

*costata* (Smooth-barked Apple), *Eucalyptus resinifera* subsp. *resinifera* (Red Mahogany), *Corymbia gummifera* (Red Bloodwood), *Acacia irrorata* subsp. *irrorata* (Green Wattle), *Glochidion ferdinandii* (Cheese Tree) and the exotic *Pinus elliottii* (Slash Pine). The tree stratum ranges in height from 15-25m with a PFC of 20-60%. Common shrub species include *Pultenaea villosa*, *Callistemon salignus* (Willow Bottlebrush), *Leptospermum polygalifolium* (Lemon Scented Tea-tree), *Pultenaea paleacea* var. *paleacea*, *Melaleuca nodosa* (Ball Honeymyrtle) and *Dodonaea triquetra* (Large-leaf Hop-bush). The shrub stratum ranges in height from 3-8m with a PFC of 5-50%. Common groundcover species include *Dichondra repens* (Kidney Weed), *Pratia purpurascens* (Whiteroot) *Lomandra longifolia* (Spiny-headed Mat-rush), *Dianella caerulea* var. *producta* (Blue Flax Lily) *Entolasia marginata* (Bordered Panic), *Microlaena stipoides* var. *stipoides* (Weeping Meadow Grass) and *Pteridium esculentum* (Bracken). The groundcover stratum ranges in height from 0-2m with a PFC of 20-80%. The vines *Eustrephus latifolius* (Wombat Berry), *Glycine microphylla*, *Hardenbergia violacea* (False Sarsparilla) and *Convolvulus erubescens* (Pink Bindweed) were also recorded in this community. A grassy form of this community is shown in **Photograph 3.5** and a shrubby form is shown in **Photograph 3.6**.

Portions of this community have been impacted by the various land uses on the subject land. Regular slashing has seen a reduction in native groundcover species and grazing has increased the abundance of exotic species in some areas of this community. The eastern portion of this community is impacted by exotic grasses invading from the adjacent community. Further upslope the exotic species abundance decreases and native species tend to dominate. The north western portion of this community is also impacted by weed invasion from adjacent areas. The northern central portion of this community is less impacted by exotic species, with exotic species entering the community at the northern edge, adjacent to the roadside. Exotic species occupy 5-30% of the groundcover stratum in this community.



**Photograph 3.5** *Eucalyptus microcorys* Open Forest with grassy understorey



**Photograph 3.6** *Eucalyptus microcorys* Open Forest with shrubby understorey

### 3.3.5 *Eucalyptus signata* Woodland

**TSC Act Status:** Not listed.

**EPBC Act Status:** Not listed.

This community occurs in the centre of the subject land and occupies approximately 1.15ha. The tree stratum is dominated by *Eucalyptus signata* (Northern Scribbly Gum). Other trees recorded in this community include *Angophora costata* (Smooth-barked Apple), *Corymbia gummifera* (Red Bloodwood) and *Melaleuca quinquenervia* (Broad-leaved Paperbark). The tree stratum ranges in height from 10-18m with a PFC of 15-30%. Species recorded in the shrub stratum include *Leucopogon parviflorus* (Coastal Beard-heath), *Melaleuca nodosa* (Ball Honey-myrtle), *Leptospermum liversidgei*, *Acacia ulicifolia* (Prickly Moses) and *Epacris pulchella* (NSW Coral Heath). The shrub stratum ranges in height from 1-2m with a PFC of 5-25%. The dominant groundcover species is the exotic *Axonopus fissifolius* (Narrow-leaved Carpet Grass). Other common groundcover species include *Pteridium esculentum* (Bracken), *Gonocarpus micranthus*, *Pomax umbellata* (Pomax), *Baloskion tetraphyllum* subsp. *meiostachyum*, *Cyperus polystachyos* (A Sedge) and the exotic *Hypochaeris radicata* (Flatweed) and *Trifolium repens* (White Clover). The groundcover stratum ranges in height from 0-1.5m and has a PFC of 80-95%. This community is shown in **Photograph 3.7**.

This community has been impacted by the various land uses on the subject land. Regular slashing has seen a reduction in native groundcover species and grazing has increased the abundance of exotic species. Despite this, native species continue to persist in the community, with localised occurrences of native groundcover species at the base of canopy trees. The canopy stratum is comprised of native species, with only a few exotic species occurring in the shrub stratum. Exotic grasses and pasture species are frequent within this community and occupy approximately 60% of the stratum.





**Photograph 3.7**      *Eucalyptus signata* Woodland

### 3.4 Wet Forest|Woodland/Scrub/Heath

#### 3.4.1 *Corymbia gummifera* Open Forest

**TSC Act Status:** Not listed.

**EPBC Act Status:** Not listed.

This community occurs in the central portion of the subject land and occupies approximately 13.24ha, which includes a derived grassland component of 1.72ha. This community is characterised by the following two dominant tree combinations:

- *Corymbia gummifera* – *Eucalyptus resinifera* subsp. *resinifera*; and
- *Corymbia gummifera* – *Angophora costata*.

Other tree species recorded in this community include *Elaeocarpus reticulatus* (Blueberry Ash), *Melaleuca quinquenervia* (Broad-leaved Paperbark) and the exotic *Pinus elliottii* (Slash Pine). The tree stratum ranges in height from 10-20m with a PFC of 10-50%. Common species in the shrub stratum include *Leucopogon parviflorus* (Coastal Beard-heath), *Platysace ericoides* (Heathy Platysace), *Acacia ulicifolia* (Prickly Moses), *Leptospermum trinervium* (Flaky-barked Tea-tree) and *Melaleuca nodosa* (Ball Honeymyrtle). The shrub

stratum ranges in height from 0.1-5m with a PFC of 5-10%. Common groundcover species include *Pteridium esculentum* (Bracken), *Selaginella uliginosa* (Swamp Selaginella), *Gonocarpus micranthus*, *Pomax umbellata* (Pomax), *Dianella caerulea* var. *producta* (Blue Flax lily), *Panicum simile* (Two-colour Panic) and the exotic *Axonopus fissifolius* (Narrow-leaved Carpet Grass) and *Hypochaeris radicata* (Flatweed). The groundcover stratum ranges in height from 0-1.5m with a PFC of 70-90%. Vine species recorded in this community includes *Glycine clandestina* (Twining Glycine), *Hardenbergia violacea* (False Sarsparilla) and *Smilax glycyphylla* (Sweet Sarsparilla). This community is shown in **Photograph 3.8**.

This community continues to support an abundance of native species despite current land use activities. Exotic species, primarily exotic grasses, are in highest abundance in areas adjacent to disturbed land such as tracks. Clearing of trees within this community has led to a variation in community structure and presence of a derived grassland component of this community. Regular slashing has resulted in the reduction of shrub cover and height within this community.



**Photograph 3.8**      ***Corymbia gummifera* Open Forest**

### 3.4.2 *Angophora costata* - *Eucalyptus resinifera* Woodland

**TSC Act Status:** Not listed.

**EPBC Act Status:** Not listed.

This community occurs in the central portion of the subject land and occupies approximately 14.15ha. This community is characterised by the following two dominant tree combinations:

- *Angophora costata* – *Eucalyptus resinifera* subsp. *resinifera*; and
- *Angophora costata*.

Other tree species recorded in this community include *Eucalyptus globoidea* (White Stringybark), *Glochidion ferdinandii* (Cheese Tree) and the exotic *Pinus elliotii* (Slash Pine). The tree stratum ranges in height from m with a PFC of 10-50%. Common species in the shrub stratum include *Epacris microphylla* (Coral Heath), *Pultenaea villosa*, *Pultenaea paleacea* var. *paleacea* *Acacia ulicifolia* (Prickly Moses) *Leptospermum liversidgei* and *Boronia polygalifolia*. The shrub stratum ranges in height from 0.1-1.5m with a PFC of 5-25%. Common species in the groundcover stratum include *Gonocarpus micranthus*, *Tricoryne elatior* (Yellow Autumn-lily), *Fimbristylis dichotoma* (Common Fringe-sedge), *Lomandra longifolia* (Spiny-headed Mat-rush), *Panicum simile* (Two-colour Panic), *Paspalidium distans*, *Themeda australis* (Kangaroo Grass) and the exotic *Axonopus fissifolius* (Narrow-leaved Carpet Grass). The groundcover stratum ranges in height from 0-0.5m with a PFC of 70-90%. This community is shown in **Photograph 3.9**.

This community continues to support an abundance of native species despite current land use activities. Exotic species are primarily located adjacent to disturbed areas such as tracks. Exotic grasses are spread throughout this community. Previous clearing of this community has resulted in the woodland structure.





**Photograph 3.9**      *Angophora costata* – *Eucalyptus resinifera* Woodland

### **3.4.3**    *Eucalyptus robusta* Woodland/Open Forest

**TSC Act Status:** For portions of this community occurring below the 1 in-100-year flood line: EEC - Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions; For portions of this community occurring above the 1-in-100 year flood line: Not listed.

**EPBC Act Status:** Not listed.

This community occupies approximately 67.64ha of the subject land. Two distinct forms of this community occur on the subject land. The first is an intact form in the south eastern portion of the subject land, adjacent to the wetland area and bounded on the eastern side by a fence to exclude cattle. The second form of this community occurs to the west of the fence in the north western portion of the subject land and is a modified form of the community. Descriptions of species composition are provided for each form of the community.

The canopy of the south eastern portion of the community is dominated by *Eucalyptus robusta* (Swamp Mahogany) and *Melaleuca quinquenervia* (Broad-leaved Paperbark). Other trees species recorded include *Angophora costata* (Smooth-barked Apple), *Glochidion ferdinandii* (Cheese Tree) and *Acacia irrorata* subsp. *irrorata* (Green Wattle). The tree stratum ranges in height from 8-18m with a PFC of 10-65%. Shrub species recorded in this community include *Polyscias sambucifolia* subsp. *sambucifolia* (Elderberry Panax), *Pultenaea flexilis*, *Acacia suaveolens* (Sweet Scented Wattle), *Callistemon pachyphyllus* (Wallum Bottlebrush), *Melaleuca ericifolia* (Swamp Paperbark), *Banksia robur* (Wallum

Banksia) and *Persoonia levis* (Broad-leaved Geebung). The shrub stratum ranges in height from 3-10m with a PFC of 5-40%. Groundcover species recorded in this community include *Blechnum indicum* (Swamp Water Fern), *Pteridium esculentum* (Bracken), *Hemarthria uncinata* var. *uncinata* (Matgrass), *Homalanthus populifolius*, *Gahnia clarkei* (Tall Saw-sedge), *Gahnia sieberiana* (Red-fruit Saw-sedge) and *Baloskion tetraphyllum* subsp. *meiostachyum* and *Entolasia marginata* (Bordered Panic). The groundcover stratum ranges in height from 0-2m with a PFC of 70-95%. This portion of the community is shown in **Photograph 3.10**.

This form of the community corresponds to Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions, which is listed as an EEC under the TSC Act.



**Photograph 3.10** *Eucalyptus robusta* Open Forest in the south eastern portion of the subject land

The north western portion of this community is characterised by the following four main dominant tree combinations:

- *Eucalyptus robusta*;
- *Eucalyptus robusta* – *Angophora costata*;
- *Eucalyptus robusta* – *Eucalyptus resinifera*; and
- *Eucalyptus robusta* – *Angophora costata* – *Eucalyptus resinifera*.



*Melaleuca quinquenervia* (Broad-leaved Paperbark) was also common throughout this community. Other tree species recorded include *Glochidion ferdinandii* (Cheese Tree), *Acacia irrorata* subsp. *irrorata* (Green Wattle), *Melaleuca linariifolia* (Snow in Summer), *Eucalyptus tereticornis* (Forest Red Gum), *Livistona australis* (Cabbage Palm). The exotic *Cinnamomum camphora* (Camphor Laurel) and *Pinus elliottii* (Slash Pine) were also recorded in this community. The tree stratum ranges in height from 12-20m with a PFC of 5-65%. Shrub species recorded in this community include *Leptospermum liversidgei*, *Melaleuca thymifolia* (Thyme Honey Myrtle) *Callistemon salignus* (Willow Bottlebrush), *Pultenaea villosa* and the exotic *Chrysanthemoides monilifera* subsp. *rotundata* (Bitou Bush). The shrub stratum ranges in height from 0.5-5m with a PFC of 5%. Common groundcover species recorded in this community include the exotic *Axonopus fissifolius* (Narrow-leaved Carpet Grass) and *Conyza bonariensis* (Flaxleaf Fleabane) and the native *Cynodon dactylon* (Common Couch), *Dianella caerulea* var. *producta* (Blue Flax lily), *Lomandra longifolia* (Spiny-headed Mat-rush), *Paspalidium distans* and *Centella asiatica* (Pennywort). The groundcover stratum ranges in height from 0-0.5m with a PFC of 60-90%. This portion of the community is shown in **Photograph 3.11**.

This form of the community has been impacted by the various land uses on the subject land and subsequently varies in condition. Regular slashing has seen a reduction in native groundcover species and grazing has increased the abundance of exotic species. Despite this, native species continue to persist in the groundcover. Exotic grasses and pasture species are frequent within this community and occupy approximately 30-90% of the stratum. Clearing of trees within this community has led to a variation in community structure across the subject land.

Portions of this form of the community (those occurring below the 1-in-100 year flood line) corresponds to Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions, which is listed as an EEC under the TSC Act.



**Photograph 3.11** *Eucalyptus robusta* Open Forest/Woodland in the north eastern portion of the subject land

#### **3.4.4 Wet Heath**

**TSC Act Status:** Not listed.

**EPBC Act Status:** Not listed.

This community occurs in the western portion of the subject land and occupies approximately 20.17ha. This community generally lacks a tree stratum, however there are scattered occurrences of *Melaleuca quinquenervia* (Broad-leaved Paperbark), *Melaleuca linariifolia* (Snow in Summer), *Eucalyptus robusta* (Swamp Mahogany), *Casuarina glauca* (Swamp Oak) and *Eucalyptus resinifera* subsp. *resinifera* (Red Mahogany). The tree stratum ranges in height from 4-15m and has a PFC of 5%. Species recorded in the shrub stratum include *Melaleuca thymifolia* (Thyme Honey Myrtle), *Callistemon pachyphyllus* (Wallum Bottlebrush), *Melaleuca sieberi*, *Melaleuca nodosa* (Ball Honey Myrtle), *Leptospermum liversidgei* and *Melaleuca ericifolia* (Swamp Paperbark). The shrub stratum ranges in height from 0.2-1m and has a PFC of 10-40%. Species recorded in the groundcover include *Themeda australis* (Kangaroo Grass), *Paspalum orbiculare* (Ditch Millet), *Goodenia paniculata* (Swamp Goodenia), *Gonocarpus micranthus*, *Baumea juncea*, *Ptilothrix deusta*, *Schoenus brevifolius* (a Bog Rush) and the exotic *Axonopus fissifolius* (Narrow-leaved Carpet Grass) and *Paspalum urvillei* (Vasey Grass). The groundcover stratum ranges in height from 0-0.5m and has a PFC of 80-95%. This community is shown in **Photograph 3.12**.

Within this community there are localised depressions containing a higher abundance of wetland species. There are also occasional patches of exotic species where landfill has been dumped.



**Photograph 3.12** Wet Heath in the western portion of the subject land

### **3.4.5 *Casuarina glauca* - *Melaleuca* Regrowth Forest**

**TSC Act Status:** Not listed.

**EPBC Act Status:** Not listed.

This community along the western boundary of the subject land and occupies approximately 1.05ha. This community has a tree stratum dominated by *Casuarina glauca* (Swamp Oak), *Melaleuca quinquenervia* (Broad-leaved Paperbark) and the exotic *Pinus elliotii* (Slash Pine). *Livistona australis* (Cabbage Palm) and *Glochidion ferdinandii* (Cheese Tree) were also recorded in the tree stratum. The tree stratum ranges in height from 5-15m and has a PFC of 60-80%. The shrub stratum is dominated by *Melaleuca nodosa* (Ball Honeymyrtle) and *Melaleuca sieberi*. Other common shrub species include *Callistemon pachyphyllus* (Wallum Bottlebrush), *Leptospermum juniperinum* (Prickly Tea-tree), *Kunzea ambigua* (Tick Bush), *Dodonaea triquetra* (Large-leaf Hop-bush) and the exotic *Lantana camara* (Lantana). The shrub stratum ranges in height from 1-4m and has a PFC of 30-50%. Common groundcover species include the native *Persicaria decipiens* (Slender Knotweed), *Hydrocotyle peduncularis* (Pennywort), *Entolasia marginata* (Bordered Panic), *Imperata cylindrica* var. *major* (Blady Grass), *Hypolepis muelleri* (Harsh Ground Fern) and the exotic *Crassocephalum crepidioides* (Thickhead) and *Paspalum urvillei* (Vasey Grass). The



groundcover stratum ranges in height from 0-1m and has a PFC of 10-40%. The vines *Parsonsia straminea* (Common Silkpod), *Polymeria calycina* (Polymeria) and *Cassytha glabella* forma *glabella* (Slender Devil's Twine) were also recorded in this community. This portion of the community is shown in **Photograph 3.13**.

This community has been impacted by the various land uses on the subject land. Historical use of the subject land as a pine plantation is evident from the abundance of *Pinus ellottii* (Slash Pine) within the canopy stratum. Exotic species primarily occur along the western boundary where the community adjoins roadside vegetation. This community has a relatively dense regrowth understorey comprised of *Melaleuca* species which are likely to have established following previous disturbance.



**Photograph 3.13** *Casuarina glauca* – *Melaleuca* Regrowth Forest along the western boundary of the subject land

#### **3.4.6** *Melaleuca quinquenervia* Forest

**TSC Act Status:** EEC - Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions.

**EPBC Act Status:** Not listed.

This community occurs in the central eastern portion of the subject land and occupies approximately 1.43ha. The tree stratum is dominated by *Melaleuca quinquenervia* (Broad-leaved Paperbark) with *Casuarina glauca* (Swamp Oak), *Eucalyptus robusta* (Swamp Mahogany) and *Glochidion ferdinandii* (Cheese Tree) also occurring. The tree stratum ranges in height from 8-20m with a PFC of 20-60%. Species occurring in the shrub stratum

include the native *Acacia longifolia*, *Leptospermum polygalifolium* (Lemon Scented Tea-tree) and *Viminaria juncea* (Native Broom) and the exotic *Chrysanthemoides monilifera* subsp. *rotundata* (Bitou Bush). The shrub stratum ranges in height from 2-7m with a PFC of 10-60%. The groundcover stratum is dominated by *Gahnia clarkei* (Tall Saw-sedge), *Juncus kraussii* (Sea Rush) and *Cynodon dactylon* (Common Couch). Other native groundcover species include *Goodenia paniculata* (Swamp Goodenia), *Baumea juncea*, *Hemarthria uncinata* var. *uncinata* (Matgrass), *Sporobolus virginicus* (Sand Couch), *Blechnum indicum* (Swamp Water Fern) and *Kennedia rubicunda* (Dusky Coral Pea). Exotic species recorded in the groundcover include *Hypochaeris radicata* (Flatweed), *Trifolium repens* (White Clover) and *Axonopus fissifolius* (Narrow-leaved Carpet Grass). The groundcover stratum ranges in height from 0-1.8m in height with a PFC of 40-80%. This community is shown in **Photograph 3.14**.

This community corresponds to Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions, which is listed as an EEC under the TSC Act. This form of the community is in relatively good condition with few ongoing disturbances. A total of 15 species listed in the final determination were recorded within the quadrat surveyed within this community. This represents 42% of the species in the quadrat that are listed within the final determination.



**Photograph 3.14**      *Melaleuca quinquenervia* Forest

### **3.4.7**      *Melaleuca ericifolia* Scrub

**TSC Act Status:** EEC - Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions.

**EPBC Act Status:** Not listed.

This community occurs in the south eastern portion of the subject land and occupies approximately 9.08ha. This community generally lacks a tree stratum, however there are scattered occurrences of *Casuarina glauca* (Swamp Oak), *Melaleuca quinquenervia* (Broad-leaved Paperbark) and *Pinus eliottii* (Slash Pine). The shrub layer is dominated by *Melaleuca ericifolia* (Swamp Paperbark). There are a few local occurrences of other native shrubs including *Ozothamnus diosmifolius* (Ball Everlasting) and *Acacia longifolia*. The exotic *Chrysanthemoides monilifera* subsp. *rotundata* (Bitou Bush) was also recorded in the shrub stratum. The shrub stratum ranges in height from 1-4m with a projective foliage cover of 10-80%. The groundcover is dominated by *Baumea juncea* with *Juncus kraussii* (Sea Rush) also common. Additional groundcover species recorded in this community include *Isachne globosa* (Swamp Millet), *Themeda australis* (Kangaroo Grass), *Goodenia bellidifolia* subsp. *bellidifolia* (Daisy-leaved Goodenia), *Gonocarpus micranthus*, *Lobelia alata* (Angled Lobelia) and *Gahnia clarkei* (Tall Saw-sedge). The groundcover stratum ranges in height from 0-1.5m in height with a PFC of 10-90%. The occurrence of additional shrub and groundcover species within the community coincided with the occurrence of small drainage channels. The vines *Cassytha glabella* forma *glabella* (Slender Devil's Twine) and *Cassytha pubescens* (Common Devil's Twine) were also recorded in this community. This community is shown in **Photograph 3.15**.

This community corresponds to Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions, which is listed as an EEC under the TSC Act. Previous slashing of this community has resulted in variable shrub cover within this community. Between 2 and 10 species listed in the final determination were recorded within the three quadrats surveyed within this community. This represents 31-67% of the species in each quadrat that are listed within the final determination. With the exception of *Pinus eliottii* (Slash Pine), no other exotic species were recorded in this community.





Photograph 3.15 *Melaleuca ericifolia* Scrub

## 3.5 Wetland Communities

### 3.5.1 *Casuarina glauca* Forest

**TSC Act Status:** EEC - Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions.

**EPBC Act Status:** Not listed.

**Equivalent BioBanking Community Name:** Swamp Oak swamp forest fringing estuaries, Sydney Basin and South East Corner.

This community occurs in the central eastern portion of the subject land and occupies approximately 1.09ha. This community primarily consists of a monospecific stand of *Casuarina glauca* (Swamp Oak). The tree stratum ranges in height from 10-15m and has a PFC of 50-70%. The shrub stratum is dominated by *Chrysanthemoides monilifera* subsp. *rotundata* (Bitou Bush), *Solanum mauritianum* (Wild Tobacco Bush) and *Lantana camara* (Lantana). The shrub stratum ranges in height from 1-3m and has a PFC of 5-10%. The groundcover is dominated by *Baumea juncea*, with occurrences other native species including *Pellaea falcata* (Sickle Fern), *Dichondra repens* (Kidney Weed), *Juncus kraussii* (Sea Rush), *Dianella caerulea* var. *producta* (Blue Flax Lily), *Oplismenus aemulus* (Basket Grass) and *Sporobolus virginicus* (Sand Couch). The exotic *Sida rhombifolia* (Paddy's Lucerne) also occurs within the groundcover stratum. The vine *Stephania japonica* var. *discolor* (Snake Vine) also occurs in this community. The groundcover stratum ranges in

height from 0-1m and has a PFC of 20%. This portion of the community is shown in **Photograph 3.16**.

