i>
<i>Lyperanthus suaveolens</i>
<i>Lysimachia arvensis</i>
<i>Marsdenia rostrata</i>
<i>Melaleuca armillaris</i> subsp. <i>armillaris</i>
<i>Melaleuca ericifolia</i>
<i>Melicytus dentatus</i>
<i>Microlaena stipoides</i> var. <i>stipoides</i>
<i>Microtis</i> spp.
<i>Mirbelia platylobioides</i>
<i>Mitrasacme polymorpha</i>
<i>Mitrasacme serpyllifolia</i>
<i>Mitrasacme</i> spp.
<i>Monotoca scoparia</i>
<i>Myrsine howittiana</i>
<i>Notelaea venosa</i>
<i>Olearia lirata</i>
<i>Olearia stellulata</i>
<i>Omphacomeria acerba</i>
<i>Opercularia aspera</i>
<i>Opercularia hispida</i>
<i>Opercularia</i> spp.
<i>Opercularia varia</i>
<i>Oplismenus imbecillis</i>
<i>Oxalis chnoodes</i>
<i>Oxalis exilis</i>

Scientific name
<i>Oxalis</i> spp.
<i>Ozothamnus cuneifolius</i>
<i>Ozothamnus diosmifolius</i>
<i>Ozothamnus ferrugineus</i>
<i>Ozothamnus obcordatus</i>
<i>Ozothamnus obcordatus</i> subsp. <i>major</i>
<i>Pandorea pandorana</i>
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>
<i>Patersonia glabrata</i>
<i>Patersonia sericea</i>
<i>Pelargonium inodorum</i>
<i>Persicaria praetermissa</i>
<i>Persoonia linearis</i>
<i>Phragmites australis</i>
<i>Phyllanthus gunnii</i>
<i>Phyllanthus hirtellus</i>
<i>Pimelea axiflora</i> subsp. <i>axiflora</i>
<i>Pimelea ligustrina</i> subsp. <i>ligustrina</i>
<i>Pimelea linifolia</i> subsp. <i>linifolia</i>
<i>Pittosporum undulatum</i>
<i>Plantago debilis</i>
<i>Platylobium formosum</i>
<i>Platysace lanceolata</i>
<i>Poa ensiformis</i>
<i>Poa labillardierei</i> var. <i>labillardierei</i>
<i>Poa meionectes</i>
<i>Poa</i> spp.
<i>Poa tenera</i>
<i>Polyscias sambucifolia</i>
<i>Polyscias sambucifolia</i> subsp. <i>sambucifolia</i>
<i>Pomaderris aspera</i>
<i>Pomaderris elliptica</i> subsp. <i>elliptica</i>
<i>Pomaderris ferruginea</i>
<i>Pomaderris intermedia</i>
<i>Pomaderris lanigera</i>
<i>Pomaderris</i> spp.
<i>Pomax umbellata</i>
<i>Poranthera microphylla</i>
<i>Potamogeton cheesemanii</i>
<i>Prostanthera lasianthos</i>

Scientific name
<i>Prostanthera melissifolia</i>
<i>Prostanthera rotundifolia</i>
<i>Pteridium esculentum</i>
<i>Pterostylis parviflora</i>
<i>Pterostylis</i> spp.
<i>Pultenaea daphnoides</i>
<i>Pultenaea linophylla</i>
<i>Pultenaea retusa</i>
<i>Pultenaea</i> spp.
<i>Pyrrosia rupestris</i>
<i>Ranunculus inundatus</i>
<i>Ranunculus lappaceus</i>
<i>Ranunculus plebeius</i>
<i>Rhytidosporum procumbens</i>
<i>Rhytidosporum</i> spp.
<i>Rorippa gigantea</i>
<i>Rubus fruticosus</i> sp. agg.
<i>Rubus parvifolius</i>
<i>Rubus rosifolius</i>
<i>Rubus ulmifolius</i>
<i>Rytidosperma longifolium</i>
<i>Rytidosperma monticola</i>
<i>Rytidosperma pallidum</i>
<i>Rytidosperma</i> spp.
<i>Rytidosperma tenuius</i>
<i>Sannantha pluriflora</i>
<i>Santalum obtusifolium</i>
<i>Scaevola aemula</i>
<i>Scaevola ramosissima</i>
<i>Schelhammera undulata</i>
<i>Schizaea bifida</i>
<i>Schoenus apogon</i>
<i>Schoenus brevifolius</i>
<i>Schoenus melanostachys</i>
<i>Scutellaria mollis</i>
<i>Selaginella uliginosa</i>
<i>Senecio linearifolius</i>
<i>Senecio minimus</i>
<i>Senecio quadridentatus</i>
<i>Senecio</i> spp.
<i>Senecio velleioides</i>
<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>
<i>Sisyrinchium rosulatum</i>
<i>Smilax australis</i>
<i>Solanum pungetium</i>