This portion of the community corresponds to Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions, which is listed as an EEC under the TSC Act. This is a modified form of the community as it generally is comprised of a monospecific stand of *Casuarina glauca* (Swamp Oak). A total of 7 species listed in the final determination were recorded within the quadrat surveyed within this community. This represents 41% of the species in each quadrat that are listed within the final determination. There is a high amount of exotic species cover in the shrub stratum.



**Photograph 3.16** *Casuarina glauca* Forest in the eastern side of the subject land

### **3.5.2** *Baumea juncea* Rushland

**TSC Act Status:** EEC - Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions.

**EPBC Act Status:** Not listed.

**Equivalent BioBanking Community Name:** Coastal floodplain sedgelands, rushlands, and forblands of the North Coast.

This community occurs in the south eastern portion of the subject land and occupies approximately 7.75ha. This community generally lacks a tree or shrub stratum, however there are scattered occurrences of *Casuarina glauca* (Swamp Oak), *Pinus eliottii* (Slash Pine) and *Chrysanthemoides monilifera* subsp. *rotundata* (Bitou Bush). The groundcover is

dominated by *Baumea juncea* with *Juncus kraussii* (Sea Rush) common in low abundance. *Sporobolus virginicus* (Sand Couch) and *Lobelia alata* (Angled Lobelia) were also recorded in this community. The groundcover ranges in height from 0.2-1.7m in height and has a PFC of 50-60%. This community is shown in **Photograph 3.17**.

This community corresponds to Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions community, which is listed as an EEC under the TSC Act. Between 2 and 3 species listed in the final determination were recorded respectively within the three quadrats surveyed within this community. This represents 50-100% of the species in each quadrat that are listed within the final determination. This is a modified form of the community which has a greater influence from freshwater flows than from tidal inundation. No exotic species were recorded in this community.



**Photograph 3.17**      *Baumea juncea* Rushland

### **3.5.3**      *Juncus kraussii* Saltmarsh

**TSC Act Status:** EEC - Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions.

**EPBC Act Status:** Not listed.

**Equivalent BioBanking Community Name:** Saltmarsh in estuaries of the Sydney Basin and South East Corner.

This community occurs along the south eastern boundary of the subject land and occupies approximately 19.63ha. This community lacks a tree or shrub stratum. The groundcover is



dominated by *Juncus kraussii* (Sea Rush), with local co-dominance of *Sporobolus virginicus* (Sand Couch) and *Sarcocornia quinqueflora* (Glasswort). *Samolus repens* (Creeping Brookweed) and *Baumea juncea* were also recorded in this community. The groundcover ranges in height from 0-1.3m in height and has a PFC of 80-90%. This community is shown in **Photograph 3.18**.

This community corresponds to Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions community, which is listed as an EEC under the TSC Act. Between 1 and 5 species listed in the final determination were recorded respectively within the three quadrats surveyed within this community. This represents 100% of the species in each quadrat that are listed within the final determination. This community is in good condition, with no exotic species having been recorded.



**Photograph 3.18** *Juncus kraussii* Saltmarsh with *Sarcocornia quinqueflora* and *Sporobolus virginicus*

### **3.5.4 *Avicennia marina* Mangroves**

**TSC Act Status:** Not listed.

**EPBC Act Status:** Not listed.

**Equivalent BioBanking Community Name:** Mangrove forest in estuaries of the Sydney Basin and South East Corner.

This community occurs in the south western portion of the subject land and occupies approximately 0.40ha. The tree stratum is comprised of *Avicennia marina* var. *australasica*

(Grey Mangrove) and is to 7m in height with a PFC of 20-45%. Shrubs recorded in this community include *Aegiceras corniculatum* (River Mangrove), *Myoporum acuminatum* (Mangrove Boobialla) and juvenile *Avicennia marina* var. *australasica* (Grey Mangrove). The shrub layer ranges in height from 1-3m with a PFC of 20%. *Juncus kraussii* (Sea Rush) is present in the groundcover stratum where this community adjoins the *Juncus kraussii* Saltmarsh community. The groundcover stratum ranges in height from 0-1m and has a PFC of 0-50%. This community is shown in **Photograph 3.19**.

No exotic species were recorded in this community. Much of the fringing vegetation along the eastern boundary of the subject land is comprised of this community.



**Photograph 3.19** *Avicennia marina* Mangroves with *Aegiceras corniculatum*

## 3.6 Exotic Communities

### 3.6.1 Pine Forest

**TSC Act Status:** Not listed.

**EPBC Act Status:** Not listed.

**Equivalent BioBanking Community Name:** None.

This community occurs in south western corner of the subject land and occupies approximately 0.22ha. This community is dominated by *Pinus elliottii* (Slash Pine), with occasional occurrences of the native *Angophora costata* (Smooth-barked Apple) and

*Casuarina glauca* (Swamp Oak). The understorey of this community is influenced by the surrounding exotic grassland and wet heath.

### 3.6.2 Exotic Grassland/Pasture

**TSC Act Status:** Not listed.

**EPBC Act Status:** Not listed.

**Equivalent BioBanking Community Name:** None.

This community occurs predominately in the north eastern portion of the subject land and occupies approximately 22.37ha. This community generally lacks a tree and shrub stratum although there are scattered occurrences at the edge to woodland and forest communities. Species recorded in the groundcover stratum include *Axonopus fissifolius* (Narrow-leaved Carpet Grass), *Setaria sphacelata* (South African Pigeon Grass), *Conyza bonariensis* (Flaxleaf Fleabane), *Senecio madagascariensis* (Fireweed), *Trifolium repens* (White Clover), *Lotus uliginosus* (Birds-foot Trefoil), *Briza minor* (Shivery Grass), *Cyperus brevifolius*, *Taraxacum officinale* (Dandelion), *Hypochaeris radicata* (Flatweed) and *Acetosella vulgaris* (Sheep Sorrel). This community is shown in **Photograph 3.20**.



**Photograph 3.20** Exotic Grassland in the northern eastern portion of the subject land

### 3.6.3 Disturbed Estuarine Vegetation

**TSC Act Status:** Not listed.



**EPBC Act Status:** Not listed.

**Equivalent BioBanking Community Name:** None.

This community occurs within the *Casuarina glauca* Forest in the eastern portion of the subject land and occupies approximately 0.14ha. This community lacks a tree stratum and is dominated in the shrub stratum by *Chrysanthemoides monilifera* subsp. *rotundata* (Bitou Bush). Exotic species dominate the groundcover and include *Pennisetum clandestinum* (Kikuyu), *Pinus eliottii* (Slash Pine seedlings) and *Paspalum* sp. The native *Zoysia macrantha* (Coast Couch) was also recorded in this community.

### 3.7 Flora

A number of flora surveys have been conducted within the subject land over several years and most recently by Cumberland Ecology in 2009 and 2010. A total flora species list from previous and current surveys is provided in **Appendix A**. Quadrat data from Cumberland Ecology quadrats undertaken using the (then) DEC Threatened Biodiversity Survey and Assessment Guidelines for Development and Activities (Working Draft) (DEC (NSW) 2004) is provided in **Appendix B**. Over 500 flora species have been recorded on the subject land, with approximately 85% of the species being native.

The plant species that dominate the major forest and woodland types are relatively consistent between the earlier surveys. However, there are many understorey species that were detected either by the early surveys or Cumberland Ecology but have not been detected in both. Many of these are herbaceous plants, as can be seen from the lists in **Appendix A**.

No threatened flora species have been detected within the subject land. A number of threatened flora species listed under the TSC Act and EPBC Act are known to occur within the Great Lakes LGA. **Table 3.2** analyses the likelihood of occurrence of each threatened flora species recorded within the Great Lakes LGA on the subject land.

**Table 3.2 Likelihood of occurrence of threatened flora species**

Family	Scientific Name	Common Name	TSC Act Status	EPBC Act Status	LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
Apocynaceae	<i>Cynanchum elegans</i>	White-flowered Wax Plant	E1	E	7	Usually occurs on the edge of dry rainforest vegetation. Other associated vegetation types include littoral rainforest; Coastal Tea-tree	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.	
						Leptospermum laevigatum – Coastal Banksia Banksia integrifolia subsp. integrifolia coastal scrub; Forest Red Gum Eucalyptus tereticornis aligned open forest and woodland; Spotted Gum Eucalyptus maculata aligned open forest and woodland; and Bracelet Honeymyrtle Melaleuca armillaris scrub to open scrub.		
Asteraceae	<i>Senecio spathulatus</i>	Coast Groundsel	E1	E	4	Grows on primary dunes.	Possible. Suitable habitat occurs along the eastern boundary of the subject land. Nearest DECCW record 16km north west of the subject land. Not detected in previous flora surveys.	
Casuarinaceae	<i>Allocasuarina defungens</i>	Dwarf Heath Casuarina	E1	E	32	Grows mainly in tall heath on sand, but can also occur on clay soils and sandstone.	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora	

**Table 3.2 Likelihood of occurrence of threatened flora species**

Family	Scientific Name	Common Name	EPBC		LGA	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			TSC Act Status	Act Status				
	<i>Allocasuarina simulans</i>	Nabiac Casuarina	V	V	68	Grows in heathland on coastal sands.	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.	
Elaeocarpaceae	<i>Tetraloche juncea</i>	Black-eyed Susan	V	V	63	Usually found in low open forest/woodland with a mixed shrub understorey and grassy groundcover. However, it has also been recorded in heathland and moist forest.	Possible. Suitable habitat occurs in forest communities on the subject land. Nearest DECCW record 6km west of the subject land. Not detected in previous flora surveys.	
Euphorbiaceae	<i>Chamaesyce psammogeton</i>	Sand Spurge	E1		9	Grows on fore-dunes and exposed headlands, often with <i>Spinifex sericeus</i> ).	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.	
Fabaceae (Caesalpinioideae)	<i>Senna acclinis</i> Cassia	Rainforest Cassia	E1		8	Grows in or on the edges of subtropical and dry rainforest.	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.	
Juncaginaceae	<i>Maunderia triglochinoideae</i>		V		1	Grows in swamps, creeks or shallow freshwater 30 - 60 cm deep on heavy	Possible. Suitable habitat occurs along the south eastern	



**Table 3.2 Likelihood of occurrence of threatened flora species**

Family	Scientific Name	Common Name	EPBC		LGA	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			TSC Act Status	Act Status				
Myrtaceae	<i>Angophora inopina</i>	Charmhaven Apple	V	V		31	clay, low nutrients. Occurs most frequently in four main vegetation communities: (i) Eucalyptus haemastoma–Corymbia gummifera–Angophora inopina woodland/forest; (ii) <i>Hakea teretifolia</i> – <i>Banksia oblongifolia</i> wet heath; (iii) <i>Eucalyptus resinifera</i> – <i>Melaleuca sieberi</i> – <i>Angophora inopina</i> sedge woodland; (iv) <i>Eucalyptus capitellata</i> – <i>Corymbia gummifera</i> – <i>Angophora inopina</i> woodland/forest.	boundary of the subject land. Nearest DECCW record 26km south west of the subject land. Not detected in previous flora surveys. Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.
	<i>Callistemon linearifolius</i>	Netted Bottle Brush	V			7	Grows in dry sclerophyll forest on the coast and adjacent ranges.	Possible. Suitable habitat occurs within the dry forest/woodland communities in the northern and north eastern portion of the subject land. Nearest DECCW record 12km west of the subject land. Not detected in previous

**Table 3.2 Likelihood of occurrence of threatened flora species**

Family	Scientific Name	Common Name	TSC Act		EPBC Act		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Status	Status	Status	Status				
	<i>Eucalyptus glaucina</i>	Slaty Red Gum	V	V	V	3			flora surveys. Possible (unlikely). Suitable habitat occurs within the dry forest/woodland communities in the northern and north eastern portion of the subject land. Nearest DECCW record 12km west of the subject land. It is a tree species that is readily detectable and has not been detected in previous flora surveys.	
	<i>Eucalyptus parramattensis</i> <i>subsp. decadens</i>		V	V	V	2	2	It occurs in dry sclerophyll woodland with dry heath understorey. It also occurs as an emergent in dry or wet heathland. Generally occupies deep, low-nutrient sands, often those subject to periodic inundation or where water tables are relatively high.	Possible (unlikely). Suitable habitat occurs within the dry forest/woodland communities in the northern and north eastern portion of the subject land and in the west heath. Nearest DECCW record 3km north east of the subject land. It is a tree species that is readily detectable and has not been detected in previous	

**Table 3.2 Likelihood of occurrence of threatened flora species**

Family	Scientific Name	Common Name	TSC Act Status	EPBC Act Status	LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
	<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	8	Generally grows in damp places, often near streams or low-lying areas on alluvial soils of low slopes or sheltered aspects.	flora surveys. Possible. Suitable habitat occurs in the riparian areas and wet heath on the subject land. Nearest DECCW record 20km south west of the subject land. Not detected in previous flora surveys.	
	<i>Melaleuca groveana</i>	Grove's Paperbark	V		4	Grows in heath and shrubland, often in exposed sites, at high elevations, on rocky outcrops and cliffs. It also occurs in dry woodlands.	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.	
	<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1	V	15	Found only in NSW, in a narrow, linear coastal strip from Bulahdelah to Conjola State Forest. On the central coast Magenta Lilly Pilly occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities.	Possible. Suitable habitat occurs in dense vegetation surrounding a drainage line in the north eastern portion of the subject land. Nearest DECCW record 16km north of the subject land. Not detected in previous flora surveys.	
Orchidaceae	<i>Corybas dowlingii</i>	Red Helmet	E1		2	Typically grows in gullies in tall open	Unlikely. No suitable habitat	



**Table 3.2 Likelihood of occurrence of threatened flora species**

Family	Scientific Name	Common Name	TSC Act		EPBC Act		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Status	Act	Status	Act				
		Orchid							forest on well-drained gravelly soil at elevations of 10-200m.	present on the subject land. Not detected in previous flora surveys.
	<i>Cryptostylis</i>	Leafless Tongue	V	V	V	V	2		Known from a range of communities, including swamp-heath and woodland.	Possible. Suitable habitat occurs in the wet heath and woodland communities on the subject land.
	<i>hunteriana</i>	Orchid						Large populations typically occur in woodland dominated by Scribbly Gum (Eucalyptus sclerophylla), Silvertop Ash (E. sieberi), Red Bloodwood (Corymbia gummifera) and Black Sheoak (Allocasuarina littoralis).	Nearst DECCW record 6km south east of the subject land. Not detected in previous flora surveys.	
	<i>Diuris pedunculata</i>	Small Snake Orchid	E1	E	E	E	1	Grows on grassy slopes or flats, often on peaty soils in moist areas. Also occurs on shale and trap soils, on fine granite, and among boulders.	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.	
	<i>Diuris praecox</i>	Rough Double Tail	V	V	V	V	1	Grows on hills and slopes of near-coastal districts in open forests which have a grassy to fairly dense understorey.	Possible. Suitable habitat occurs on the northern slopes of the subject land. Nearst DECCW record 5km south of the subject land. Not detected in previous flora surveys.	

**Table 3.2 Likelihood of occurrence of threatened flora species**

Family	Scientific Name	Common Name	TSC Act Status	EPBC Act Status	LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
	<i>Genoplesium littorale</i>	Tuncurry Midge Orchid	E4A		1		Known from only one population in the Tuncurry district. The population occurs on well-drained, open sand ridge sites in low dense heath dominated by <i>Ochrosperma lineare</i> or in sparse shrubland of <i>Monotoca elliptica</i> , <i>Brachyloba daphnoides</i> and/or <i>Leptospermum</i> spp.	Unlikely. Subject land not within known distribution. No suitable habitat present on the subject land. Not detected in previous flora surveys.
Proteaceae	<i>Grevillea guthrieana</i>	Guthrie's Grevillea	E1	E	19		Grows along creeks and cliff lines in eucalypt forest, on granitic or sedimentary soil.	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.
	<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flower Grevillea	V	V	2		Grows in sandy or light clay soils usually over thin shales. Occurs in a range of vegetation types from heath and shrubby woodland to open forest.	Unlikely. No suitable habitat present on the subject land. Not detected in previous flora surveys.
Rubiaceae	<i>Asperula asthenes</i>	Trailing Woodruff	V	V	37		Damp sites, often along river banks.	Possible. Suitable habitat occurs in drainage lines on the subject land. Nearest DECCW record 12km north west of the subject land. Not detected in previous

**Table 3.2 Likelihood of occurrence of threatened flora species**

Family	Scientific Name	Common Name	TSC Act Status	EPBC Act Status	LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
Scrophulariaceae	<i>Lindernia alsinoides</i>	Noah's False Chickweed	E1		15		Grows in swampy sites in sclerophyll forest and coastal heath.	flora surveys. Possible. Suitable habitat occurs in swampy areas on the subject land. Nearest DECCW record 12km north west of the subject land. Not detected in previous flora surveys.



## 3.8 Fauna

### 3.8.1 Fauna Habitat

Vegetation within the subject land provides potential habitat for a range of native vertebrate fauna species, including amphibians, birds, terrestrial and arboreal mammals, bats and reptiles. The range of vegetation communities and variations in vegetation community structure complexity has resulted in a wide diversity of fauna habitats on the subject land. The primary habitat types occurring on the subject land correspond to the broad vegetation community types. These are: dry forest/woodland, wet forest/woodland/scrub/heath and wetland communities. The quality of these fauna habitats varies due to previous and current land uses.

Key habitat features recorded during the current surveys included;

- Wetland and riparian environments which provide habitat for wetland birds, frogs and reptiles;
- Ground cover, leaf litter and fallen timber suitable as shelter for small terrestrial fauna species;
- Tree hollows suitable as shelter and nesting habitat for a range of hollow dependant fauna;
- Koala feed tree species; and
- Blossom-producing trees suitable for foraging for a range of nectivorous species.

Wetland and riparian environments are located throughout the subject land. The south eastern boundary of the subject land borders Myall River. Wetlands occur along this boundary 200-300m inland. A number of ephemeral drainage lines and dams occur on the subject land. These support aquatic or riparian vegetation and are likely to provide suitable habitat for some wetland-dependant species such as wetland birds and amphibians. The water contained within the dams provides a drinking source for terrestrial and arboreal mammals, birds and reptiles.

Features such as ground vegetation, leaf litter and fallen logs, which provide shelter for many of the small to medium sized terrestrial fauna species known from the locality, were generally limited to areas not previously cleared. Shelter habitat was limited within the cleared areas. These ground level habitat features are found in most of the forest and woodland vegetation types in a variety of habitat conditions. Given the previous and current land use, the types of terrestrial native species utilising these habitat characteristics are likely to be restricted to those that are adapted to disturbed forest and woodland and cleared areas. These species are also likely to be common in the locality.

The tree hollows recorded on the subject land provide shelter and nesting habitat for a number of small to medium-sized fauna species dependant on these resources. Hollows on

the subject land occur in both live trees and stags and occur in various forms including those formed in branches, trunks and cracked bark.

The number of tree hollows occurring on the subject land is likely to have been reduced through the clearing of vegetation. Despite this, 48 hollow-bearing trees were recorded in the development footprint during a tree hollow survey by Conacher. This tree survey was limited however, and further hollow-bearing trees are likely to occur on the subject land. The larger tree hollows in denser vegetation provide suitable habitat for large forest owls, while the smaller hollows support the smaller woodland and forest birds. Small to medium-sized hollows on the subject land are suitable for gliders and microchiropteran bats.

A large portion of the subject land is dominated by Koala feed species listed under SEPP 44. *Eucalyptus robusta* (Swamp Mahogany), *Eucalyptus microcorys* (Tallowwood), *Eucalyptus signata* (Northern Scribbly Gum), *Eucalyptus punctata* (Grey Gum) and *Eucalyptus tereticornis* (Forest Red Gum) have all been recorded on the subject land. Given that these species occupy greater than 15% of the canopy cover, the subject land is defined as potential koala habitat under SEPP 44.

The majority of the forest and woodland communities on the subject land provides suitable foraging habitat for a range of nectivorous species during blossom periods. **Table 3.3** lists the dominant canopy species recorded on the subject land and their blossom periods as described by Benson and McDougall (Benson and McDougall 1998). This table indicates that there is suitable foraging habitat for these species throughout the year. The blossoms of the dominant tree species recorded on the subject land are known to provide a food source for a number of threatened species including the Grey-headed Flying-fox (*Pteropus poliocephalus*), Yellow-bellied Glider (*Petaurus australis*) and Swift Parrot (*Lathamus discolor*).

**Table 3.3 Blossom periods for dominant tree species**

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>Angophora costata</i>											x	x
<i>Corymbia gummifera</i>			x	x								
<i>Corymbia maculata</i>			x	x								
<i>Eucalyptus microcorys</i>									x	x		
<i>Eucalyptus paniculata</i> <i>subsp. paniculata</i>					x	x	x	x	x	x	x	
<i>Eucalyptus pilularis</i>	x						x	x	x	x	x	x
<i>Eucalyptus resinifera</i> <i>subsp. resinifera</i>	x	x								x	x	x
<i>Eucalyptus robusta</i>			x	x	x	x	x	x	x			
<i>Eucalyptus signata</i>									x	x	x	x
<i>Eucalyptus umbra</i>	x						x	x	x	x	x	

**Table 3.3 Blossom periods for dominant tree species**

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>Melaleuca quinquenervia</i>		x	x	x	x	x	x	x	x			

### 3.8.2 Fauna Species

#### i. Introduction

A number of fauna surveys have been conducted within the subject land over several years, most recently by Conacher in 2007 and 2008. A total fauna species list from previous surveys is provided in **Appendix C**. Approximately 200 fauna species have been recorded on the subject land, with over 93% of the species being native. Five threatened species were recorded on the subject land during the 2007/2008 surveys. In total, 11 threatened species have been recorded on the subject land during previous surveys. **Table 3.4** lists the threatened fauna species recorded on the subject land. **Figure 3.5** shows the locations of threatened species recorded on the subject land. As the Little Lorikeet (*Glossopsitta pusilla*) and Varied Sitella (*Daphoenositta chrysoptera*) were listed under the TSC Act after the fauna surveys were conducted, no locations were recorded for these species.

A number of threatened fauna species listed under the TSC Act and EPBC Act are known to occur within the locality. **Table 3.5** analyses the likelihood of each of the threatened flora species recorded within the locality to occur within the subject land.

**Table 3.4 Threatened fauna species recorded on the subject land**

Scientific Name	Common Name	TSC Act Status	EPBC Act Status
<b>Amphibians</b>			
<i>Crinia tinnula</i>	Wallum Froglet	V	
<b>Birds</b>			
<i>Daphoenositta chrysoptera</i>	Varied Sitella	V	
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	
<i>Ixobrychus flavicollis</i>	Black Bittern	V	
<i>Pandion haliaetus</i>	Osprey	V	
<i>Ninox connivens</i>	Barking Owl	V	
<b>Mammals</b>			
<i>Petaurus norfolcensis</i>	Squirrel Glider	V	
<i>Phascolarctos cinereus</i>	Koala	V, E2	

**Table 3.4 Threatened fauna species recorded on the subject land**

<b>Scientific Name</b>	<b>Common Name</b>	<b>TSC Act Status</b>	<b>EPBC Act Status</b>
Pteropus poliocephalus	Grey-headed Flying-fox	V	V
Miniopterus australis	Little Bentwing-bat	V	
Miniopterus screibersii oceanensis	Eastern Bentwing-bat	V	
Mormopterus norfolkensis	Eastern Freetail-bat	V	
Myotis macropus	Southern Myotis	V	
Scoteanax rueppellii	Greater Broad-nosed Bat	V	
Syconycteris australis	Common Blossom-bat	V	

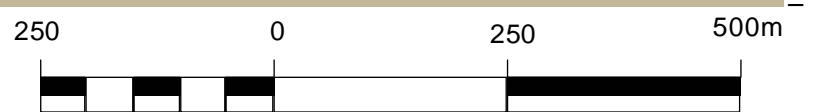




- |                               |                              |
|-------------------------------|------------------------------|
| Subject land                  | Eastern Bentwing-bat 2002    |
| Wallum Froglet call locations | Greater Broad-nosed Bat 2002 |
| Osprey 2007                   | Eastern Freetail-bat 2004    |
| Squirrel Glider 2002          | Little Bentwing-bat 2004     |
| Squirrel Glider 2004          | Little Bentwing-bat 2008     |
| Barking Owl call area 2008    | Grey-headed Flying-fox 2008  |



Figure 3.4 Locations of threatened fauna species recorded on the subject land





ii. *Amphibians*

The wetlands and dams on the subject land provide permanent water sources constituting habitat for a number of amphibian species, while the ephemeral drainage lines provide suitable foraging and breeding habitat. Thirteen frog species were recorded on the subject land during the 2007/2008 survey period. A total of 20 frog species have been recorded on the subject land during previous surveys.

One threatened frog species, the Wallum Froglet (*Crinia tinnula*), has been recorded on the subject land. This species is listed as Vulnerable under the TSC Act. The Wallum Froglet is found only in acid paperbark swamps and sedge swamps of the coastal 'wallum' country (DEC (NSW) 2006). The final determination for Swamp Sclerophyll Floodplain Forest lists the Wallum Froglet as a species that occurs in the habitat supported by the community (NSW Scientific Committee 2004b). The Wallum Froglet has been recorded from a number of locations on the subject land (see **Figure 3.4**). It is expected that the Wallum Froglet would opportunistically colonise other areas of the subject land, particularly during heavy rainfall periods.

iii. *Birds*

The subject land supports a high diversity of bird species. This is to be expected given the range of habitats available on the subject land and the mobility of this fauna group. The forest and woodland habitats provide nesting and foraging habitat for a variety of small to medium sized birds including finches, honeyeaters and lorikeets. The subject land, particularly grassland areas, provides suitable habitat for a range of common diurnal raptors and owls, including threatened species. The limited number of large hollow-bearing trees and dense riparian vegetation is likely to limit the availability of nesting habitat for these species. The wetlands, dams and drainage lines provide suitable habitat for a number of wetland and riparian dependent species including ducks, cormorants and egrets. Seventy-eight bird species were recorded on the subject land during the 2007/2008 survey period. A total of 125 bird species, including 4 exotic species, have been recorded on the subject land during previous surveys.

The following threatened bird species have been recorded on the subject land:

- Varied Sitella (*Daphoenositta chrysoptera*);
- Little Lorikeet (*Glossopsitta pusilla*);
- Black Bittern (*Ixobrychus flavicollis*);
- Osprey (*Pandion haliaetus*); and
- Barking Owl (*Ninox connivens*).

These species are all listed as Vulnerable under the TSC Act.

The Varied Sittella inhabits eucalypt forests and woodlands, especially rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland (DECCW (NSW) 2010). The Varied Sittella is expected to forage across most of the forest and woodland areas of the subject land, feeding on arthropods gleaned from crevices in rough or decorticating bark, dead branches, standing dead trees, and from small branches and twigs in the tree canopy (DECCW (NSW) 2010). Nesting habitat is also available for this species in the forest and woodland vegetation. As this species was listed under the TSC Act after fauna surveys were undertaken, no locations of this species are available.

The Little Lorikeet inhabits dry, open eucalypt forests and woodland and have been recorded from both old-growth and logged forests in the eastern part of their range (NSW Scientific Committee 2009). The Little Lorikeet is expected to forage across most of the forest and woodland areas of the subject land, feeding on blossoms in the tree canopy. Nesting habitat for this species is available in the form of hollow-bearing trees. As this species was listed under the TSC Act after fauna surveys were undertaken, no locations of this species are available.

The Black Bittern inhabits both terrestrial and estuarine wetlands, generally in areas of permanent water and dense vegetation (DEC (NSW) 2005b). A Black Bittern was recorded in a 1988 survey of the subject land. No location of this record is provided. The Black Bittern feeds on frogs, reptiles, fish and invertebrates, including snails, dragonflies, shrimps and crayfish, with most feeding done at dusk and at night (DEC (NSW) 2005b). Potential foraging habitat is present within the wetland communities on the subject land.

The Osprey inhabits coastal areas, particularly around the mouths of large rivers, lagoons and lakes (DEC (NSW) 2005j). An Osprey was recorded flying over the central eastern portion of the subject land (see **Figure 3.4**). The Osprey feeds on fish over clear open water (DEC (NSW) 2005j). This species is not expected to forage on the subject land, however some nesting habitat is available in the vegetation adjacent to the Myall River.

The Barking Owl inhabits eucalypt woodland, open forest, swamp woodlands and timber along water courses (DEC (NSW) 2005a). Calls from a Barking Owl have been recorded in the north eastern corner of the subject land amongst dense vegetation in 2003 and 2008 (see **Figure 3.4**). The Barking Owls is expected to forage in the dry forest/woodland and wet forest/woodland communities on the subject land. It hunts upon terrestrial, arboreal and aerial prey, eating a variety of birds, mammals and large insects (NSW NPWS 2003). They roost in tall understorey trees with dense foliage such as Acacia and Casuarina species, or the dense clumps of canopy leaves in large Eucalypts along creek lines (DEC (NSW) 2005a). Limited roosting habitat is available on the subject land for this species.

#### *iv. Mammals*

The subject land supports a high diversity of mammal species. Foraging and nesting/roosting habitat for these species is primarily contained within the forest and woodland communities. A number of species also utilise the grassland areas of the subject land. Seventeen mammal species were recorded on the subject land during the 2007/2008 survey period. A total of 43 mammal species, including 10 exotic species, have been

recorded on the subject land during previous surveys. This includes six arboreal mammals, 21 terrestrial mammals, 3 megachiropteran bats and 13 microchiropteran bats.

The following threatened mammal species have been recorded on the subject land:

- Squirrel Glider (*Petaurus norfolcensis*);
- Koala (*Phascolarctos cinereus*);
- Grey-headed Flying-fox (*Pteropus poliocephalus*);
- Common Blossom-bat (*Syconycteris australis*);
- Little Bentwing-bat (*Miniopterus australis*);
- Eastern Bentwing-bat (*Miniopterus screibersii oceanensis*);
- Eastern Freetail-bat (*Mormopterus norfolkensis*);
- Southern Myotis (*Myotis macropus*); and
- Greater Broad-nosed Bat (*Scoteanax rueppellii*).

These species are all listed as Vulnerable under the TSC Act. The Koala is also forms part of an endangered population in Hawks Nest and Tea Gardens listed under the TSC Act. The Grey-headed Flying-fox is also listed as Vulnerable under the EPBC Act.

The Squirrel Glider is known to inhabits Blackbutt – Bloodwood forest with heath understorey in coastal areas (DEC (NSW) 2005l). The Squirrel Glider was recorded in 2002 surveys and 2003/2004 surveys at two locations (see **Figure 3.4**). The Squirrel Glider requires abundant tree hollows for refuge and nest sites (DEC (NSW) 2005l). Hollows of a suitable size have been recorded on the subject land. The Squirrel Glider is expected to forage across most of the forest and woodland areas of the subject land, feeding on blossoms in the tree canopy.

The Koala inhabits eucalypt forests and woodlands (DEC (NSW) 2005g). Important tree species for the population in the Hawks Nest and Tea Gardens area include *Eucalyptus robusta* (Swamp Mahogany) and *Eucalyptus microcorys* (Tallowwood) (DEC (NSW) 2005h), both of which are found on the subject land. The Koala has been recorded once on the subject land during surveys in 1992 (Mount King Ecological Surveys 1992). The previous Conacher EAR notes an unconfirmed DECCW record of a Koala in 1995. The Conacher 2007/2008 surveys recorded no evidence of the Koala on the subject land, and the subject land is not considered to currently support a Koala population. Accordingly, the land is only considered as potential Koala habitat.

The Grey-headed Flying-fox inhabits rainforests, open forests, woodlands, Melaleuca swamps and Banksia woodlands, feeding in the canopy on fruit, blossoms and nectar (NSW Scientific Committee 2004a). The Grey-headed Flying-fox was recorded in the 2008 survey at two locations (see **Figure 3.4**). The Grey-headed Flying-fox is expected to forage across the majority of the forest and woodland communities on the subject land. Grey-headed



Flying-foxes congregate in large numbers at roosting sites (camps) that may be found in rainforest patches, Melaleuca stands, mangroves, riparian woodland or modified vegetation in urban areas (NSW Scientific Committee 2004a). No camps have been recorded on the subject land; therefore it is likely that the Grey-headed Flying-fox only forages on the subject land.

The Common Blossom-bat inhabits littoral rainforest and adjacent areas (DEC (NSW) 2005c). The Common Blossom-bat was recorded on the subject land prior to the 2007/2008 surveys. No location of this recorded is provided. The Common Blossom-bat roosts in littoral rainforests and feeds on flowers in adjacent heathland and paperbark swamps. No littoral rainforest occurs on the subject land, therefore this species is likely to only utilise the subject land for foraging.

The Little Bentwing-bat inhabits moist eucalypt forest, rainforest or dense coastal banksia scrub (DEC (NSW) 2005i). The Little Bentwing-bat has been recorded at three locations on the subject land (see **Figure 3.4**). The Little Bentwing-bat roosts in caves, tunnels and sometimes tree hollows during the day and forage at night for small insects beneath the canopy of densely vegetation habitats (DEC (NSW) 2005i). No caves and tunnels occur on the subject land, however hollow-bearing trees have been recorded. Suitable foraging habitat for this species occurs on the subject land, in denser areas of the forest and woodland communities.

The Eastern Bentwing-bat inhabits forested areas (DEC (NSW) 2005d). The Eastern Bentwing-bat has been recorded at one location during a 2002 survey (see **Figure 3.4**). Caves are the primary roosting habitat for the Eastern Bentwing-bat, and they also use derelict mines, storm-water tunnels, buildings and other man-made structures (DEC (NSW) 2005d). No caves or man-made structure suitable for roosting occur on the subject land, therefore this species is unlikely to utilise the subject land for roosting. Suitable foraging habitat for this species occurs on the subject land in the forest and woodland communities.

The Eastern Freetail-bat inhabits dry sclerophyll forest and woodland (DEC (NSW) 2005e). The Eastern Freetail-bat has been recorded at two locations on the subject land (see **Figure 3.4**). This species roosts mainly in tree hollows, however it will also roost under bark or in man-made structures (DEC (NSW) 2005e). Available roosting habitat on the subject land includes tree hollows and loose bark. Suitable foraging habitat for this species occurs across the subject land.

The Southern Myotis roosts close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage (DEC (NSW) 2005k). This species forages over streams and pools catching insects and small fish by raking their feet across the water surface. The Southern Myotis has been recorded on the subject land, however no location for the record has been provided (DEC (NSW) 2005k). Suitable roosting and foraging habitat occurs on the subject land in the forest and woodland communities.

The Greater Broad-nosed Bat inhabits as variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest

(DEC (NSW) 2005f). This species has been recorded at one locations on the subject land (see **Figure 3.4**). The Greater Broad-nosed Bat primarily roosts in tree hollows, however is has also been recorded in buildings (DEC (NSW) 2005f). Suitable roosting and foraging habitat occurs on the subject land in the forest and woodland communities.

v. *Reptiles*

Ground vegetation, leaf litter and fallen logs provide shelter and forage habitat for reptile species. Riparian habitats also provide suitable features for reptile species. Five reptile species were recorded on the subject land during the 2007/2008 survey period. A total of 15 reptile species have been recorded on the subject land during previous surveys. No threatened reptile species have been recorded on the subject land.

vi. *Potentially Occurring Threatened Species*

A number of threatened fauna species listed under the TSC Act and EPBC Act are known to occur within the locality. **Table 3.5** analyses the likelihood of each of the threatened flora species recorded within the locality to occur within the subject land.

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC	EPBC	LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act Status	Act Status				
Amphibia								
Hylidae	<i>Litoria aurea</i>	Green and Golden Bell Frog	E1	V	14		Inhabits marshes, dams and stream-sides, particularly those containing bullrushes ( <i>Typha</i> spp.) or spikerushes ( <i>Eleocharis</i> spp.).	Possible (unlikely). Suitable foraging and breeding habitat occurs within riparian environments. Nearest DECCW record 14km north east of the subject land. Not detected in previous fauna surveys.
	<i>Litoria brevipalmata</i>	Green-thighed Frog	V		9		Occur in a range of habitats from rainforest and moist eucalypt forest to dry eucalypt forest and heath, typically in areas where surface water gathers after rain.	Possible (unlikely). Suitable foraging and breeding habitat occurs across most of the wetter areas of the subject land. Nearest DECCW record 10km north of the subject land. Not detected in previous fauna surveys.
	<i>Litoria daviesae</i>	Davies' Tree Frog	V		3		Occurs in permanently flowing streams above 400 m elevation. Habitat includes streamside vegetation such as rainforest, moist and dry eucalypt forest	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
Myobatrachidae	<i>Cirinia tinnula</i>	Wallum Froglet	V		V		42	7	or heath and tea tree with tussocks and ferns along streams. Found only in acid paperbark swamps and sedge swamps of the coastal 'wallum' country.	Present and locally abundant. Recorded in Eucalyptus robusta Open Forest/Woodland and Wet Heath. Suitable foraging and breeding habitat occurs across most of the wetter areas of the subject land.
	<i>Mixophyes balbus</i>	Stuttering Frog	E1	V			95		Found in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range.	Possible (unlikely). Sub optimal habitat occurs along the north eastern portion the subject land. Nearest DECCW record 12km north of the subject land. Not detected in previous fauna surveys.
	<i>Mixophyes iteratus</i>	Giant Barred Frog	E1	E			28		Forage and live amongst deep, damp leaf litter in rainforests, moist eucalypt forest and nearby dry eucalypt forest, at elevations below 1000 m. Breed around shallow, flowing rocky streams.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.



**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
<i>Aves</i>										
Acanthizidae	<i>Pyrholaemus sagittatus</i>	Speckled Warbler	V				5		Lives in a wide range of Eucalyptus dominated communities that have a grassy understorey, often on rocky ridges or in gullies.	Possible. Suitable foraging and nesting habitat occurs in the dry forest/woodland communities on the subject land. Nearest DECCW record 10km north of the subject land. Not detected in previous fauna surveys.
Accipitridae	<i>Hieraaetus morphnoides</i>	Little Eagle	V				1		Occupies open eucalypt forest, woodland or open woodland. Sheoak or acacia woodlands and riparian woodlands of interior NSW are also used.	Possible. Suitable foraging and nesting habitat in the dry and wet forest/woodland areas of the subject land. Nearest DECCW record occurs on the subject land. Not detected in previous fauna surveys.
	<i>Lophoictinia isura</i>	Square-tailed Kite	V				2		Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.	Possible. Suitable foraging and nesting habitat in the dry and wet forest/woodland areas of the subject land. Nearest DECCW record 35km north east of the

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>Pandion haliaetus</i>	Osprey	V		59	6	Favour coastal areas, especially the mouths of large rivers, lagoons and lakes.	subject land. Not detected in previous fauna surveys. Present. Foraging occurs primarily over Myall River. Sub optimal nesting habitat occurs along the western boundary of the subject land with the forest and woodland communities.		
Anatidae	<i>Oxyura australis</i>	Blue-billed Duck	V		1		Prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation.	Possible. Sub optimal habitat occurs within the wetland communities on the subject land. Nearest DECCW record 30km south west of the subject land. Not detected in previous fauna surveys.		
Anseranatidae	<i>Anseranas semipalmata</i>	Magpie Goose	V		1		Mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges.	Possible. Sub optimal habitat occurs within the wetland communities on the subject land. Nearest DECCW record 24km north of the subject land. Not detected in previous fauna surveys.		

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC Act Status		EPBC Act Status		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
Ardeidae	<i>Botaurus poiciloptilus</i>	Australasian Bittern	V				1		Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes ( <i>Typha</i> spp.) and spikerushes ( <i>Eleocharis</i> spp.).	Possible. Sub optimal habitat occurs within the wetland communities on the subject land. Nearest DECCW record 24km south west of the subject land. Not detected in previous fauna surveys.
	<i>Ixobrychus flavicollis</i>	Black Bittern	V				4	Inhabits both terrestrial and estuarine wetlands, generally in areas of permanent water and dense vegetation. Where permanent water is present, the species may occur in flooded grassland, forest, woodland, rainforest and mangroves.	Present. Last recorded on the subject land in 1988. Likely to have occurred in the wetland communities.	
Atrichornithidae	<i>Atrichornis rufescens</i>	Rufous Scrub-bird	V				1	High altitude subtropical, warm temperate and cool temperate rainforest, and moist eucalypt forest with rainforest middle storey.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.	
Burhinidae	<i>Burhinus grallarius</i>	Bush Stone-curlew	E1				7	Inhabits open forests and woodlands with a sparse grassy groundlayer and fallen timber.	Possible. Suitable foraging and nesting habitat occurs in the dry forest/woodland communities on	

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>Esacus neglectus</i>	Beach Stone-curlew	E4A				1		Occurs on open, undisturbed beaches, islands, reefs, and estuarine intertidal sandflats and mudflats; beaches with estuaries or mangroves nearby are preferred; may also frequent river mouths, offshore sandbars and rock platforms.	the subject land. Nearest DECCW record 12km south west of the subject land. Not detected in previous fauna surveys. Possible (unlikely given distance to nearest record). Suitable habitat occurs along the western boundary of the subject land, primarily adjacent to the mangroves. Nearest DECCW record 60km north east of the subject land. Not detected in previous fauna surveys.
Cacatuidae	<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V				1	Generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In winter, may occur at lower altitudes in drier more open eucalypt forests and woodlands, and often found in urban areas.	Possible. Suitable habitat occurs in the wet forest/woodland communities on the subject land. Nearest DECCW record 8km south of the subject land. Not detected in previous fauna surveys.	
	<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V				160	Inhabits open forest and woodlands of the coast and the Great Dividing Range	Possible. Suitable habitat occurs in the dry forest/woodland	



**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
Campephagidae	<i>Coracina lineata</i>	Barred Cuckoo-shrike	V				1	up to 1000 m in which stands of she-oak species, particularly Black She-oak ( <i>Allocasuarina littoralis</i> ), Forest She-oak ( <i>A. torulosa</i> ) or Drooping She-oak ( <i>A. verticillata</i> ) occur.	communities on the subject land, particularly where <i>Allocasuarina torulosa</i> (Forest Oak) has been recorded. Nearest DECCW record 5km south west of the subject land. Not detected in previous fauna surveys.	
Casuaritidae	<i>Dromaius novaehollandiae</i>	Emu population in the New South Wales North Coast Bioregion and Port Stephens local government area	E2				1	Rainforest, eucalypt forests and woodlands, clearings in secondary growth, swamp woodlands and timber along watercourses.	Possible (unlikely). Suitable habitat occurs in the dry and wet forest/woodland communities on the subject land. Nearest DECCW record 20km north west of the subject land. Not detected in previous fauna surveys.	
Charadriidae	<i>Charadrius</i>	Lesser Sand-	V				1	Occur in open forest, woodland, coastal heath, coastal dunes, wetland areas, tea tree plantations and open farmland, and occasionally in littoral rainforest.	Possible (unlikely). Suitable habitat occurs in the across the subject land. Nearest DECCW record 2km east of the subject land. Not detected in previous fauna surveys.	
								Almost entirely coastal in NSW.	Possible. Sub optimal habitat	

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>mongolus</i>	plover							favouring the beaches of sheltered bays, harbours and estuaries with large intertidal sandflats or mudflats; occasionally occurs on sandy beaches, coral reefs and rock platforms.	occurs adjacent to the eastern boundary of the subject land. Nearest DECCW record 18km south west of the subject land. Not detected in previous fauna surveys.
Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1			136	14	Inhabits permanent freshwater wetlands including margins of billabongs, swamps, shallow floodwaters, and adjacent grasslands and savannah woodlands; can also be found occasionally on inter-tidal shorelines, mangrove margins and estuaries.	Possible. Suitable habitat occurs along the boundary of the Myall River. Nearest DECCW record occurs immediately adjacent to the subject land. Not detected in previous fauna surveys.	
Climacteridae	<i>Climacteris picumnus</i>	Brown Treecreeper	V			2		Mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey.	Possible. Sub-optimal habitat occurs in the across the dry forest/woodland communities and wet woodland communities. Nearest DECCW record 18km south west of the subject land. Not detected in previous fauna surveys.	
Columbidae	<i>Ptilinopus</i>	Wompoo Fruit-	V			12		Occurs in, or near rainforest, low	Possible (unlikely). Sub-optimal	

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>magnificus</i>	Dove							elevation moist eucalypt forest and brush box forests.	habitat occurs within wet forest/woodland communities. Nearest DECCW record 7km south east of the subject land. Not detected in previous fauna surveys.
	<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V				1		Occur mainly in sub-tropical and dry rainforest and occasionally in moist eucalypt forest and swamp forest, where fruit is plentiful.	Possible (unlikely). Sub-optimal habitat occurs within wet forest/woodland communities. Nearest DECCW record 7km south east of the subject land. Not detected in previous fauna surveys.
	<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V				1		Inhabits rainforest and similar closed forests where it forages high in the canopy, eating the fruits of many tree species such as figs and palms. It may also forage in eucalypt or acacia woodland where there are fruit-bearing trees.	Possible (unlikely). Sub-optimal habitat occurs within wet forest/woodland communities. Nearest DECCW record 7km south east of the subject land. Not detected in previous fauna surveys.
Diomedidae	<i>Diomedea exulans</i>	Wandering Albatross	E1	V			1		Spend the majority of their time in flight, soaring over the southern oceans. They	Unlikely. No suitable habitat present on the subject land. Not

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC	EPBC	LGA	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act Status	Act Status				
	<i>Thalassarche melanophris</i>	Black-browed Albatross	V	V	2		breed on a number of islands just north of the Antarctic Circle.	detected in previous fauna surveys.
							Inhabits antarctic, subantarctic, subtropical marine and coastal waters over upwellings and boundaries of currents.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
Haematopodidae	<i>Haematopus sootii</i>	Sooty Oystercatcher	V		13	6	Favours rocky headlands, rocky shelves, exposed reefs with rock pools, beaches and muddy estuaries. Forages on exposed rock or coral at low tide for foods such as limpets and mussels.	Possible. Suitable habitat occurs along the wetland fringes adjacent to the Myall River.
								Nearest DECCW record occurs immediately adjacent to the subject land. Not detected in previous fauna surveys.
Jacanidae	<i>Haematopus longirostris</i>	Pied Oystercatcher	V		91	6	Favours intertidal flats of inlets and bays, open beaches and sandbanks. Forages on exposed sand, mud and rock at low tide, for molluscs, worms, crabs and small fish.	Possible. Suitable habitat occurs along the wetland fringes adjacent to the Myall River.
								Nearest DECCW record occurs immediately adjacent to the subject land. Not detected in previous fauna surveys.
	<i>Irediparra gallinacea</i>	Comb-crested Jacana	V		1		Inhabits permanent wetlands with a	Unlikely. No suitable habitat

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
		Jacana							good surface cover of floating vegetation, especially water-lilies.	present on the subject land. Not detected in previous fauna surveys.
Laridae	<i>Sterna albifrons</i>	Little Tern	E1			270	1	Almost exclusively coastal, preferring sheltered environments; however may occur several kilometres from the sea in harbours, inlets and rivers (with occasional offshore islands or coral cay records).	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.	
Meliphagidae	<i>Epthianura albifrons</i>	White-fronted Chat	V				1	Usually found foraging on bare or grassy ground in wetland areas, singly or in pairs. They are insectivorous, feeding mainly on flies and beetles caught from or close to the ground.	Possible. Sub-optimal habitat occurs within the wetland communities. Not detected in previous fauna surveys.	
	<i>Melithreptus gularis</i>	Black-chinned Honeyeater (eastern subspecies)	V				1	Occupies mostly upper levels of drier open forests or woodlands dominated by box and ironbark eucalypts, especially Mugga Ironbark ( <i>Eucalyptus sideroxylon</i> ), White Box ( <i>Eucalyptus albens</i> ), Grey Box ( <i>Eucalyptus microcarpa</i> ), Yellow Box ( <i>Eucalyptus melliodora</i> ) and Forest Red Gum	Possible. Sub-optimal habitat occurs within wet forest/woodland communities. Nearest DECCW record 18km north west of the subject land. Not detected in previous fauna surveys.	