Scientific name
<i>Stackhousia monogyna</i>
<i>Stellaria flaccida</i>
<i>Sticherus flabellatus</i> var. <i>flabellatus</i>
<i>Styloidium graminifolium</i>
<i>Stypandra glauca</i>
<i>Styphelia adscendens</i>
<i>Tetrarrhena juncea</i>
<i>Tetrarrhena turfosa</i>
<i>Tetratheca pilosa</i>
<i>Thelymitra</i> spp.
<i>Themeda triandra</i>

Scientific name
<i>Thysanotus juncifolius</i>
<i>Thysanotus patersonii</i>
<i>Thysanotus</i> spp.
<i>Todea barbara</i>
<i>Triglochin rheophila</i>
<i>Tristaniopsis laurina</i>
<i>Tylophora barbata</i>
<i>Urtica incisa</i>
<i>Veronica perfoliata</i>
<i>Veronica plebeia</i>
<i>Viola banksii</i>
<i>Viola cleistogamoides</i>

Scientific name
<i>Viola hederacea</i>
<i>Wahlenbergia communis</i>
<i>Wahlenbergia gracilis</i>
<i>Wahlenbergia</i> spp.
<i>Xanthorrhoea concava</i>
<i>Xanthorrhoea resinosa</i>
<i>Xanthosia dissecta</i>
<i>Xanthosia pilosa</i>
<i>Xanthosia tridentata</i>
<i>Xyris</i> spp.
<i>Zieria cytisoides</i>
<i>Zieria littoralis</i>

## APPENDIX 4 – FAUNA SPECIES LIST

### Fauna found within 5000m of Flora Reserve, desktop search undertaken February 2022

Amphibians and reptiles	
Scientific name	Common name
<i>Limnodynastes peronii</i>	Brown-striped Frog
<i>Crinia signifera</i>	Common Eastern Froglet
<i>Geocrinia victoriana</i>	Eastern Smooth Frog
<i>Litoria aurea</i>	Green and Golden Bell Frog
<i>Paracrinia haswelli</i>	Haswell's Froglet
<i>Litoria phyllochroa</i>	Leaf-green Tree Frog

Amphibians and reptiles	
Scientific name	Common name
<i>Litoria lesueuri</i>	Lesueur's Frog
<i>Litoria peronii</i>	Peron's Tree Frog
<i>Uperoleia tyleri</i>	Tyler's Toadlet
<i>Litoria verreauxii</i>	Verreaux's Frog
<i>Lampropholis delicata</i>	Dark-flecked Garden Sunskink
<i>Intelligama lesueurii</i>	Eastern Water Dragon
<i>Amphibolurus muricatus</i>	Jacky Lizard

Amphibians and reptiles	
Scientific name	Common name
<i>Varanus varius</i>	Lace Monitor
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink
<i>Pseudechis porphyriacus</i>	Red-bellied Black Snake
<i>Eulamprus tympanum</i>	Southern Water-skink
<i>Liopholis whitii</i>	White's Skink

Birds	
Scientific name	Common name
<i>Alisterus scapularis</i>	Australian King-Parrot
<i>Gymnorhina tibicen</i>	Australian Magpie
<i>Corvus coronoides</i>	Australian Raven
<i>Manorina melanophrys</i>	Bell Miner
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike
<i>Monarcha melanopsis</i>	Black-faced Monarch
<i>Acanthiza pusilla</i>	Brown Thornbill
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater
<i>Cacomantis variolosus</i>	Brush Cuckoo
<i>Acanthiza reguloides</i>	Buff-rumped Thornbill
<i>Sturnus vulgaris</i>	Common Starling
<i>Phylidonyris</i>	Crescent

Birds	
Scientific name	Common name
<i>pyrrhopterus</i>	Honeyeater
<i>Thalasseus bergii</i>	Crested Tern
<i>Platycercus elegans</i>	Crimson Rosella
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow
<i>Falcunculus frontatus frontatus</i>	Eastern Shrike-tit
<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill
<i>Psophodes olivaceus</i>	Eastern Whipbird
<i>Eopsaltria australis</i>	Eastern Yellow Robin
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo
<i>Petroica phoenicea</i>	Flame Robin
<i>Apus pacificus</i>	Fork-tailed Swift
<i>Calyptorhynchus</i>	Glossy Black-

Birds	
Scientific name	Common name
<i>lathami</i>	Cockatoo
<i>Pachycephala pectoralis</i>	Golden Whistler
<i>Cracticus torquatus</i>	Grey Butcherbird
<i>Strepera versicolor</i>	Grey Currawong
<i>Rhipidura albiscapa</i>	Grey Fantail
<i>Colluricincla harmonica</i>	Grey Shrike-thrush
<i>Chalcites basalis</i>	Horsfield's Bronze-Cuckoo
<i>Dacelo novaeguineae</i>	Laughing Kookaburra
<i>Myiagra rubecula</i>	Leaden Flycatcher
<i>Meliphaga lewinii</i>	Lewin's Honeyeater
<i>Anthochaera chrysoptera</i>	Little Wattlebird
<i>Tyto novaehollandiae</i>	Masked Owl