**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>Xanthomyza phrygia</i>	Regent	E1		4			(Eucalyptus tereticornis). Also inhabits open forests of smooth-barked gums, stringybarks, ironbarks and tea-trees.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.	
		Honeyeater						The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak.	Present. Suitable habitat occurs within the wetland communities on the subject land. Not detected in previous fauna surveys.	
Neosittidae	<i>Daphoenositta chrysoptera</i>	Varied Sittella	V			2		Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.	
Pachycephalidae	<i>Pachycephala olivacea</i>	Olive Whistler	V		1			Mostly inhabit wet forests above about 500m. During the winter months they may move to lower altitudes.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.	
Petroicidae	<i>Melanodryas cucullata</i>	Hooded Robin	V		2			Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.	
Pomatostomidae	<i>Pomatostomus</i>	Grey-crowned	V			24		Inhabits open Box-Gum Woodlands on	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.	

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
Procellariidae	<i>temporalis</i>	Babbler (eastern subspecies)							the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains.	present on the subject land. Not detected in previous fauna surveys.
	<i>temporalis</i>									
	<i>Macronectes giganteus</i>	Southern Giant Petrel	E1	E	1	1	1	1	Has a circumpolar pelagic range from Antarctica to approximately 20° S and is a common visitor off the coast of NSW. Nests in small colonies amongst open vegetation on Antarctic and subantarctic islands.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
	<i>Pterodroma leucoptera leucoptera</i>	Gould's Petrel	V	E	2	1	1	1	Breeds on both Cabbage Tree Island, 1.4 km offshore from Port Stephens and on nearby Boondelbah island. The range and feeding areas of non-breeding Petrels are unknown.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
Psittacidae	<i>Puffinus carneipes</i>	Flesh-footed Shearwater	V		1				Marine. Nest on Lord Howe Island in forests on sandy soils.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
	<i>Glossopsitta pusilla</i>	Little Lorikeet	V		91	2	2	2	Little Lorikeets mostly occur in dry, open eucalypt forests and woodlands. They have been recorded from both old-	Present. Suitable habitat occurs within the forest and woodland communities on the subject land.

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>Lathamus discolor</i>	Swift Parrot	E1	E			74	8	growth and logged forests in the eastern part of their range. Occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations.	Possible. Suitable habitat occurs within the dry and wet forest/woodland communities. Potential to occur as an infrequent nomadic visitor. Nearest DECCW record occurs adjacent to the subject land. Not detected in previous fauna surveys.
	<i>Neophema pulchella</i>	Turquoise Parrot	V				8		Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
Scolopacidae	<i>Calidris tenuirostris</i>	Great Knot	V				1		Occurs within sheltered, coastal habitats containing large, intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons.	Possible (unlikely given distance to nearest record).. Suitable habitat occurs at the wetland fringes along the Myall River and in saltmarsh. Nearest DECCW record 35km south west of the subject land. Not detected in

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>Limosa limosa</i>	Black-tailed Godwit	V				1		Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats.	previous fauna surveys. Possible (unlikely given distance to nearest record). Suitable habitat occurs at the wetland fringes along the Myall River and in saltmarsh. Nearest DECCW record 38km south west of the subject land. Not detected in previous fauna surveys.
	<i>Xenus cinereus</i>	Terek Sandpiper	V				2	Has been recorded on coastal mudflats, lagoons, creeks and estuaries.	Possible (unlikely given distance to nearest record). Suitable habitat occurs at the wetland fringes along the Myall River and in saltmarsh. Nearest DECCW record 38km south west of the subject land. Not detected in previous fauna surveys.	
Strigidae	<i>Ninox connivens</i>	Barking Owl	V				7	Inhabits eucalypt woodland, open forest, swamp woodlands and, especially in inland areas, timber along watercourses. Denser vegetation is used occasionally for roosting.	Present. Recorded in north eastern corner of the subject land. Suitable foraging and roosting habitat occurs in forest and woodland communities on	

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC Act Status		EPBC Act Status		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>Ninox strenua</i>	Powerful Owl	V				60	2	Inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest.	the subject land. Possible. Recorded on adjacent land (Myall River Downs and North Shearwater Estate). Suitable foraging habitat occurs across most of the forest and woodland area. Suitable roosting habitat occurs in dense vegetation adjacent to drainage lines. Not detected in previous fauna surveys.
Tytonidae	<i>Tyto capensis</i>	Grass Owl	V				7	7	Found in areas of tall grass, including grass tussocks in swampy areas, grassy plains, swampy heath, and cane grass, or sedges on flood plains.	Possible. Suitable foraging habitat in grassland areas of the subject land. Sub optimal roosting habitat in these areas. Nearest DECCW record 14km south west of the subject land. Not detected in previous fauna surveys.
	<i>Tyto novaehollandiae</i>	Masked Owl	V				72	2	Lives in dry eucalypt forests and woodlands from sea level to 1100 m.	Possible. Recorded on adjacent land (Myall River Downs). Suitable foraging and roosting



**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>Tyto tenebricosa</i>	Sooty Owl	V				84	Occurs in rainforest, including dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests. Roosts by day in the hollow of a tall forest tree or in heavy vegetation.	habitat occurs across most of the forest and woodland area. Not detected in previous fauna surveys.	
								Occurs in rainforest, including dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests. Roosts by day in the hollow of a tall forest tree or in heavy vegetation.	Possible. Suitable foraging habitat occurs across most of the wet forest and woodland area.	
									Sub optimal roosting habitat occurs in dense vegetation in the north east of the subject land.	
									Nearest DECCW record 11km north of the subject land. Not detected in previous fauna surveys.	
<b>Mammalia</b>										
Burramyidae	<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V				4	Broad range of habitats from rainforest through sclerophyll (including Box-ironbark) forest and woodland to heath, but in most areas woodlands and heath appear to be preferred.	Possible. Suitable habitat occurs in the forest and woodland communities. Unlikely to occur in grazed and disturbed areas.	
							1		Nearest DECCW record occurs	

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
Dasyuridae	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	E	186	2	Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Individual animals use hollow-bearing trees, fallen logs, small caves, rock crevices, boulder fields and rocky-cliff faces as den sites.	immediately adjacent to the subject land. Not detected in previous fauna surveys. Possible. Suitable habitat occurs in the forest and woodland communities. Nearest DECCW record 2km south east of the subject land. Not detected in previous fauna surveys.	
	<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	V			19		Prefer dry sclerophyll open forest with sparse groundcover of herbs, grasses, shrubs or leaf litter. Also inhabit heath, swamps, rainforest and wet sclerophyll forest.	Possible. Potential to occur on occasion on the subject land. Nearest DECCW record 8km west of the subject land. Not detected in previous fauna surveys.	
	<i>Planigale maculata</i>	Common Planigale	V			1		Inhabit rainforest, eucalypt forest, heathland, marshland, grassland and rocky areas where there is surface cover, and usually close to water.	Possible. Sub-optimal habitat occurs in the heath dry forest/woodland communities. Nearest DECCW record 30km north west of the subject land.	

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC Act Status	EPBC Act Status	LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
Emballonuridae	<i>Saccolaimus flaviventris</i>	Yellow-bellied	V		3		Forages in most habitats across its very wide range, with and without. Roosts in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows.	Not detected in previous fauna surveys.
		Shearwater						Possible. Suitable habitat occurs within the dry forest and woodland communities on the subject land. Not detected in previous fauna surveys.
Macropodidae	<i>Macropus parma</i>	Parma Wallaby	V		40		Preferred habitat is moist eucalypt forest with thick, shrubby understorey, often with nearby grassy areas, rainforest margins and occasionally drier eucalypt forest.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
	<i>Petrogale penicillata</i>	Brush-tailed	E1	V	1		Occupy rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges facing north.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
		Rock-wallaby						
	<i>Thylogale stigmatica</i>	Red-legged	V		12		Inhabits forest with a dense understorey and ground cover, including rainforest, moist eucalypt forest and vine scrub.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
		Pademelon						
Molossidae	<i>Mormopterus</i>	Eastern Freetail-	V		28	4	Occur in dry sclerophyll forest and	Present. Suitable habitat occurs

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>norfolkensis</i>	bat							woodland east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures.	within the forest and woodland communities on the subject land.
Muridae	<i>Pseudomys gracilicaudatus</i>	Eastern Chestnut Mouse	V			16	2	In heathland and is most common in dense, wet heath and swamps. Optimal habitat appears to be in vigorously regenerating heathland burnt from 18 months to four years previously.	Possible. Recorded on adjacent land (Myall River Downs). Suitable habitat occurs heath and wet forest communities. Not detected in previous fauna surveys.	
Petauridae	<i>Petaurus australis</i>	Yellow-bellied Glider	V			149		Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils.	Possible. Sub-optimal habitat occurs within forest and woodland communities. Nearest DECCW record 12km north west of the subject land. Not detected in previous fauna surveys.	
	<i>Petaurus norfolcensis</i>	Squirrel Glider	V			91	20	Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. Prefers mixed species stands with a	Present. Suitable habitat occurs within the forest and woodland communities on the subject land.	

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
Phascolarctidae	<i>Phascolarctos cinereus</i>	Koala	V				655	73	shrub or Acacia midstorey. Inhabit eucalypt woodlands and forests.	Present. Last recorded on the subject land in 1992. Suitable habitat occurs in the forest and woodland community, particularly those with preferred feed trees.
			E2				67	66	Inhabit eucalypt woodlands and forests. Swamp Mahogany and Tallowwood are of primary importance to this Koala population. Other local native tree species used by Koalas include Broad-leaved Paperbark, Blackbutt, Red Bloodwood, Flooded Gum and Smooth-barked Apple.	As above.
Potoroidae	<i>Potorous tridactylus</i>	Long-nosed Potoroo	V		V		8		Inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist of grass-trees, sedges, ferns or heath, or of low shrubs of tea-trees or melaleucas.	Possible. Sub-optimal habitat occurs in the wet forest and woodland communities. Habitat generally too disturbed. Nearest DECCW record 14km west of the subject land. Not detected in previous fauna surveys.



**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC	EPBC	LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act Status	Act Status				
Pteropodidae	<i>Pteropus poliocephalus</i>	Grey-headed	V	V	119	9	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	Present. Suitable foraging habitat occurs within the forest and woodland communities on the subject land. No camps have been recorded on the subject land.
		Flying-fox						
Vespertilionidae	<i>Syconycteris australis</i>	Common	V		4		Often roost in littoral rainforest and feed on flowers in adjacent heathland and paperbark swamps.	Present. Suitable habitat occurs within the forest and woodland communities on the subject land.
		Blossom-bat						
Vespertilionidae	<i>Falsistrellus tasmaniensis</i>	Eastern False	V		92		Prefers moist habitats, with trees taller than 20 m. Generally roosts in eucalypt hollows.	Possible. Suitable habitat occurs within the wet forest and woodland communities on the subject land. Not detected in previous fauna surveys.
		Pipistrelle						
	<i>Kerivoula papuensis</i>	Golden-tipped Bat	V		62		Found in rainforest and adjacent sclerophyll forest.	Unlikely to occur on the subject site due to lack of suitable habitat.
	<i>Miniopterus australis</i>	Little Bentwing-bat	V		109	12	Moist eucalypt forest, rainforest or dense coastal banksia scrub. Roost in caves, tunnels and sometimes tree hollows during the day.	Present. Suitable habitat occurs within the forest and woodland communities on the subject land.

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC Act Status		EPBC Act Status		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V		V		118	3	Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures	Present. Suitable habitat occurs within the forest and woodland communities on the subject land.
	<i>Myotis macropus</i>	Southern Myotis	V		V		702	3	Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	Present. Suitable habitat occurs within the forest and woodland communities on the subject land.
	<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V		V		28	2	Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest. This species usually roosts in tree hollows.	Present. Suitable habitat occurs within the forest and woodland communities on the subject land.
	<i>Vespudelus trouhntoni</i>	Eastern Cave Bat	V		V		2	2	A cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.

**Reptilia**

**Table 3.5 Likelihood of occurrence of threatened fauna species**

Family	Scientific Name	Common Name	TSC		EPBC		LGA Count	10km <sup>2</sup> Count	Habitat Requirements	Likelihood of Occurrence
			Act	Status	Act	Status				
Cheloniidae	<i>Chelonia mydas</i>	Green Turtle	V	V	V	V	7	1	Ocean-dwelling species spending most of its life at sea.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
Dermochelyidae	<i>Dermochelys coriacea</i>	Leathery Turtle	V	E	E	E	1	1	Occurs in inshore and offshore marine waters.	Unlikely. No suitable habitat present on the subject land. Not detected in previous fauna surveys.
Elapidae	<i>Hoplocephalus stephensii</i>	Stephens' Banded Snake	V	V	V	V	27		Occurs in rainforest and eucalypt forests and rocky areas up to 950 m in altitude. Shelters between loose bark and tree trunks, amongst vines, or in hollow trunks limbs, rock crevices or under slabs during the day.	Possible (unlikely). Sub-optimal habitat occurs in forest and woodland communities, particularly in denser vegetation. Nearest DECCW record 14km west of the subject land. Not detected in previous fauna surveys.

### 3.9 Wildlife Corridors

Wildlife corridors are generally strips or corridors of habitat that connect reserves or large blocks of disjunct habitat, allowing wildlife movement between the larger blocks of habitat. Wildlife corridors allow wildlife to disperse and provide for gene flow between populations or subpopulations (Primack 1993). Wildlife corridors are of varying relevance to fauna, and are of greatest relevance to ground dwelling species that cannot fly. Highly mobile birds and bats can fly between patches of habitat, over human developments and clearings. Notwithstanding that, retention of corridors or stepping stone patches of habitat can also greatly aid in the conservation of such mobile species.

The maintenance or creation of wildlife corridors has become an important planning consideration as landscapes are developed. If due consideration is given, provisions can be made to retain and/or enhance wildlife corridors and to retain viability of habitats. Such planning considerations are relevant to the subject land. In north-eastern NSW, broad potential corridors have been mapped by the NSW National Parks and Wildlife Service (now DECCW). As part of this program, a system of “regional” corridors has been mapped. Regional corridors are primary landscape links designed to provide potential residential and dispersal habitat for certain species, and supplementary habitat for wide-ranging species. Benchmark widths for regional corridors are planned to reflect known or estimated spatial requirements of “assemblage reference” species, selected to represent each faunal assemblage. Regional corridors often link public lands, typically running along major environmental gradients (Scotts 2003). Width of such corridors is often in the vicinity of 500m or sometimes greater.

The subject land has been mapped as forming part of a regional corridor and as a key habitat area in a study by the NSW National Parks and Wildlife Service in 2003 which identified key habitats and local and regional corridors in north east NSW (Scotts 2003). The subject land forms part of the Nerong – Pindimar regional corridor, which provides a link between Nerong Waterholes and Kirks Knoll (Scotts 2003). This corridor is derived from the Dry Valleys, Moist Escarpment Foothills and Dry Coastal Foothills fauna assemblages (Scotts 2003). The regional corridor extends from the west to north east and covers the central and northern thirds of the subject land. The regional corridor is shown on **Figure 3.5**.

As can be seen from **Figure 3.5**, the section of the Nerong – Pindimar regional corridor that occurs across the subject land spreads across some areas of roads, residential and industrial developments. It is not a perfect link that is entirely vegetated. However, it does contain larger blocks of vegetation that are to varying degrees connected and the native vegetation on the subject land forms an integral part of it. For this reason, when planning future development on the subject land, it is important to provide for habitat linkages that will enable long term movement of wildlife to the north and west of the subject land as indicated in **Figure 3.5**.

On a finer scale, detailed examination of the vegetation and landscape of the subject land indicates several potential local movement corridors for wildlife. **Figure 3.6** shows the local movement corridors occurring on the subject land. As indicated in this figure, there is

connectivity between treed habitats from the south west to the north east of the subject land and linking to adjacent private land to the north east along the Myall River (see local movement corridor B on **Figure 3.6**). There is also potential connectivity around the hills to the north of the subject land, south east across the subject land to what is proposed as the conservation area on the subject land (see local movement corridor A). The connectivity of treed vegetation on the subject land has been reduced by previous land practices. Grazing and vegetation removal has reduced the structural complexity of the vegetation within the areas marked as potential movement corridors. Despite this, there are still considerable opportunities for faunal movements across the vegetation, for ground dwelling and arboreal fauna.

The vegetation on the subject land is connected to the larger tracts of vegetation to the north via the corridors proposed for the North Shearwater Estate. Connection points for these corridors occur in the north eastern portion of the subject land. The larger tracts of vegetation to the north of the North Shearwater Estate connect eventually to Myall Lakes National Park.



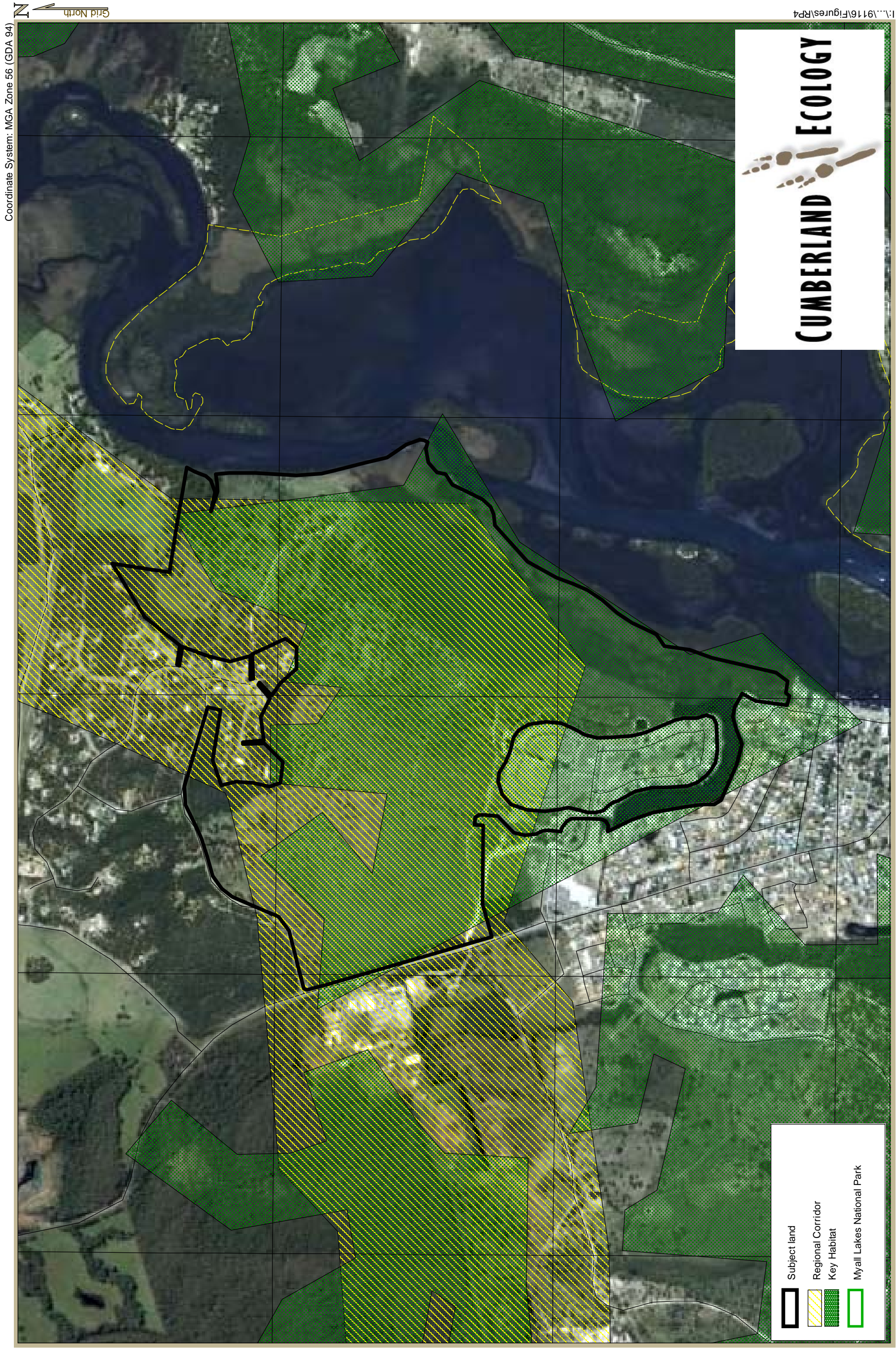
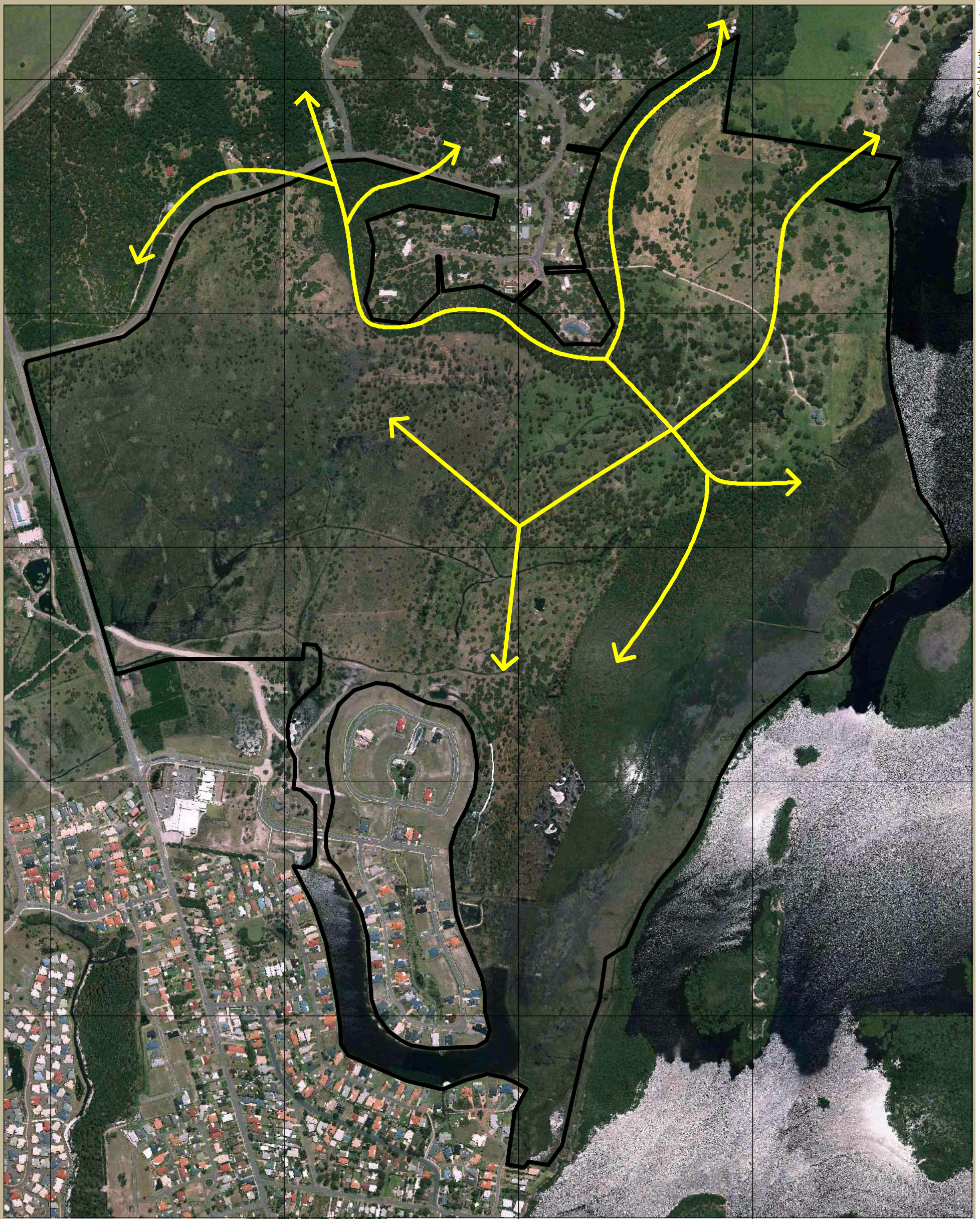





Figure 3.5 Key habitats and corridors on the subject land





-  Subject land
-  Local movement corridor A
-  Local movement corridor B



**Figure 3.6 Potential local movement corridors for wildlife occurring on the subject land**





## 3.10 OEH Estate and RAMSAR Wetlands

### 3.10.1 Myall Lakes National Park

The subject land is located 150-610m east of the adjacent portions of the Myall Lakes National Park and 2.3km south west of the continuous portion of the park. The park was established in 1972 and encompasses an area of 47,593ha (DECCW 2011). Myall Lakes National Park extends from the towns of Tea Gardens and Hawks Nest in the south to Smiths Lake in the north. Activities permitted within the park include camping, cycling, fishing and sailing. Myall Lakes National Parks includes the Myall Lakes RAMSAR Wetland.

### 3.10.2 Port Stephens - Great Lakes Marine Park

The subject land is located immediately adjacent to portions of the Port Stephens – Great Lakes Marine Park. This marine park was established in 2005 and encompasses an area of approximately 98,000ha. The marine park extends from near Foster south to the northern end of Stockton Beach and includes offshore waters to the 3 nautical mile limit of state waters. Included within this area is the Karuah River, the Myall River, Myall and Smiths Lakes and all their creeks and tributaries to the tidal limit. The zoning for the marine park allows for multiple use and protects marine habitats and species while catering for a wide range of sustainable activities (Marine Parks Authority 2011). The portion of the marine park immediately adjacent to the subject land has been zoned General Use, and a small area to the south of this as Habitat Protection.

### 3.10.3 RAMSAR Wetlands

The subject land is located 1.7km north east and 2.3km south west of the Myall Lakes RAMSAR Wetland (Australian RAMSAR site number 52). The Myall Lakes RAMSAR Wetland was listed in 1999 and encompasses an area of 44,612ha. The wetlands are located between the villages of Hawks Nest and Tea Gardens to the south and Forster to the north (DSEWPC 2011). Of the nine criteria for identifying wetlands of international importance, Myall Lakes RAMSAR Wetland meets the following:

- Criterion 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region;
- Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities; and
- Criterion 3: A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.

## Conclusion

---

Cumberland Ecology undertook a desktop review and field survey to determine the biodiversity values of the subject land. A suite of vegetation communities have been mapped within the subject land, including the following EECs:

- Swamp Sclerophyll Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions;
- Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions; and
- Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions.

Fifteen threatened fauna species have been recorded within the subject land and suite of other threatened species have the potential to occur.

Any future development of the site would be required to consider the impacts to biodiversity, including species, populations and communities listed under the TSC Act and EPBC Act.

## References

---

- Benson, D. and L. McDougall. 1998. Ecology of Sydney Plant Species Part 6: Dicotyledon Family Myrtaceae. *Cunninghamia* 5:808-984.
- Botanic Gardens Trust. 2010. PlantNET.
- Braun-Blanquet, J. 1927. *Pflanzensoziologie* Wien Springer.
- Cropper, S. C. 1993. *Management of Endangered Plants*. CSIRO Publications, East Melbourne.
- Cumberland Ecology. 2005. Eight Part Test Assessment of the Impacts of Proposed Open Cut and Longwall Mining in Awaba, NSW. Cumberland Ecology.
- Cumberland Ecology. 2010. Riverside, Tea Gardens - Vegetation Mapping Report. Cumberland Ecology, Carlingford Court, NSW.
- DEC (NSW). 2004. Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft). New South Wales Department of Environment and Conservation, Hurstville, NSW.
- DEC (NSW). 2005a. Barking Owl - profile. Department of Environment and Conservation (NSW), Hurstville.
- DEC (NSW). 2005b. Black Bittern - profile. Department of Environment and Conservation, Hurstville.
- DEC (NSW). 2005c. Common Blossom-bat - profile. Department of Environment and Conservation (NSW), Hurstville, NSW.
- DEC (NSW). 2005d. Eastern Bentwing-bat - profile. Department of Environment and Conservation (NSW), Hurstville, NSW.
- DEC (NSW). 2005e. Eastern Freetail-bat - profile. Department of Environment and Conservation, Hurstville, NSW.
- DEC (NSW). 2005f. Greater Broad-nosed Bat - profile. Department of Environment and Conservation (NSW), Hurstville, NSW.
- DEC (NSW). 2005g. Koala - profile. Department of Environment and Conservation, Hurstville, NSW.
- DEC (NSW). 2005h. Koala Populations in the Hawks Nest and Tea Gardens area - profile. Department of Environment and Conservation (NSW), Hurstville, NSW.
- DEC (NSW). 2005i. Little Bentwing-bat - profile. Department of Environment and Conservation (NSW), Hurstville, NSW.
- DEC (NSW). 2005j. Osprey - profile. Department of Environment and Conservation (NSW), Hurstville.
- DEC (NSW). 2005k. Southern Myotis - profile. Department of Environment and Conservation (NSW), Hurstville, NSW.
- DEC (NSW). 2005l. Squirrel Glider - profile. Department of Environment and Conservation (NSW).
- DEC (NSW). 2006. Wallum Froglet - profile. Department of Environment and Conservation (NSW), Hurstville.
- DECC. 2009. BioBanking Assessment Methodology and Credit Calculator Operational Manual. Department of Environment and Climate Change, Hurstville, NSW.
- DECCW. 2010. Atlas of NSW Wildlife.
- DECCW. 2011. Myall Lakes National Park.
- DECCW (NSW). 2010. Varied Sittella - profile. Department of Environment, Climate Change and Water, Hurstville, NSW.
- DSEWPC. 2010. EPBC Protected Matters Search Tool.
- DSEWPC. 2011. Australian Ramsar Wetlands - Myall Lakes.



- Harden, G. J. 1990-1993. Flora of NSW Volumes 1-4. New South Wales University Press, Kensington.
- Marine Parks Authority. 2011. Port Stephens - Great Lakes Marine Park.
- Mount King Ecological Surveys. 1992. Fauna Survey of Lot 10 DP 733241 and Lot 31 DP 808202, Myall Road, Tea Gardens. Mount King Ecological Surveys, Oberon, NSW.
- Murphy, C. L. 1995. Soil Landscapes of the Port Stephens 1:100000 Sheet/Report. Department of Land and Water Conservation, Sydney, NSW.
- NSW NPWS. 2003. Draft Recovery Plan for the Barking Owl (*Ninox connivens*). NSW National Parks and Wildlife Service, Hurstville.
- NSW Scientific Committee. 2004a. Grey-headed Flying-fox - vulnerable species listing. Department of Environment and Conservation (NSW), Hurstville.
- NSW Scientific Committee. 2004b. Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions. Department of the Environment and Conservation (NSW), Hurstville.
- NSW Scientific Committee. 2009. Little Lorikeet - vulnerable species listing. Department of Environment and Climate Change, Hurstville, NSW.
- Primack, R. B. 1993. Essentials of Conservation Biology. Sinauer Associates Inc, Sunderland.
- Scotts, D. 2003. Key habitats and corridors for forest fauna: A landscape framework for conservation in north-east New South Wales. NSW NPWS Occasional Paper 32. NSW National Parks and Wildlife Service, Sydney.
- Whitehead & Associates. 2011. Soils Assessment - Riverside, Tea Gardens. Whitehead & Associates Environmental Consultants Pty Ltd, Cardiff, NSW.

---

*Appendix A*

# Flora Species List

---

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
<b>Trees</b>				
Acanthaceae	<i>Avicennia marina subsp. australasica</i>	Grey Mangrove	X	X
Arecaceae	<i>Livistona australis</i>	Cabbage Palm	X	X
Casuarinaceae	<i>Allocasuarina littoralis</i>	Black She-oak	X	X
Casuarinaceae	<i>Allocasuarina torulosa</i>	Forest Oak	X	
Casuarinaceae	<i>Casuarina glauca</i>	Swamp Oak	X	X
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	Blueberry Ash	X	X
	<i>Acacia irrorata subsp. irrorata</i>	Green Wattle	X	X
Fabaceae (Mimosoideae)	<i>Acacia melanoxylon</i>	Blackwood		X
Fabaceae (Mimosoideae)	<i>Acacia schinoides</i>	Green Cedar Wattle	X	
Lauraceae	<i>Cinnamomum camphora*</i>	Camphor Laurel	X	X
Lauraceae	<i>Endiandra sieberi</i>	Hard Corkwood	X	X
Meliaceae	<i>Synoum glandulosum subsp. glandulosum</i>	Scentless Rosewood	X	
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson Fig	X	X
Moraceae	<i>Ficus sp. (Seedling)</i>	A Fig	X	
Myoporaceae	<i>Myoporum acuminatum</i>	Boobialla	X	
Myrsinaceae	<i>Aegiceras corniculatum</i>	River Mangrove	X	X
Myrtaceae	<i>Acmena smithii</i>	Lilly Pilly	X	
Myrtaceae	<i>Angophora costata</i>	Smooth-barked Apple	X	X
Myrtaceae	<i>Angophora floribunda</i>	Rough-barked Apple		X
Myrtaceae	<i>Corymbia gummifera</i>	Red Bloodwood	X	X
Myrtaceae	<i>Corymbia maculata</i>	Spotted Gum	X	X
Myrtaceae	<i>Eucalyptus canaliculata</i>	Grey Gum	X	
Myrtaceae	<i>Eucalyptus capitellata</i>	Brown Stringybark	X	
Myrtaceae	<i>Eucalyptus eugenioides</i>	Thin-leaved Stringybark	X	
Myrtaceae	<i>Eucalyptus fergusonii</i>		X	X
Myrtaceae	<i>Eucalyptus globoidea</i>	White Stringybark	X	X
Myrtaceae	<i>Eucalyptus grandis</i>	Flooded Gum		X
Myrtaceae	<i>Eucalyptus microcorys</i>	Tallowwood	X	X
Myrtaceae	<i>Eucalyptus paniculata subsp. paniculata</i>	Grey Ironbark	X	X

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Myrtaceae	<i>Eucalyptus pilularis</i>	Blackbutt	X	X
Myrtaceae	<i>Eucalyptus propinqua</i> var. <i>propinqua</i>	Small-fruited Grey Gum	X	X
Myrtaceae	<i>Eucalyptus punctata</i>	Grey Gum	X	
Myrtaceae	<i>Eucalyptus resinifera</i> subsp. <i>resinifera</i>	Red Mahogany	X	X
Myrtaceae	<i>Eucalyptus robusta</i>	Swamp Mahogany	X	X
Myrtaceae	<i>Eucalyptus siderophloia</i>	Grey Ironbark	X	
Myrtaceae	<i>Eucalyptus signata</i>	Scribbly Gum	X	X
Myrtaceae	<i>Eucalyptus tereticornis</i>	Forest Red Gum	X	X
Myrtaceae	<i>Eucalyptus umbra</i>	Broad-leaved White Mahogany	X	
Myrtaceae	<i>Euclayptus fibrosa</i>	Red Ironbark	X	
Myrtaceae	<i>Melaleuca linariifolia</i>	Flax-leaved Paperbark	X	X
Myrtaceae	<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark	X	X
Myrtaceae	<i>Melaleuca styphelioides</i>	Prickly-leaved Tea Tree	X	X
Oleaceae	<i>Notelaea venosa</i>	Vein-leaved Mock-olive	X	X
Phyllanthaceae	<i>Glochidion ferdinandi</i>	Cheese Tree	X	X
Pinaceae	<i>Pinus elliottii</i> *	Slash Pine	X	X
Pittosporaceae	<i>Pittosporum undulatum</i>	Sweet Pittosporum	X	X
Proteaceae	<i>Banksia serrata</i>	Old-man Banksia	X	X
Santalaceae	<i>Exocarpos cupressiformis</i>	Native Cherry	X	X
Vitaceae	<i>Amyema congener</i>		X	
<b>Shrubs</b>				
Apiaceae	<i>Platysace ericoides</i>		X	X
Apiaceae	<i>Platysace lanceolata</i>	Shrubby Plactysace	X	X
Apiaceae	<i>Platysace linearifolia</i>		X	X
Apiaceae	<i>Trachymene incisa</i>	Trachymene		X
Apocynaceae	<i>Gomphocarpus fruticosus</i> *	Narrow-leaved Cotton Bush	X	X
Araliaceae	<i>Polyscias sambucifolia</i> subsp. <i>sambucifolia</i>		X	X
Asteraceae	<i>Chrysanthemoides</i>	Boneseed	X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
	<i>monilifera subsp. monilifera</i> *			
Asteraceae	<i>Chrysanthemoides</i>	Bitou Bush	X	X
	<i>monilifera subsp. rotundata</i>			
Asteraceae	<i>Olearia elliptica</i>	Sticky Daisy-bush	X	
Asteraceae	<i>Ozothamnus diosmifolius</i>	Rice Flower	X	X
Cactaceae	<i>Opuntia stricta var. stricta</i> *	Common Prickly Pear	X	
Dilleniaceae	<i>Hibbertia acicularis</i>		X	X
Dilleniaceae	<i>Hibbertia aspera</i>	Rough Guinea Flower	X	X
Dilleniaceae	<i>Hibbertia empetrifolia</i>		X	X
	<i>subsp. empetrifolia</i>			
Dilleniaceae	<i>Hibbertia fasciculata</i>		X	X
Dilleniaceae	<i>Hibbertia linearis</i>		X	X
Dilleniaceae	<i>Hibbertia obtusifolia</i>	Hoary Guinea Flower	X	X
Dilleniaceae	<i>Hibbertia serpyllifolia</i>	Hairy Guinea Flower	X	
Dilleniaceae	<i>Hibbertia sp. aff. riparia</i>	Erect Guinea Flower	X	
Dilleniaceae	<i>Hibbertia vestita</i>	Hairy Guinea Flower	X	X
Dilleniaceae	<i>Hibbertia virgata subsp. virgata</i>		X	
Ericaceae				X
(Styphelioideae)	<i>Brachyloma daphnoides</i>	Daphne Heath		
Ericaceae	<i>Epacris microphylla</i>	Coral Heath	X	X
(Styphelioideae)				
Ericaceae	<i>Epacris obtusifolia</i>	Blunt-leaf Heath	X	
(Styphelioideae)				
Ericaceae	<i>Epacris pulchella</i>	Wallum Heath	X	X
(Styphelioideae)				
Ericaceae	<i>Leucopogon ericoides</i>	Pink Beard-heath	X	
(Styphelioideae)				
Ericaceae	<i>Leucopogon juniperinus</i>	Prickly Beard-heath	X	
(Styphelioideae)				
Ericaceae	<i>Leucopogon lanceolatus</i>		X	
(Styphelioideae)				
Ericaceae				X
(Styphelioideae)	<i>Leucopogon parviflorus</i>	Coastal Beard-heath		
Ericaceae	<i>Lissanthe strigosa</i>	Peach Heath	X	