Birds	
Scientific name	Common name
<i>Dicaeum hirundinaceum</i>	Mistletoebird
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater
<i>Philemon corniculatus</i>	Noisy Friarbird
<i>Oriolus sagittatus</i>	Olive-backed Oriole
<i>Heteroscenes pallidus</i>	Pallid Cuckoo
<i>Strepera graculina</i>	Pied Currawong
<i>Ninox strenua</i>	Powerful Owl
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet
<i>Anthochaera carunculata</i>	Red Wattlebird
<i>Neochmia temporalis</i>	Red-browed Finch
<i>Rhipidura rufifrons</i>	Rufous Fantail
<i>Pachycephala rufiventris</i>	Rufous Whistler
<i>Todiramphus sanctus</i>	Sacred Kingfisher
<i>Ptilonorhynchus violaceus</i>	Satin Bowerbird

Birds	
Scientific name	Common name
<i>Petroica boodang</i>	Scarlet Robin
<i>Chalcites lucidus</i>	Shining Bronze-Cuckoo
<i>Zosterops lateralis</i>	Silvereye
<i>Stipiturus malachurus</i>	Southern Emu-wren
<i>Pardalotus punctatus</i>	Spotted Pardalote
<i>Cinclosoma punctatum</i>	Spotted Quail-thrush
<i>Acanthiza lineata</i>	Striated Thornbill
<i>Malurus cyaneus</i>	Superb Fairy-wren
<i>Menura novaehollandiae</i>	Superb Lyrebird
<i>Podargus strigoides</i>	Tawny Frogmouth
<i>Petrochelidon nigricans</i>	Tree Martin
<i>Neophema pulchella</i>	Turquoise Parrot
<i>Hirundo neoxena</i>	Welcome Swallow

Birds	
Scientific name	Common name
<i>Coracina papuensis</i>	White-bellied Cuckoo-shrike
<i>Sericornis frontalis</i>	White-browed Scrubwren
<i>Nesoptilotis leucotis</i>	White-eared Honeyeater
<i>Melithreptus lunatus</i>	White-naped Honeyeater
<i>Cormobates leucophaea</i>	White-throated Treecreeper
<i>Rhipidura leucophrys</i>	Willie Wagtail
<i>Caligavis chrysops</i>	Yellow-faced Honeyeater
<i>Zanda funereus</i>	Yellow-tailed Black-Cockatoo
<i>Lichenostomus melanops</i>	Yellow-tufted Honeyeater
<i>Neochmia temporalis</i>	

Mammals	
Scientific name	Common name
<i>Vombatus ursinus</i>	Bare-nosed Wombat
<i>Felis catus</i>	Cat
<i>Chalinolobus morio</i>	Chocolate Wattled Bat
<i>Trichosurus vulpecula</i>	Common Brushtail Possum
<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum
<i>Canis lupus</i>	Dingo, domestic dog
<i>Macropus giganteus</i>	Eastern Grey Kangaroo
<i>Cercartetus nanus</i>	Eastern Pygmy-possum

Mammals	
Scientific name	Common name
<i>Vulpes vulpes</i>	Fox
<i>Nyctophilus gouldi</i>	Gould's Long-eared Bat
<i>Phascolarctos cinereus</i>	Koala
<i>Vespadelus darlingtoni</i>	Large Forest Bat
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat
<i>Vespadelus vulturnus</i>	Little Forest Bat
<i>Potorous tridactylus</i>	Long-nosed Potoroo
<i>Ornithorhynchus anatinus</i>	Platypus
<i>Potorous sp.</i>	Potoroo
<i>Isodon obesulus obesulus</i>	Southern Brown

Mammals	
Scientific name	Common name
	Bandicoot (eastern)
<i>Vespadelus regulus</i>	Southern Forest Bat
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll
<i>Rattus lutreolus</i>	Swamp Rat
<i>Wallabia bicolor</i>	Swamp Wallaby
<i>Isodon/Perameles sp.</i>	unidentified Bandicoot
<i>Cervus sp.</i>	Unidentified Deer
<i>Sminthopsis leucopus</i>	White-footed Dunnart
<i>Petaurus australis</i>	Yellow-bellied Glider



## APPENDIX 5 – APPROVAL AND AMENDMENTS FROM PREVIOUS VERSION

In line with section 25 of the *Forestry Act 2012*, flora reserve working plans and any amendments must be approved by the Minister. This plan forms part of the working plans for each of the individual flora reserves listed in section 6.

This plan was approved by The Hon. Tara Moriarty MLC, Minister for Agriculture, Minister for Regional New South Wales and Minister for Western New South Wales

Date of approval: 6/9/23

Version	Changes	Approval details
2.0	<ul style="list-style-type: none"> <li>» Reference to the <i>Flora Reserve Plan: Background and General Management</i></li> <li>» Formatting updated</li> <li>» Change</li> </ul>	<ul style="list-style-type: none"> <li>» The Hon. Tara Moriarty MLC, Minister for Agriculture, Minister for Regional New South Wales and Minister for Western New South Wales, 6/9/23</li> </ul>