**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
(Styphelioideae)				
Ericaceae	<i>Monotoca elliptica</i>	Tree Broom-heath	X	X
(Styphelioideae)				
Ericaceae	<i>Monotoca scoparia</i>	Prickly Broom-heath	X	
(Styphelioideae)				
Euphorbiaceae	<i>Amperea xiphioclada</i>	Broom Spurge	X	X
Euphorbiaceae	<i>Homalanthus populifolius</i>	Bleeding Heart	X	X
Euphorbiaceae	<i>Ricinocarpus pinifolius</i>	Wedding Bush	X	
Fabaceae	<i>Senna pendula</i> var.		X	X
(Caesalpinioideae)	<i>glabrata</i> *			
Fabaceae (Faboideae)	<i>Aotus ericoides</i>			X
Fabaceae (Faboideae)	<i>Aotus lanigera</i>		X	
Fabaceae (Faboideae)	<i>Bossiaea heterophylla</i>	Variable Bossiaea	X	X
Fabaceae (Faboideae)	<i>Bossiaea rhombifolia</i>		X	
Fabaceae (Faboideae)	<i>Daviesia ulicifolia</i>	Gorse Bitter Pea	X	
Fabaceae (Faboideae)	<i>Daviesia ulicifolia</i> subsp. <i>stenophylla</i>		X	
Fabaceae (Faboideae)	<i>Dillwynia floribunda</i>			X
Fabaceae (Faboideae)	<i>Dillwynia retorta</i> var. <i>retorta</i>		X	
Fabaceae (Faboideae)	<i>Gompholobium latifolium</i>	Golden Glory Pea	X	
Fabaceae (Faboideae)	<i>Gompholobium pinnatum</i>	Pinnate Wedge Pea	X	X
Fabaceae (Faboideae)	<i>Mirbelia speciosa</i>		X	
Fabaceae (Faboideae)	<i>Phyllota phyllicoides</i>	Heath Phyllota	X	X
Fabaceae (Faboideae)	<i>Platylobium formosum</i>	Handsome Flat Pea	X	
Fabaceae (Faboideae)	<i>Platylobium formosum</i> subsp. <i>parviflorum</i>		X	
Fabaceae (Faboideae)	<i>Pultenaea blakelyi</i>		X	
Fabaceae (Faboideae)	<i>Pultenaea daphnoides</i>	Large-leaf Bush-pea	X	
Fabaceae (Faboideae)	<i>Pultenaea flexilis</i>	Graceful Bsh-pea		X
Fabaceae (Faboideae)	<i>Pultenaea paleacea</i> var. <i>paleacea</i>	Chaffy Bush-pea	X	X
Fabaceae (Faboideae)	<i>Pultenaea retusa</i>	Notched Bush-pea	X	
Fabaceae (Faboideae)	<i>Pultenaea rosmarinifolia</i>		X	
Fabaceae (Faboideae)	<i>Pultenaea tuberculata</i>	Wreath Bush-pea	X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Fabaceae (Faboideae)	<i>Pultenaea villosa</i>	Hairy Bush-pea	X	X
Fabaceae (Faboideae)	<i>Viminaria juncea</i>	Native Broom	X	X
Fabaceae (Mimosoideae)	<i>Acacia binervia</i>	Coast Myall	X	
Fabaceae (Mimosoideae)	<i>Acacia brownii</i>	Heath Wattle	X	
Fabaceae (Mimosoideae)	<i>Acacia elongata</i>	Swamp Wattle	X	
Fabaceae (Mimosoideae)	<i>Acacia falcata</i>		X	X
Fabaceae (Mimosoideae)	<i>Acacia implexa</i>	Hickory Wattle	X	
Fabaceae (Mimosoideae)	<i>Acacia longifolia</i>			X
	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney Golden Wattle	X	
Fabaceae (Mimosoideae)	<i>Acacia longifolia</i> subsp. <i>sophorae</i>	Coastal Wattle	X	
Fabaceae (Mimosoideae)	<i>Acacia maidenii</i>	Maiden's Wattle		X
Fabaceae (Mimosoideae)	<i>Acacia myrtifolia</i>	Red-stemmed Wattle	X	
Fabaceae (Mimosoideae)	<i>Acacia suaveolens</i>	Sweet Wattle	X	
Fabaceae (Mimosoideae)	<i>Acacia suaveolens</i>	Sweet Wattle	X	X
Fabaceae (Mimosoideae)	<i>Acacia terminalis</i>	Sunshine Wattle	X	
	<i>Acacia terminalis</i> subsp. <i>longiaxialis</i>	Sunshine Wattle		X
Fabaceae (Mimosoideae)	<i>Acacia ulicifolia</i>	Prickly Moses	X	X
Goodeniaceae	<i>Goodenia ovata</i>	Hop Goodenia	X	X
Lamiaceae	<i>Clerodendrum tomentosum</i>	Hairy Clerodendrum	X	
Malvaceae	<i>Lagunaria</i> sp.			X
Myrsinaceae	<i>Myrsine variabilis</i>		X	
Myrtaceae	<i>Callistemon citrinus</i>	Crimson Bottlebrush	X	
Myrtaceae	<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush	X	
Myrtaceae	<i>Callistemon pachyphyllus</i>	Wallum Bottlebrush	X	X
Myrtaceae	<i>Callistemon pinifolius</i>	Pine-leaved Bottlebrush	X	X
Myrtaceae	<i>Callistemon rigidus</i>	Stiff Bottlebrush		X
Myrtaceae	<i>Callistemon salignus</i>	Willow Bottlebrush	X	X
Myrtaceae	<i>Kunzea ambigua</i>	Tick Bush	X	X
Myrtaceae	<i>Leptospermum juniperinum</i>	Prickly Tea-tree	X	X
Myrtaceae	<i>Leptospermum laevigatum</i>	Coast Tea-tree	X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Myrtaceae	<i>Leptospermum liversidgei</i>	Olive Tea-tree	X	X
Myrtaceae	<i>Leptospermum polygalifolium</i>	Tantoon	X	X
Myrtaceae	<i>Leptospermum trinervium</i>	Flaky-barked Tea-tree	X	X
Myrtaceae	<i>Melaleuca ericifolia</i>	Swamp Paperbark	X	X
Myrtaceae	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark	X	X
Myrtaceae	<i>Melaleuca sieberi</i>		X	X
Myrtaceae	<i>Melaleuca thymifolia</i>	Thyme Honey-myrtle	X	X
Myrtaceae	<i>Sannantha pluriflora</i>		X	X
Oleaceae	<i>Notelaea longifolia</i>	Large Mock-olive	X	X
Oleaceae	<i>Notelaea ovata</i>		X	
Oleaceae	<i>Olea europaea subsp. cuspidata*</i>	African Olive		X
Phyllanthaceae	<i>Breynia oblongifolia</i>	Coffee Bush	X	X
Phyllanthaceae	<i>Phyllanthus hirtellus</i>	Thyme Spurge	X	X
Phytolaccaceae	<i>Phytolacca octandra*</i>	Inkweed	X	
Picrodendraceae	<i>Micrantheum ericoides</i>		X	
Pittosporaceae	<i>Pittosporum revolutum</i>	Rough Fruit Pittosporum	X	X
Polygalaceae	<i>Comesperma ericinum</i>	Pryamid Flower	X	X
Proteaceae	<i>Banksia aemula</i>	Wallum Banksia	X	
Proteaceae	<i>Banksia cunninghamii</i>			X
Proteaceae	<i>Banksia ericifolia subsp. ericifolia</i>	Heath-leaved Banksia	X	
Proteaceae	<i>Banksia integrifolia subsp. integrifolia</i>	Coast Banksia	X	
Proteaceae	<i>Banksia oblongifolia</i>	Fern-leaved Banksia	X	X
Proteaceae	<i>Banksia robur</i>	Swamp Banksia	X	X
Proteaceae	<i>Banksia spinulosa var. collina</i>	Hairpin Banksia	X	
Proteaceae	<i>Banksia spinulosa var. spinulosa</i>	Hairpin Banksia	X	
Proteaceae	<i>Hakea dactyloides</i>	Broad-leaved Hakea	X	
Proteaceae	<i>Hakea sericea</i>	Needlebush	X	
Proteaceae	<i>Hakea teretifolia</i>	Needlebush	X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Proteaceae	<i>Persoonia lanceolata</i>	Lance Leaf Geebung	X	X
Proteaceae	<i>Persoonia levis</i>	Broad-leaved Geebung	X	X
Proteaceae	<i>Persoonia linearis</i>	Narrow-leaved Geebung	X	
Rosaceae	<i>Rubus moluccanus</i>	Molucca Bramble	X	
Rubiaceae	<i>?Durringtonia paludosa</i>			X
Rubiaceae	<i>Opercularia aspera</i>	Coarse Stinkweed	X	
Rutaceae	<i>Boronia pinnata</i>		X	
Rutaceae	<i>Boronia polygalifolia</i>	Dwarf Boronia		X
Rutaceae	<i>Nematolepis squamea</i> <i>subsp. squamea</i>	Satinwood	X	
Rutaceae	<i>Zieria smithii</i>	Sandfly Zieria	X	X
Santalaceae	<i>Leptomeria acida</i>	Native Currant	X	X
Sapindaceae	<i>Dodonaea triquetra</i>	Large-leaf Hop-bush	X	X
Solanaceae	<i>Duboisia myoporoides</i>	Corkwood	X	
Solanaceae	<i>Solanum mauritianum*</i>	Wild Tobacco Bush	X	X
Thymelaeaceae	<i>Pimelea linifolia subsp.</i> <i>linifolia</i>	Slender Rice-flower	X	X
Thymelaeaceae	<i>Wikstroemia indica</i>			X
Verbenaceae	<i>Lantana camara*</i>	Lantana	X	X
Zamiaceae	<i>Macrozamia communis</i>	Burrawang	X	
Zamiaceae	<i>Macrozamia flexuosa</i>		X	
<b>Herbs - Ferns and Allies</b>				
Adiantaceae	<i>Adiantum aethiopicum</i>	Common Maidenhair	X	X
Adiantaceae	<i>Pellaea falcata</i>	Sickle Fern		X
Blechnaceae	<i>Blechnum cartilagineum</i>	Gristle Fern	X	
Blechnaceae	<i>Blechnum indicum</i>	Swamp Water Fern	X	X
Blechnaceae	<i>Doodia aspera</i>	Prickly Rasp Fern	X	
Dennstaedtiaceae	<i>Histiopteris incisa</i>	Bat's Wing Fern	X	
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	Harsh Ground Fern	X	X
Dennstaedtiaceae	<i>Pteridium esculentum</i>	Bracken	X	X
Dicksoniaceae	<i>Calochlaena dubia</i>	Rainbow Fern	X	X
Gleicheniaceae	<i>Gleichenia dicarpa</i>	Pouched Coral Fern	X	X

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Lindsaeaceae	<i>Lindsaea linearis</i>	Screw Fern	X	X
Lindsaeaceae	<i>Lindsaea microphylla</i>	Lacy Wedge Fern	X	
Lycopodiaceae	<i>Lycopodiella lateralis</i>	Slender Clubmoss	X	X
Selaginellaceae	<i>Selaginella uliginosa</i>	Swamp Selaginella	X	X
<b>Herbs - Dicots</b>				
Acanthaceae	<i>Brunoniella pumilio</i>	Dwarf Blue Trumpet		X
Acanthaceae	<i>Pseuderanthemum variabile</i>	Pastel Flower	X	X
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand Spinach	X	
Amaranthaceae	<i>Alternanthera denticulata</i>	Lesser Joyweed	X	X
Apiaceae	<i>Actinotus helianthi</i>	Flannel Flower	X	X
Apiaceae	<i>Centella asiatica</i>	Indian Pennywort	X	X
	<i>Cyclospermum</i>			X
Apiaceae	<i>leptophyllum*</i>	Slender Celery		
Apiaceae	<i>Hydrocotyle bonariensis*</i>		X	X
Apiaceae	<i>Hydrocotyle peduncularis</i>		X	X
Apiaceae	<i>Xanthosia pilosa</i>	Woolly Xanthosia	X	
Asparagaceae	<i>Asparagus aethiopicus*</i>	Asparagus Fern	X	
Asteraceae	<i>Ageratina adenophora*</i>	Crofton Weed	X	X
Asteraceae	<i>Aster subulatus*</i>	Wild Aster	X	X
Asteraceae	<i>Bidens pilosa*</i>	Cobbler's Pegs	X	X
Asteraceae	<i>Centipeda minima</i>	Spreading Sneezeweed	X	
Asteraceae	<i>Cirsium vulgare*</i>	Spear Thistle	X	X
Asteraceae	<i>Conyza bonariensis*</i>	Flaxleaf Fleabane	X	X
Asteraceae	<i>Conyza sp.*</i>	-	X	
Asteraceae	<i>Conyza sumatrensis*</i>	Tall Fleabane	X	
Asteraceae	<i>Cotula coronopifolia*</i>	Water Buttons	X	X
Asteraceae	<i>Crassocephalum crepidioides*</i>	Thickhead	X	X
Asteraceae	<i>Epaltes australis</i>	Spreading Nut-heads	X	X
Asteraceae	<i>Erechtites valerianifolia*</i>	Brazilian Fireweed	X	
Asteraceae	<i>Euchiton involucratus</i>	Star Cudweed	X	
Asteraceae	<i>Euchiton sphaericus</i>		X	X



**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Asteraceae	<i>Gamochaeta americana</i> *	Cudweed		X
Asteraceae	<i>Gamochaeta spicata</i> *			X
Asteraceae	<i>Hypochaeris radicata</i> *	Flatweed	X	X
Asteraceae	<i>Lagenifera stipitata</i>	Blue Bottle-daisy	X	X
Asteraceae	<i>Senecio diaschides</i>		X	
Asteraceae	<i>Senecio madagascariensis</i> *	Fireweed	X	X
Asteraceae	<i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>	Fireweed	X	
Asteraceae	<i>Senecio</i> sp.			X
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	Indian Weed	X	
Asteraceae	<i>Sonchus oleraceus</i> *	Common Sowthistle	X	X
Asteraceae	<i>Taraxacum officinale</i> *	Dandelion	X	X
Asteraceae	<i>Vernonia cinerea</i> var. <i>cinerea</i>		X	X
Blandfordiaceae	<i>Blandfordia grandiflora</i>	Christmas Bells	X	
Brassicaceae	<i>Capsella bursa-pastoris</i> *	Shepherds Purse	X	
Campanulaceae	<i>Wahlenbergia gracilis</i>	Australian Bluebell	X	X
Campanulaceae	<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	Tall Bluebell	X	
Carophyllaceae	<i>Cerastium glomeratum</i> *	Mouse-ear Chickweed	X	X
Caryophyllaceae	<i>Stellaria media</i> *	Common Chickweed	X	
Chenopodiaceae	<i>Einadia hastata</i>	Berry Saltbush	X	
Chenopodiaceae	<i>Einadia polygonoides</i>		X	
Chenopodiaceae	<i>Sarcocornia quinqueflora</i>	Glasswort	X	X
Clusiaceae	<i>Hypericum gramineum</i>	Small St Johns Wort	X	X
Clusiaceae	<i>Hypericum japonicum</i>		X	X
Clusiaceae	<i>Hypericum perforatum</i> *	St Johns Wort	X	
Convolvulaceae	<i>Dichondra repens</i>	Kidney Weed	X	X
Cunoniaceae	<i>Bauera rubioides</i>	River Rose	X	
Droseraceae	<i>Drosera peltata</i>		X	
Droseraceae	<i>Drosera pygmaea</i>	Pygmy Sundew	X	
Droseraceae	<i>Drosera spatulata</i>		X	
Elaeocarpaceae	<i>Tetralochea thymifolia</i>	Black-eyed Susan	X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Eriocaulaceae	<i>Eriocaulon scariosum</i>		X	
Fabaceae (Faboideae)	<i>Bossiaea prostrata</i>		X	
Fabaceae (Faboideae)	<i>Lotus uliginosus</i> *	Birds-foot Trefoil	X	X
Fabaceae (Faboideae)	<i>Medicago sp.</i> *	A Medic		X
Fabaceae (Faboideae)	<i>Trifolium repens</i> *	White Clover	X	X
Gentianaceae	<i>Centaurium erythraea</i> *	Common Centaury	X	
Gentianaceae	<i>Centaurium tenuiflorum</i> *			X
Gentianaceae	<i>Schenkia spicata</i>	Spike Centaury		X
Geraniaceae	<i>Geranium homeanum</i>		X	X
Geraniaceae	<i>Geranium solanderi</i>	Native Geranium	X	
Goodeniaceae	<i>Dampiera stricta</i>		X	X
Goodeniaceae	<i>Goodenia bellidifolia subsp. bellidifolia</i>		X	X
Goodeniaceae	<i>Goodenia gracilis</i>			X
Goodeniaceae	<i>Goodenia heterophylla subsp. heterophylla</i>		X	X
Goodeniaceae	<i>Goodenia paniculata</i>	Branched Goodenia	X	X
Goodeniaceae	<i>Goodenia stelligera</i>	Spiked Goodenia	X	
Goodeniaceae	<i>Scaevola ramosissima</i>	Purple Fan-flower	X	
Haemodoraceae	<i>Haemodorum planifolium</i>	Bloodroot	X	X
Haloragaceae	<i>Gonocarpus micranthus</i>			X
Haloragaceae	<i>Gonocarpus micranthus subsp. micranthus</i>	Creeping Raspwort	X	
Haloragaceae	<i>Gonocarpus micranthus subsp. ramosissimus</i>		X	
Haloragaceae	<i>Gonocarpus tetragynus</i>		X	X
Haloragaceae	<i>Gonocarpus teucroides</i>	Raspwort	X	X
Haloragaceae	<i>Haloragis heterophylla</i>	Rough Raspwort	X	
Haloragaceae	<i>Myriophyllum propinquum</i>	Common Water Milfoil	X	
Hypoxidaceae	<i>Hypoxis hygrometrica</i>	Golden Weather-grass	X	
Lamiaceae	<i>Stachys arvensis</i> *	Stagger Weed	X	
Lentibulariaceae	<i>Utricularia dichotoma</i>	Fairy Aprons	X	
Lobeliaceae	<i>Lobelia alata</i>		X	X
Lobeliaceae	<i>Pratia purpurascens</i>	Whiteroot	X	X

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Loganiaceae	<i>Mitrasacme paludosa</i>		X	
Loganiaceae	<i>Mitrasacme polymorpha</i>		X	X
Lythraceae	<i>Cuphea carthagenensis</i>			X
Lythraceae	<i>Lythrum hyssopifolia</i>	Hyssop Loosestrife	X	X
Malvaceae	<i>Malva parviflora</i> *	Small-flowered Mallow		X
Malvaceae	<i>Modiola caroliniana</i> *	Red-flowered Mallow		X
Malvaceae	<i>Sida rhombifolia</i> *	Paddy's Lucerne	X	X
Menyanthaceae	<i>Villarsia exaltata</i>	Yellow Marsh Flower	X	X
Myrsinaceae	<i>Anagallis arvensis</i> *	Scarlet Pimpernel, Blue Pimpernel	X	X
Onagraceae	<i>Epilobium sp.</i>			X
Oxalidaceae	<i>Oxalis corniculata</i> *		X	
Oxalidaceae	<i>Oxalis exilis</i>		X	
Oxalidaceae	<i>Oxalis sp.</i>		X	X
Phyllanthaceae	<i>Phyllanthus tenellus</i> *	Hen and Chicken	X	
Phyllanthaceae	<i>Poranthera microphylla</i>		X	
Plantaginaceae	<i>Plantago debilis</i>	Shade Plantain		X
Plantaginaceae	<i>Plantago lanceolata</i> *	Lamb's Tongues	X	X
Plantaginaceae	<i>Plantago major</i> *	Large Plantain	X	
Plantaginaceae	<i>Veronica plebeia</i>	Creeping Speedwell	X	X
Polygonaceae	<i>Acetosella vulgaris</i> *	Sheep Sorrel		X
Polygonaceae	<i>Persicaria decipiens</i>	Slender Knotweed	X	X
Polygonaceae	<i>Rumex bidens</i>	Mud Dock	X	
Portulacaceae	<i>Portulaca oleracea</i>	Pigweed	X	
Proteaceae	<i>Lomatia silaifolia</i>	Crinkle Bush	X	
Ranunculaceae	<i>Ranunculus inundatus</i>	River Buttercup	X	X
Ranunculaceae	<i>Ranunculus lappaceus</i>	Common Buttercup		X
Ranunculaceae	<i>Ranunculus sp.</i>		X	
Rubiaceae	<i>Galium propinquum</i>	Maori Bedstraw	X	X
Rubiaceae	<i>Opercularia diphylla</i>		X	
Rubiaceae	<i>Opercularia varia</i>	Variable Stinkweed	X	
Rubiaceae	<i>Pomax umbellata</i>		X	X
Solanaceae	<i>Solanum nigrum</i> *	Black-berry Nightshade	X	X

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Stackhousiaceae	<i>Stackhousia viminea</i>	Slender Stackhousia	X	X
Stylidiaceae	<i>Stylidium graminifolium</i>	Grass Trigger-plant	X	X
Theophrastaceae	<i>Samolus repens</i>	Creeping Brookweed	X	X
Verbenaceae	<i>Verbena bonariensis</i> *	Purpletop	X	X
Verbenaceae	<i>Verbena rigida</i> *	Veined Verbena	X	
Violaceae	<i>Hybanthus monopetalus</i>	Slender Violet-bush	X	
Violaceae	<i>Viola banksii</i>		X	
Violaceae	<i>Viola betonicifolia</i>	Native Violet		X
Violaceae	<i>Viola hederacea</i>	Ivy-leaved Violet	X	X
<b>Herbs - Monocots</b>				
Anthericaceae	<i>Caesia parviflora</i> var. <i>parviflora</i>	Pale Grass Lily	X	X
Anthericaceae	<i>Dichopogon</i> sp.			X
Anthericaceae	<i>Thysanotus tuberosus</i>	Common Fringe-lily	X	X
Anthericaceae	<i>Tricoryne elatior</i>	Yellow Autumn-lily	X	X
Burmanniaceae	<i>Burmannia disticha</i>			X
Colchicaceae	<i>Burchardia umbellata</i>	Milkmaids	X	X
Commelinaceae	<i>Commelina cyanea</i>	Native Wandering Jew	X	X
Commelinaceae	<i>Murdannia graminea</i>		X	
Cyperaceae	<i>Baumea arthrophylla</i>		X	
Cyperaceae	<i>Baumea articulata</i>	Jointed Twig-rush	X	
Cyperaceae	<i>Baumea juncea</i>		X	X
Cyperaceae	<i>Baumea rubignosa</i>		X	X
Cyperaceae	<i>Baumea teretifolia</i>		X	X
Cyperaceae	<i>Bolboschoenus fluviatilis</i>	Marsh Club-rush	X	
Cyperaceae	<i>Carex appressa</i>	Tall Sedge	X	X
Cyperaceae	<i>Carex gaudichaudiana</i>			X
Cyperaceae	<i>Carex longebrachiata</i>			X
Cyperaceae	<i>Carex pulmia</i>			X
Cyperaceae	<i>Carex</i> sp.*			X
Cyperaceae	<i>Caustis flexuosa</i>	Curly Wig	X	
Cyperaceae	<i>Caustis recurvata</i>			X

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Cyperaceae	<i>Chorizandra cymbaria</i>		X	X
Cyperaceae	<i>Chorizandra sphaerocephala</i>	Round-headed Bristle-sedge	X	X
Cyperaceae	<i>Cyperus aggregatus*</i>		X	X
Cyperaceae	<i>Cyperus brevifolius*</i>		X	X
Cyperaceae	<i>Cyperus difformis</i>		X	
Cyperaceae	<i>Cyperus eragrostis*</i>		X	X
Cyperaceae	<i>Cyperus gracilis</i>	Slender Flat-sedge	X	
Cyperaceae	<i>Cyperus polystachyos</i>		X	X
Cyperaceae	<i>Cyperus sesquiflorus*</i>		X	
Cyperaceae	<i>Eleocharis pusilla</i>		X	
Cyperaceae	<i>Ficinia nodosa</i>	Knobby Club-rush	X	X
Cyperaceae	<i>Fimbristylis dichotoma</i>	Common Fringe-sedge	X	X
Cyperaceae	<i>Gahnia aspera</i>	Rough Saw-sedge	X	
Cyperaceae	<i>Gahnia clarkei</i>	Tall Saw-sedge	X	X
Cyperaceae	<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge	X	X
Cyperaceae	<i>Isolepis inundata</i>	Swamp Clubrush	X	X
Cyperaceae	<i>Lepidosperma ?urophorum</i>			X
Cyperaceae	<i>Lepidosperma elatius</i>		X	
Cyperaceae	<i>Lepidosperma filiforme</i>			X
Cyperaceae	<i>Lepidosperma laterale</i>		X	X
Cyperaceae	<i>Lepidosperma longitudinale</i>	Pithy Sword-sedge		X
Cyperaceae	<i>Ptilothrix deusta</i>		X	
Cyperaceae	<i>Ptilothrix deusta</i>		X	X
Cyperaceae	<i>Schoenus apogon</i>	Common Bog-rush	X	
Cyperaceae	<i>Schoenus brevifolius</i>	Zig-zag Bog-rush	X	X
Cyperaceae	<i>Schoenus ericetorum</i>	Heath Bog-rush	X	X
Cyperaceae	<i>Schoenus melanostachys</i>	Black Bog-rush	X	
Iridaceae	<i>Crocoshmia X crocosmiiflora*</i>	Montbretia	X	
Iridaceae	<i>Patersonia glabrata</i>	Leafy Purple-flag	X	X
Iridaceae	<i>Patersonia sericea</i>	Silky Purple-Flag	X	
Iridaceae	<i>Sisyrinchium sp. A*</i>	Scourweed		X
Juncaceae	<i>Juncus bufonius*</i>	Toad Rush		X



**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Juncaceae	<i>Juncus cognatus*</i>		X	X
Juncaceae	<i>Juncus continuus</i>		X	X
Juncaceae	<i>Juncus kraussii</i>	Sea Rush	X	X
Juncaceae	<i>Juncus planifolius</i>		X	
Juncaceae	<i>Juncus polyanthemus</i>		X	
Juncaceae	<i>Juncus prismatocarpus</i>		X	X
Juncaceae	<i>Juncus sp.</i>			X
Juncaceae	<i>Juncus usitatus</i>		X	X
Juncaginaceae	<i>Triglochin striata</i>	Streaked Arrowgrass	X	
Lomandraceae	<i>Lomandra confertifolia</i>	Mat-rush	X	
Lomandraceae	<i>Lomandra confertifolia subsp. pallida</i>		X	
Lomandraceae	<i>Lomandra confertifolia subsp. rubiginosa</i>		X	
Lomandraceae	<i>Lomandra cylindrica</i>	Needle Mat-rush	X	
Lomandraceae	<i>Lomandra filiformis subsp. filiformis</i>	Wattle Mat-rush	X	X
Lomandraceae	<i>Lomandra glauca</i>	Pale Mat-rush	X	X
Lomandraceae	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	X	X
Lomandraceae	<i>Lomandra multiflora subsp. multiflora</i>	Many-flowered Mat-rush	X	X
Lomandraceae	<i>Lomandra obliqua</i>		X	X
Orchidaceae	<i>Acianthus fornicatus</i>	Pixie Caps	X	
Orchidaceae	<i>Caladenia catenata</i>	Finger Orchid	X	
Orchidaceae	<i>Calochilus campestris</i>	Copper Beard Orchid	X	
Orchidaceae	<i>Chiloglottis sp.</i>		X	
Orchidaceae	<i>Cryptostylis erecta</i>	Bonnet Orchid	X	X
Orchidaceae	<i>Cryptostylis sp.</i>		X	
Orchidaceae	<i>Cryptostylis subulata</i>	Large Tongue Orchid	X	
Orchidaceae	<i>Cymbidium suave</i>	Snake Orchid	X	
Orchidaceae	<i>Dipodium sp.</i>			X
Orchidaceae	<i>Prasophyllum breviflabre</i>	Short-lipped Leek Orchid		X
Orchidaceae	<i>Pterostylis longifolia</i>	Tall Greenhood	X	
Orchidaceae	<i>Pterostylis pedunculata</i>	Maroonhood	X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Orchidaceae	<i>Thelymitra purpurata</i>	Wallum Sun Orchid	X	
Philydraceae	<i>Philydrum lanuginosum</i>	Woolly Waterlily	X	X
Phormiaceae	<i>Dianella caerulea</i> var. <i>assera</i>		X	
Phormiaceae	<i>Dianella caerulea</i> var. <i>caerulea</i>		X	X
Phormiaceae	<i>Dianella caerulea</i> var. <i>producta</i>		X	X
Poaceae	<i>Andropogon virginicus</i> *	Whisky Grass	X	
Poaceae	<i>Anisopogon avenaceus</i>	Oat Speargrass	X	
Poaceae	<i>Aristida benthamii</i>	Three-awned Speargrass	X	
Poaceae	<i>Aristida</i> sp.	Three-awn Speargrass	X	
Poaceae	<i>Aristida vagans</i>	Threeawn Speargrass	X	X
Poaceae	<i>Austrodanthonia racemosa</i>	Wallaby Grass		X
Poaceae	<i>Austrodanthonia</i> sp.		X	X
Poaceae	<i>Austrodanthonia tenuior</i>		X	X
Poaceae	<i>Austrostipa pubescens</i>			X
Poaceae	<i>Austrostipa scabra</i> subsp. <i>scabra</i>	Speargrass	X	
Poaceae	<i>Axonopus fissifolius</i> *	Narrow-leaved Carpet Grass	X	X
Poaceae	<i>Briza maxima</i> *	Quaking Grass	X	X
Poaceae	<i>Briza minor</i> *	Shivery Grass		X
Poaceae	<i>Bromus</i> sp.*			X
Poaceae	<i>Chloris gayana</i> *	Rhodes Grass	X	
Poaceae	<i>Chloris truncata</i>	Windmill Grass	X	
Poaceae	<i>Cortaderia selloana</i> *	Pampas Grass	X	
Poaceae	<i>Cymbopogon refractus</i>	Barbed Wire Grass	X	X
Poaceae	<i>Cynodon dactylon</i>	Couch	X	X
Poaceae	<i>Dichelachne micrantha</i>	Shorthair Plumegrass	X	X
Poaceae	<i>Dichelachne rara</i>		X	X
Poaceae	<i>Digitaria parviflora</i>	Small-flowered Finger Grass	X	X
Poaceae	<i>Digitaria sanguinalis</i> *	Summer Grass	X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Poaceae	<i>Echinopogon caespitosus</i> <i>var. caespitosus</i>	Tufted Hedgehog Grass	X	X
Poaceae	<i>Echinopogon ovatus</i>	Forest Hedgehog Grass	X	X
Poaceae	<i>Ehrharta erecta</i> *	Panic Veldtgrass	X	X
Poaceae	<i>Entolasia marginata</i>	Bordered Panic	X	X
Poaceae	<i>Entolasia stricta</i>	Wiry Panic	X	X
Poaceae	<i>Eragrostis brownii</i>	Brown's Lovegrass	X	X
Poaceae	<i>Eragrostis curvula</i> *	African Lovegrass	X	
Poaceae	<i>Eragrostis leptostachya</i>	Paddock Lovegrass	X	X
Poaceae	<i>Hemarthria uncinata</i> <i>var. uncinata</i>	Mat Grass	X	X
Poaceae	<i>Imperata cylindrica</i> <i>var. major</i>	Blady Grass	X	X
Poaceae	<i>Isachaemum australe</i> <i>var. australe</i>		X	X
Poaceae	<i>Isachne globosa</i>	Swamp Millet		X
Poaceae	<i>Lachnagrostis aemula</i>	Blowngrass		X
Poaceae	<i>Lachnagrostis billardierei</i>			X
Poaceae	<i>Lachnagrostis</i> <i>sp.</i>			X
Poaceae	<i>Leersia hexandra</i>	Swamp Ricegrass	X	
Poaceae	<i>Lolium loliaceum</i> *	Stiff Ryegrass		X
Poaceae	<i>Microlaena stipoides</i> <i>var. stipoides</i>		X	X
Poaceae	<i>Oplismenus aemulus</i>		X	X
Poaceae	<i>Oplismenus imbecillis</i>		X	X
Poaceae	<i>Panicum effusum</i>	Hairy Panic	X	
Poaceae	<i>Panicum simile</i>	Two-colour Panic	X	X
Poaceae	<i>Paspalidium distans</i>		X	X
Poaceae	<i>Paspalum dilatatum</i> *	Paspalum	X	X
Poaceae	<i>Paspalum distichum</i>	Water Couch	X	
Poaceae	<i>Paspalum mandiocanum</i> *	Broad-leaved Paspalum	X	
Poaceae	<i>Paspalum orbiculare</i>	Ditch Millet	X	X
Poaceae	<i>Paspalum urvillei</i> *	Vasey Grass	X	X
Poaceae	<i>Pennisetum alopecuroides</i>	Swamp Foxtail	X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
Poaceae	<i>Pennisetum clandestinum</i> *	Kikuyu Grass	X	X
Poaceae	<i>Phalaris aquatica</i> *	Phalaris	X	
Poaceae	<i>Phragmites australis</i>	Common Reed	X	X
Poaceae	<i>Poa affinis</i>		X	
Poaceae	<i>Poa poiformis</i>	Coast Tussock-grass	X	
Poaceae	<i>Poa sp.</i>			X
Poaceae	<i>Setaria pumila</i> *	Pale Pigeon Grass	X	X
		South African Pigeon Grass		X
Poaceae	<i>Setaria sphacelata</i> *	Grass		
Poaceae	<i>Sporobolus africanus</i> *	Parramatta Grass		X
Poaceae	<i>Sporobolus creber</i>	Slender Rat's Tail Grass	X	X
Poaceae	<i>Sporobolus fertilis</i> *	Giant Parramatta Grass		X
Poaceae	<i>Sporobolus virginicus</i>	Sand Couch	X	X
Poaceae	<i>Stenotaphrum secundatum</i> *	Buffalo Grass	X	
Poaceae	<i>Themeda australis</i>	Kangaroo Grass	X	X
Poaceae	<i>Vulpia sp.*</i>			X
Restionaceae	<i>Baloskion pallens</i>		X	
Restionaceae	<i>Baloskion tetraphyllum subsp. meiotachyum</i>	Plume Rush	X	X
Restionaceae	<i>Empodisma minus</i>		X	X
Restionaceae	<i>Hypolaena fastigiata</i>			X
Restionaceae	<i>Leptocarpus tenax</i>		X	X
Restionaceae	<i>Lepyrodia muelleri</i>		X	
Restionaceae	<i>Lepyrodia scariosa</i>		X	X
Typhaceae	<i>Typha orientalis</i>	Broadleaf Cumbungi	X	
Xanthorrhoeaceae	<i>Xanthorrhoea latifolia subsp. latifolia</i>		X	X
Xanthorrhoeaceae	<i>Xanthorrhoea minor subsp. minor</i>		X	
Xanthorrhoeaceae	<i>Xanthorrhoea fulva</i>		X	
Xanthorrhoeaceae	<i>Xanthorrhoea macronema</i>		X	X
Xyridaceae	<i>Xyris complanata</i>		X	X
Xyridaceae	<i>Xyris gracilis</i>		X	
Xyridaceae	<i>Xyris operculata</i>		X	

**Table A.1 Flora species recorded on the subject land**

Family	Scientific Name	Common Name	Previous surveys	Cumberland Ecology 2009/2010
<b>Climbers/Vines</b>				
Apocynaceae	<i>Marsdenia rostrata</i>	Milk Vine	X	
Apocynaceae	<i>Marsdenia suaveolens</i>	Scented Marsdenia	X	X
Apocynaceae	<i>Parsonsia straminea</i>	Common Silkpod	X	X
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga Vine	X	X
Convolvulaceae	<i>Convolvulus erubescens</i>	Blushing Bindweed		X
Convolvulaceae	<i>Polymeria calycina</i>		X	X
Dilleniaceae	<i>Hibbertia scandens</i>	Climbing Guinea Flower	X	X
Fabaceae	<i>Desmodium brachypodium</i>	Large Tick-trefoil	X	
Fabaceae	<i>Desmodium gunnii</i>	Slender Tick-trefoil	X	
Fabaceae (Faboideae)	<i>Desmodium rhytidophyllum</i>		X	X
Fabaceae (Faboideae)	<i>Desmodium varians</i>	Slender Tick-trefoil	X	X
Fabaceae (Faboideae)	<i>Glycine clandestina</i>		X	X
Fabaceae (Faboideae)	<i>Glycine microphylla</i>	Small-leaf Glycine	X	X
Fabaceae (Faboideae)	<i>Glycine tabacina</i>		X	X
Fabaceae (Faboideae)	<i>Hardenbergia violacea</i>	False Sarsparilla	X	X
Fabaceae (Faboideae)	<i>Kennedia rubicunda</i>	Dusky Coral Pea	X	X
Lauraceae	<i>Cassytha glabella forma glabella</i>		X	X
Lauraceae	<i>Cassytha pubescens</i>		X	X
Luzuriagaceae	<i>Eustrephus latifolius</i>	Wombat Berry	X	X
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	Scrambling Lily	X	X
Menispermaceae	<i>Sarcopetalum harveyanum</i>	Pearl Vine	X	
Menispermaceae	<i>Stephania japonica var. discolor</i>	Snake Vine	X	X
Passifloraceae	<i>Passiflora edulis*</i>	Common Passionfruit		X
Pittosporaceae	<i>Billardiera scandens</i>	Hairy Apple Berry	X	X
Ranunculaceae	<i>Clematis aristata</i>	Old Man's Beard	X	
Smilacaceae	<i>Smilax australis</i>	Lawyer Vine	X	
Smilacaceae	<i>Smilax glyciphylla</i>	Sweet Sarsparilla	X	X
Vitaceae	<i>Cayratia clematidea</i>	Native Grape	X	

\*denotes exotic species



---

*Appendix B*

# Quadrat Data

---

**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27
<b>Trees</b>																					
Acanthaceae	<i>Avicennia marina</i> <i>subsp. australasica</i>	Grey Mangrove																			
Arecaceae	<i>Livistona australis</i>	Cabbage Palm	1				1							1	1	1					
Casuarinaceae	<i>Allocasuarina littoralis</i>	Black She-oak													1	1					
Casuarinaceae	<i>Casuarina glauca</i>	Swamp Oak								adj											2
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	Blueberry Ash				2															
Fabaceae (Mimosoideae)	<i>Acacia irrorata subsp. irrorata</i>	Green Wattle										2			2						
Fabaceae (Mimosoideae)	<i>Acacia melanoxylon</i>	Blackwood															1				
Lauraceae	<i>Endiandra sieberi</i>	Hard Corkwood					2														
Myrsinaceae	<i>Aegiceras corniculatum</i>	River Mangrove																			
Myrtaceae	<i>Angophora costata</i>	Smooth-barked Apple	1				5		adj			adj	1	5	1	1	adj	adj			
Myrtaceae	<i>Angophora floribunda</i>	Rough-barked Apple												adj							
Myrtaceae	<i>Conyobia gummifera</i>	Red Bloodwood					5					adj	adj								
Myrtaceae	<i>Conyobia maculata</i>	Spotted Gum										adj		1							
Myrtaceae	<i>Eucalyptus fergusonii</i>														1						
Myrtaceae	<i>Eucalyptus globoides</i>	White Stringybark														5					

**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27
Myrtaceae	<i>Eucalyptus microcoyos</i>	Tallowwood									6			5	6	2					
Myrtaceae	<i>Eucalyptus paniculata</i> <i>subsp. paniculata</i>	Grey Ironbark	5																		
Myrtaceae	<i>Eucalyptus pilularis</i>	Blackbutt	5														6	5			
Myrtaceae	<i>Eucalyptus propinqua</i> <i>var. propinqua</i>	Small-fruited Grey Gum	5													adj					
Myrtaceae	<i>Eucalyptus resinifera</i> <i>subsp. resinifera</i>	Red Mahogany	5	5	5	1	1	adj						1	5						
Myrtaceae	<i>Eucalyptus robusta</i>	Swamp Mahogany	5	6	5	5	1														
Myrtaceae	<i>Eucalyptus signata</i>	Scribbly Gum					6														
Myrtaceae	<i>Eucalyptus tereticornis</i>	Forest Red Gum														adj					
Myrtaceae	<i>Melaleuca linariifolia</i>	Flax-leaved Paperbark	1							2	2										
Myrtaceae	<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark	1	5	5	1		adj	2				adj								
Myrtaceae	<i>Melaleuca styphelioides</i>	Prickly-leaved Tea Tree													1						
Oleaceae	<i>Notelaea venosa</i>	Vein-leaved Mock-olive															1				
Phyllanthaceae	<i>Glochiclon ferdinandii</i>	Cheese Tree																			
Pinaceae	<i>Pinus elliotii*</i>	Slash Pine					2														

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Proteaceae	<i>Banksia serrata</i>	Old-man Banksia																				
Santalaceae	<i>Exocarpos cupressiformis</i>	Native Cherry														2						
<b>Shrubs</b>																						
Acanthaceae	<i>Avicennia marina</i> var. <i>australasica</i> (shrub)	Grey Mangrove																				
Apiaceae	<i>Platysace ericoides</i>																					
Apiaceae	<i>Platysace lanceolata</i>	Shrubby Plactysace					2	2														
Apiaceae	<i>Platysace linearifolia</i>																					
Apiaceae	<i>Trachymene incisa</i>	Trachymene																				
Apocynaceae	<i>Gomphocarpus fruticosus</i> *	Narrow-leaved Cotton Bush																				1
Araliaceae	<i>Polyscias sambucifolia</i> subsp. <i>sambucifolia</i>														2	2						
Asteraceae	<i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i>	Bitou Bush						1														1
Asteraceae	<i>Ozothamnus diosmifolius</i>	Rice Flower																				
Casuarinaceae	<i>Casuarina glauca</i>	Swamp Oak																				1

adj

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
	(shrub)																					
Dilleniaceae	<i>Hibbertia acicularis</i>																					
Dilleniaceae	<i>Hibbertia aspera</i>	Rough Guinea Flower													1	1						
Dilleniaceae	<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>																					
Dilleniaceae	<i>Hibbertia fasciculata</i>																					
Dilleniaceae	<i>Hibbertia obtusifolia</i>	Hoary Guinea Flower					2										1	2				
Dilleniaceae	<i>Hibbertia vestita</i>	Hairy Guinea Flower					2	2								1						
Ericaceae (Styphelioideae)	<i>Brachyoloma daphnoides</i>	Daphne Heath																				
Ericaceae (Styphelioideae)	<i>Epacris microphylla</i>	Coral Heath																				
Ericaceae (Styphelioideae)	<i>Epacris pulchella</i>	Wallum Heath																				
Ericaceae (Styphelioideae)	<i>Leucopogon parviflorus</i>	Coastal Beard-heath					1	2					2									
Ericaceae (Styphelioideae)	<i>Monotoca elliptica</i>	Tree Broom-heath															1					
Euphorbiaceae	<i>Amperea xiphocladia</i>	Broom Spurge															1					



**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Euphorbiaceae	<i>Homalanthus populifolius</i>	Bleeding Heart																				
Fabaceae (Caesalpinioideae)	<i>Senna pendula</i> var. <i>glabrata</i> *														1							
Fabaceae (Faboideae)	<i>Aotus ericoides</i>																					
Fabaceae (Faboideae)	<i>Bossiaea heterophylla</i>	Variable Bossiaea																				
Fabaceae (Faboideae)	<i>Dillwynia floribunda</i>																					
Fabaceae (Faboideae)	<i>Gompholobium pinnatum</i>	Pinnate Wedge Pea																				
Fabaceae (Faboideae)	<i>Phyllota phyllicoides</i>	Heath Phyllota																				
Fabaceae (Faboideae)	<i>Pultenaea flexilis</i>	Graceful Bsh-pea																				
Fabaceae (Faboideae)	<i>Pultenaea paleacea</i> var. <i>paleacea</i>	Chaffy Bush-pea			1		2															
Fabaceae (Faboideae)	<i>Pultenaea villosa</i>	Hairy Bush-pea			2			2				1		adj	1							
Fabaceae (Faboideae)	<i>Viminaria juncea</i>	Native Broom																				

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Fabaceae (Mimosoideae)	<i>Acacia falcata</i>																					
Fabaceae (Mimosoideae)	<i>Acacia irrorata subsp. irrorata (shrub)</i>	Green Wattle			1				adj					1		1						
Fabaceae (Mimosoideae)	<i>Acacia longifolia</i>						2								adj	1						
Fabaceae (Mimosoideae)	<i>Acacia maidenii</i>	Maiden's Wattle															1					
Fabaceae (Mimosoideae)	<i>Acacia suaveolens</i>	Sweet Wattle																				
Fabaceae (Mimosoideae)	<i>Acacia terminalis subsp. longiaxialis</i>	Sunshine Wattle																				
Fabaceae (Mimosoideae)	<i>Acacia ulicifolia</i>	Prickly Moses	1				2						1	adj								
Goodeniaceae	<i>Goodenia ovata</i>	Hop Goodenia										2										
Lauraceae	<i>Cinnamomum camphora* (shrub)</i>	Camphor Laurel	1																			
Myrtaceae	<i>Callistemon pachyphyllus</i>	Wallum Bottlebrush							1	4	2											
Myrtaceae	<i>Callistemon pinifolius</i>	Pine-leaved Bottlebrush			2				4					adj	4							
Myrtaceae	<i>Callistemon rigidus</i>	Stiff Bottlebrush															2					

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Myrtaceae	<i>Callistemon salignus</i>	Willow Bottlebrush			3				adj		2				6	5						
Myrtaceae	<i>Eucalyptus resinifera</i> subsp. <i>resinifera</i> (shrub)	Red Mahogany						3														
Myrtaceae	<i>Eucalyptus robusta</i> (shrub)	Swamp Mahogany								adj												
Myrtaceae	<i>Kunzea ambigua</i>	Tick Bush																				
Myrtaceae	<i>Leptospermum juniperinum</i>	Prickly Tea-tree																				
Myrtaceae	<i>Leptospermum liversidgei</i>	Olive Tea-tree						4		2		2				2						
Myrtaceae	<i>Leptospermum polygalifolium</i>	Tantoon												adj	2							
Myrtaceae	<i>Leptospermum trinervium</i>	Flaky-barked Tea-tree																				
Myrtaceae	<i>Melaleuca ericifolia</i>	Swamp Paperbark									1											
Myrtaceae	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark			2			2		2		1	2		2							
Myrtaceae	<i>Melaleuca quinquenervia</i> (shrub)	Broad-leaved Paperbark							1													
Myrtaceae	<i>Melaleuca sieberi</i>	Thyme Honey-myrtle						2		3												
Myrtaceae	<i>Melaleuca thymifolia</i>	Thyme Honey-myrtle						2		4	3											

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Myrtaceae	<i>Sannantha pluriflora</i>													1								
Oleaceae	<i>Notelaea longifolia</i>	Large Mock-olive														1						
Oleaceae	<i>Olea europaea subsp. cuspidata*</i>	African Olive													1							
Phyllanthaceae	<i>Breynia oblongifolia</i>	Coffee Bush				1	3								1	2	2					
Phyllanthaceae	<i>Glochidion ferdinandii (shrub)</i>	Cheese Tree	1			2					1				1		1					
Phyllanthaceae	<i>Phyllanthus hirtellus</i>	Thyme Spurge																				
Pinaceae	<i>Pinus elliotii* (shrub)</i>	Slash Pine					1			1				3	1							
Pittosporaceae	<i>Pittosporum revolutum</i>	Rough Fruit Pittosporum										2										
Pittosporaceae	<i>Pittosporum undulatum (shrub)</i>	Sweet Pittosporum													1		2					
Polygalaceae	<i>Comesperma ericinum</i>	Pyramid Flower																				
Proteaceae	<i>Banksia cunninghamii</i>																					
Proteaceae	<i>Banksia oblongifolia</i>	Fern-leaved Banksia																				
Proteaceae	<i>Banksia robur</i>	Swamp Banksia																				
Proteaceae	<i>Persoonia lanceolata</i>	Lance Leaf Geebung																				
Proteaceae	<i>Persoonia levis</i>	Broad-leaved																				

**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Rubiaceae	<i>?Durringtonia paludosa</i>	Geebung																				
Rutaceae	<i>Zieria smithii</i>	Sandfly Zieria									1											
Santalaceae	<i>Leptomeria acida</i>	Native Currant										1										
Sapindaceae	<i>Dodonaea triquetra</i>	Large-leaf Hop-bush									1				1							
Thymelaeaceae	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>	Slender Rice-flower						1		1												
Thymelaeaceae	<i>Wikstroemia indica</i>																1					
Verbenaceae	<i>Lantana camara</i> *	Lantana													1							1
<b>Herbs - Ferns and Allies</b>																						
Adiantaceae	<i>Adiantum aethiopicum</i>	Common Maidenhair																				
Blechnaceae	<i>Blechnum indicum</i>	Swamp Water Fern				1																
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	Harsh Ground Fern																				
Dennstaedtiaceae	<i>Pteridium esculentum</i>	Bracken	6	5	1	6	5				2	4	3				6	5				
Dicksoniaceae	<i>Calochlaena dubia</i>	Rainbow Fern										1										
Gleicheniaceae	<i>Gleichenia dicarpa</i>	Pouched Coral Fern																				



**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Lindsaeaceae	<i>Lindsaea linearis</i>	Screw Fern																				
Lycopodiaceae	<i>Lycopodiella lateralis</i>	Slender Clubmoss																				
Selaginellaceae	<i>Selaginella uliginosa</i>	Swamp Selaginella					1															
Herbs - Dicots																						
Acanthaceae	<i>Brunoniella pumilio</i>	Dwarf Blue Trumpet			2			1				1				3						
Acanthaceae	<i>Pseuderanthemum variabile</i>	Pastel Flower										2										
Amaranthaceae	<i>Alternanthera denticulata</i>	Lesser Joyweed																				
Apiaceae	<i>Actinotus helianthi</i>	Flannel Flower																				1
Apiaceae	<i>Centella asiatica</i>	Indian Pennywort	1	2	2	2	2	2	1	1	1	2										
Apiaceae	<i>Cyclospermum leptophyllum*</i>	Slender Celery	2	1	1						1											1
Apiaceae	<i>Hydrocotyle bonariensis*</i>																					
Apiaceae	<i>Hydrocotyle peduncularis</i>		2	1	1		2	2	2	2	2	2	1	1			4					3
Asteraceae	<i>Ageratina adenophora*</i>	Crofton Weed																				
Asteraceae	<i>Aster subulatus*</i>	Wild Aster									2											

**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27
Asteraceae	<i>Bidens pilosa</i> *	Cobbler's Pegs	2	3	2	2	2					1		2			5				4
Asteraceae	<i>Cirsium vulgare</i> *	Spear Thistle	1	1		1															
Asteraceae	<i>Conyza bonariensis</i> *	Flaxleaf Fleabane	2	3	2	2	2				1	1	2	2			1				4
Asteraceae	<i>Cotula coronopifolia</i> *	Water Buttons																			
Asteraceae	<i>Crassocephalum crepidioides</i> *	Thickhead																			
Asteraceae	<i>Epiltes australis</i>	Spreading Nut-heads							1	1	1				1						
Asteraceae	<i>Euchiton sphaericus</i>		1		2																1
Asteraceae	<i>Gnaphalium americanum</i> *	Cudweed	2	1	1					1	1										
Asteraceae	<i>Gnaphalium spicatum</i> *																				
Asteraceae	<i>Hypochaeris radicata</i> *	Flatweed	2	2	2	5	3			2	3	4	4	3			3				4
Asteraceae	<i>Lagenifera stipitata</i>	Blue Bottle-daisy			1						1					2					
Asteraceae	<i>Senecio madagascariensis</i> *	Fireweed	2	2	1		2		1	1	1	2	2								2
Asteraceae	<i>Senecio sp.</i>																				1
Asteraceae	<i>Taraxacum officinale</i> *	Dandelion	4	3	3	1	4	4													2
Asteraceae	<i>Vernonia cinerea</i> var. <i>cinerea</i>																				
Campanulaceae	<i>Wahlenbergia gracilis</i>	Australian Bluebell																			2

**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Carophyllaceae	<i>Cerastium glomeratum</i> *	Mouse-ear			1																	
		Chickweed																				
Chenopodiaceae	<i>Sarcocornia quinqueflora</i>	Glasswort																				
	<i>Hypericum japonicum</i>							2	1						adj	1						
Convolvulaceae	<i>Dichondra repens</i>	Kidney Weed			4	3					2		2	2	2							
Fabaceae (Faboideae)	<i>Lotus uliginosus</i> *	Birds-foot Trefoil	4		5								2	3								
	<i>Trifolium repens</i> *	White Clover	2	3	5						1	3	2	2			3					
Gentianaceae	<i>Centaureum tenuiflorum</i> *		3	1								1										
Gentianaceae	<i>Schenkia spicata</i>	Spike Centaury						1	adj													
Geraniaceae	<i>Geranium homeanum</i>											adj										1
Goodeniaceae	<i>Dampiera stricta</i>																					
Goodeniaceae	<i>Goodenia bellidifolia</i>							2	2	1	2											
	<i>subsp. bellidifolia</i>																					
Goodeniaceae	<i>Goodenia heterophylla</i>																					
	<i>subsp. heterophylla</i>																					
Goodeniaceae	<i>Goodenia paniculata</i>	Branched Goodenia						3	4	3												
	<i>Haemodorum</i>	Bloodroot																				

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27
	<i>planifolium</i>																				
Haloragaceae	<i>Gonocarpus micranthus</i>						1	1		1	2		4								
Haloragaceae	<i>Gonocarpus tetragynus</i>			1					5												
Haloragaceae	<i>Gonocarpus teucroides</i>	Raspwort																3			
Lobeliaceae	<i>Lobelia alata</i>										1									1	
Lobeliaceae	<i>Pratia purpurascens</i>	Whiteroot	1	1	2	3	2				2		2	2	2						1
Loganiaceae	<i>Mitrasacme polymorpha</i>																				
Lythraceae	<i>Lythrum hyssopifolia</i>	Hyssop Loosestrife										1									
Malvaceae	<i>Malva parviflora</i> *	Small-flowered Mallow																			
Malvaceae	<i>Modiola caroliniana</i> *	Red-flowered Mallow										1									
Malvaceae	<i>Sida rhombifolia</i> *	Paddy's Lucerne	1	3								1									
Menyanthaceae	<i>Villarsia exaltata</i>	Yellow Marsh Flower						1													
Myrsinaceae	<i>Anagallis arvensis</i> *	Scarlet Pimpernel, Blue Pimpernel	1	1	1																
Oxalidaceae	<i>Oxalis</i> sp.																				
Plantaginaceae	<i>Plantago debilis</i>	Shade Plantain																			
Plantaginaceae	<i>Plantago lanceolata</i> *	Lamb's Tongues	1																		
Plantaginaceae	<i>Veronica plebeia</i>	Creeping															1				1

**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27		
Polygonaceae	<i>Acetosella vulgaris*</i>	Sheep Sorrel	1	5																		3	
Polygonaceae	<i>Persicaria decipiens</i>	Slender Knotweed																					
Ranunculaceae	<i>Ranunculus inundatus</i>	River Buttercup																					
Ranunculaceae	<i>Ranunculus lappaceus</i>	Common Buttercup																					
Rubiaceae	<i>Galium propinquum</i>	Maori Bedstraw																					
Rubiaceae	<i>Pomax umbellata</i>		2	3									4	3			3					4	
Solanaceae	<i>Solanum nigrum*</i>	Black-berry										1											
		Nightshade																					
Stackhousiaceae	<i>Stackhousia viminea</i>	Slender Stackhousia																					
Theophrastaceae	<i>Samolus repens</i>	Creeping Brookweed																					
Verbenaceae	<i>Verbena bonariensis*</i>	Purpletop																					1
Violaceae	<i>Viola betonicifolia</i>	Native Violet									2												
Violaceae	<i>Viola hederacea</i>	Ivy-leaved Violet																					
<b>Herbs - Monocots</b>																							
Anthericaceae	<i>Caesia parviflora var. parviflora</i>	Pale Grass Lily																					1
Anthericaceae	<i>Dichopogon sp.</i>																						



**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Anthericaceae	<i>Thysanotus tuberosus</i>	Common Fringe-lily																				
Anthericaceae	<i>Tricoryne elatior</i>	Yellow Autumn-lily		1			2	2										2				
Colchicaceae	<i>Burchardia umbellata</i>	Milkmaids					3															
Commelinaceae	<i>Commelina cyanea</i>	Native Wandering Jew	1													2		1				
Cyperaceae	<i>Baumea juncea</i>									5												8
Cyperaceae	<i>Baumea rubignosa</i>							4		3												
Cyperaceae	<i>Baumea teretifolia</i>																					
Cyperaceae	<i>Carex appressa</i>	Tall Sedge																				
Cyperaceae	<i>Carex gaudichaudiana</i>																					
Cyperaceae	<i>Carex longibrachiata</i>				2																	
Cyperaceae	<i>Carex pulmia</i>				1							1										
Cyperaceae	<i>Causitis recurvata</i>																					
Cyperaceae	<i>Chorizandra cymbaria</i>									1												
Cyperaceae	<i>Chorizandra sphaerocephala</i>	Round-headed Bristle-sedge						2														
Cyperaceae	<i>Cyperus aggregatus*</i>																					2
Cyperaceae	<i>Cyperus brevifolius*</i>			1																		
Cyperaceae	<i>Cyperus eragrostis*</i>											1										
Cyperaceae	<i>Cyperus polystachyos</i>		2	2				2			3	3										1

**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27		
Cyperaceae	<i>Ficinia nodosa</i>	Knobby Club-rush																					
Cyperaceae	<i>Fimbristylis dichotoma</i>	Common Fringe-sedge		1							2	2											
Cyperaceae	<i>Gahnia clarkei</i>	Tall Saw-sedge	2	1		2	2				4	2	2		5								
Cyperaceae	<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge																					
Cyperaceae	<i>Isolepis inundata</i>	Swamp Clubrush						2															
Cyperaceae	<i>Lepidosperma</i>																						
Cyperaceae	<i>?urophorum</i>																						
Cyperaceae	<i>Lepidosperma filiforme</i>							2						2	3								
Cyperaceae	<i>Lepidosperma laterale</i>						2								1	3							
Cyperaceae	<i>Lepidosperma longitundinale</i>	Pithy Sword-sedge																					
Cyperaceae	<i>Ptilothrix deusta</i>							3		4													
Cyperaceae	<i>Schoenus brevifolius</i>	Zig-zag Bog-rush								4													
Iridaceae	<i>Patersonia glabrata</i>	Leafy Purple-flag																				1	
Iridaceae	<i>Sisyrinchium sp. A*</i>	Scourweed	1	1	1	1																	
Juncaceae	<i>Juncus cognatus*</i>		2	1	3						2	2	2	1									
Juncaceae	<i>Juncus continuus</i>		1	3	2							2	2	1									
Juncaceae	<i>Juncus kraussii</i>	Sea Rush																			2	6	7
Juncaceae	<i>Juncus prismatocarpus</i>		3																				

**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27
Juncaceae	<i>Juncus sp.</i>									1											
Juncaceae	<i>Juncus usitatus</i>		3								2										
Lomandraceae	<i>Lomandra filiformis</i> <i>subsp. filiformis</i>	Wattle Mat-rush														2					
Lomandraceae	<i>Lomandra glauca</i>	Pale Mat-rush																			
Lomandraceae	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	1	3	3	3	2	1	1	1	4	1	3	2	2	3	2	1			
Lomandraceae	<i>Lomandra multiflora</i> <i>subsp. multiflora</i>	Many-flowered Mat-rush																			
Lomandraceae	<i>Lomandra obliqua</i>															1					
Orchidaceae	<i>Cryptostylis erecta</i>	Bonnet Orchid							2							1					
Orchidaceae	<i>Dipodium sp.</i>																				
Philydraceae	<i>Philydrum lanuginosum</i>	Woolly Waterlily								adj											
Phormiaceae	<i>Dianella caerulea var. producta</i>		2	4	3	3	4	2			2	1	2	1	2	2	3				
Poaceae	<i>Aristida vagans</i>	Threawn			1																
Poaceae	<i>Austrodanthonia racemosa</i>	Wallaby Grass																			
Poaceae	<i>Austrodanthonia sp.</i>								1												
Poaceae	<i>Austrodanthonia tenuior</i>								2												

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Poaceae	<i>Austrostipa pubescens</i>					5																
Poaceae	<i>Axonopus fissifolius*</i>	Narrow-leaved Carpet Grass	6	4	3	6	6	6	3	2	5		6	5	1		3					4
Poaceae	<i>Briza maxima*</i>	Quaking Grass							1			1										
Poaceae	<i>Briza minor*</i>	Shivery Grass	3		2					1												
Poaceae	<i>Bromus sp.*</i>		1																			
Poaceae	<i>Cynodon dactylon</i>	Couch	3	2	3	2		5				2										
Poaceae	<i>Dichelachne micrantha</i>	Shorthair Plumegrass	1	3					2		1	2					2					
Poaceae	<i>Dichelachne rara</i>															1						
Poaceae	<i>Digitaria parviflora</i>	Small-flowered Finger Grass															1					1
Poaceae	<i>Echinopogon caespitosus var. caespitosus</i>	Tufted Hedgehog Grass	2	2	2	2						3		2			2					
Poaceae	<i>Echinopogon ovatus</i>	Forest Hedgehog Grass	2											2								
Poaceae	<i>Ehrharta erecta*</i>	Panic Veldtgrass	3														4					3
Poaceae	<i>Entolasia marginata</i>	Bordered Panic			2							2		1	2							
Poaceae	<i>Entolasia stricta</i>	Wiry Panic	3	2	3	3			2	2				3	3							
Poaceae	<i>Eragrostis brownii</i>	Brown's Lovegrass							4	2	2			2	1		1					4

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Poaceae	<i>Eragrostis leptostachya</i>	Paddock Lovegrass			1																	
Poaceae	<i>Hemarthria uncinata</i> var. <i>uncinata</i>	Mat Grass					2															
Poaceae	<i>Imperata cylindrica</i> var. <i>major</i>	Blady Grass			3					1				2	2	4	4					
Poaceae	<i>Isachaeum australe</i> var. <i>australe</i>							3	2													
Poaceae	<i>Isachne globosa</i>	Swamp Millet																				
Poaceae	<i>Lachnagrostis</i> <i>billardierei</i>		2	2	2		1			2	1						2					
Poaceae	<i>Lachnagrostis</i> sp.							1														
Poaceae	<i>Lolium lolia</i> var. <i>lolium</i> *	Stiff Ryegrass		1	1																	
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>		3	3	4		5				3			2	2	2	2				3	
Poaceae	<i>Oplismenus aemulus</i>														1		2					
Poaceae	<i>Oplismenus imbecillis</i>															2						
Poaceae	<i>Panicum simile</i>	Two-colour Panic						2	2					1								3
Poaceae	<i>Paspalidium distans</i>		2	2	2		2	2	2	1		2			2							
Poaceae	<i>Paspalum dilatatum</i> *	Paspalum	2	2	1												3					4
Poaceae	<i>Paspalum orbiculare</i>	Ditch Millet						5	2	5												
Poaceae	<i>Paspalum unvillei</i> *	Vasey Grass	2					1	1	1	2	2		1								



**Table B.1 Flora quadrat data (1 of 2)**

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Poaceae	<i>Pennisetum clandestinum*</i>	Kikuyu Grass												1								2
Poaceae	<i>Phragmites australis</i>	Common Reed																				
Poaceae	<i>Poa sp.</i>		2																			
Poaceae	<i>Setaria pumila*</i>	Pale Pigeon Grass	1				1				2		1									
Poaceae	<i>Setaria sphacelata*</i>	South African Pigeon Grass				5								6								3
Poaceae	<i>Sporobolus africanus*</i>	Parramatta Grass	1	1								2										
Poaceae	<i>Sporobolus fertilis*</i>	Giant Parramatta Grass																				
Poaceae	<i>Sporobolus virginicus</i>	Sand Couch																				2
Poaceae	<i>Themeda australis</i>	Kangaroo Grass			1				3	6	2	1				1						
Poaceae	<i>Vulpia sp.*</i>		1										1									
Restionaceae	<i>Baloskion tetraphyllum subsp. meiotachyum</i>	Plume Rush	2	2	3		1						4	1								
Restionaceae	<i>Empodisma minus</i>								1													
Restionaceae	<i>Hypolaena fastigiata</i>																					
Restionaceae	<i>Leptocarpus tenax</i>						2															
Restionaceae	<i>Lepyrodia scariosa</i>										2											
Xanthorrhoeaceae	<i>Xanthorrhoea latifolia subsp. latifolia</i>																					

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27	
Xanthorrhoeaceae	<i>Xanthorrhoea macronema</i>																					
	<i>Xyris complanata</i>																					adj
<b>Climbers/Vines</b>																						
Apocynaceae	<i>Marsdenia suaveolens</i>	Scented Marsdenia		1																		
Apocynaceae	<i>Parsonsia straminea</i>	Common Silkpod														1						
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga													1	3						
		Vine														3						
Convolvulaceae	<i>Convolvulus erubescens</i>	Blushing Bindweed			3				adj	adj	1				1							
	<i>Polymeria calycina</i>																					
Dilleniaceae	<i>Hibbertia scandens</i>	Climbing Guinea Flower											adj	2								
	<i>Desmodium rhytidophyllum</i>																					
Fabaceae (Faboideae)	<i>Desmodium varians</i>	Slender Tick-trefoil																				
	<i>Glycine clandestina</i>																					
Fabaceae (Faboideae)	<i>Glycine microphylla</i>	Small-leaf Glycine										1			2	2						

**Table B.1** Flora quadrat data (1 of 2)

Family	Scientific Name	Common Name	3	4	5	6	7	8	9	10	11	12	15	16	18	20	22	23	24	25	27
(Faboideae)																					
Fabaceae	<i>Glycine tabacina</i>			1							2	2	2	2			2				
(Faboideae)																					
Fabaceae	<i>Hardenbergia violacea</i>	False Sarsparilla	1	2	2						2	2	1	1				1			
(Faboideae)																					
Fabaceae	<i>Kennedia rubicunda</i>	Dusky Coral Pea									2	2	adj	adj							
(Faboideae)																					
Lauraceae	<i>Cassytha glabella forma glabella</i>							2	1												
Lauraceae	<i>Cassytha pubescens</i>																				
Luzuriagaceae	<i>Eustrephus latifolius</i>	Wombat Berry									2	2	2	2	2		1				
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	Scrambling Lily														1					
Passifloraceae	<i>Passiflora edulis*</i>	Common Passionfruit																			
Pittosporaceae	<i>Billardiera scandens</i>	Hairy Apple Berry										1		1	1	4					
Smilacaceae	<i>Smilax glycyphylla</i>	Sweet Sarsparilla		1	3									1		1					

\*denotes exotic species.

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
<b>Trees</b>																					
Acanthaceae	<i>Avicennia marina</i> <i>subsp. australasica</i>	Grey Mangrove							5												
Arecaceae	<i>Livistona australis</i>	Cabbage Palm								1											
Casuarinaceae	<i>Allocasuarina littoralis</i>	Black She-oak																			
Casuarinaceae	<i>Casuarina glauca</i>	Swamp Oak	2							5	1										
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	Blueberry Ash													1						
Fabaceae (Mimosoideae)	<i>Acacia irrorata subsp. irrorata</i>	Green Wattle											2								5
Fabaceae (Mimosoideae)	<i>Acacia melanoxylon</i>	Blackwood																			
Lauraceae	<i>Endiandra sieberi</i>	Hard Corkwood																			
Myrsinaceae	<i>Aegiceras corniculatum</i>	River Mangrove																			
Myrtaceae	<i>Angophora costata</i>	Smooth-barked Apple												1	1	5	5	1	5	1	
Myrtaceae	<i>Angophora floribunda</i>	Rough-barked Apple																			
Myrtaceae	<i>Conyobia gummifera</i>	Red Bloodwood													1		1	1	1	1	1
Myrtaceae	<i>Conyobia maculata</i>	Spotted Gum														5					
Myrtaceae	<i>Eucalyptus fergusonii</i>															2					
Myrtaceae	<i>Eucalyptus globoides</i>	White Stringybark														1					5

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Myrtaceae	<i>Eucalyptus microcoyns</i>	Tallowwood											5								5	
Myrtaceae	<i>Eucalyptus paniculata</i> <i>subsp. paniculata</i>	Grey Ironbark																				
Myrtaceae	<i>Eucalyptus pilularis</i>	Blackbutt								5												
Myrtaceae	<i>Eucalyptus propinqua</i> <i>var. propinqua</i>	Small-fruited Grey Gum																				
Myrtaceae	<i>Eucalyptus resinifera</i> <i>subsp. resinifera</i>	Red Mahogany											5					5				1
Myrtaceae	<i>Eucalyptus robusta</i>	Swamp Mahogany										1	5	5								
Myrtaceae	<i>Eucalyptus signata</i>	Scribbly Gum																				5
Myrtaceae	<i>Eucalyptus terebinthifolia</i>	Forest Red Gum																				
Myrtaceae	<i>Melaleuca linariifolia</i>	Flax-leaved Paperbark																				2
Myrtaceae	<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark									5	6	2									5
Myrtaceae	<i>Melaleuca styphelioides</i>	Prickly-leaved Tea Tree																				
Oleaceae	<i>Notelaea venosa</i>	Vein-leaved Mock-olive																				
Phyllanthaceae	<i>Glochiclon ferdinandii</i>	Cheese Tree																				3
Pinaceae	<i>Pinus elliotii*</i>	Slash Pine									5											1

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Proteaceae	<i>Banksia serrata</i>	Old-man Banksia																				
Santalaceae	<i>Exocarpos cupressiformis</i>	Native Cherry								1												1
<b>Shrubs</b>																						
Acanthaceae	<i>Avicennia marina</i> var. <i>australasica</i> (shrub)	Grey Mangrove						5														
Apiaceae	<i>Platysace ericoides</i>												4									4
Apiaceae	<i>Platysace lanceolata</i>	Shrubby Platysace																			1	
Apiaceae	<i>Platysace linearifolia</i>																				2	
Apiaceae	<i>Trachymene incisa</i>	Trachymene																				adj
Apocynaceae	<i>Gomphocarpus fruticosus</i> *	Narrow-leaved Cotton Bush																			1	
Araliaceae	<i>Polyscias sambucifolia</i> subsp. <i>sambucifolia</i>												1									1
Asteraceae	<i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i>	Bitou Bush																			1	
Asteraceae	<i>Ozothamnus diosmifolius</i>	Rice Flower																			1	
Casuarinaceae	<i>Casuarina glauca</i>	Swamp Oak																			2	



**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46		
Dilleniaceae	<i>Hibbertia acicularis</i>																					1	
Dilleniaceae	<i>Hibbertia aspera</i>	Rough Guinea Flower																					
Dilleniaceae	<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>															1							
Dilleniaceae	<i>Hibbertia fasciculata</i>																2						3
Dilleniaceae	<i>Hibbertia obtusifolia</i>	Hoary Guinea Flower																					
Dilleniaceae	<i>Hibbertia vestita</i>	Hairy Guinea Flower																					
Ericaceae (Styphelioideae)	<i>Brachyoma daphnoides</i>	Daphne Heath																					1
Ericaceae (Styphelioideae)	<i>Epacris microphylla</i>	Coral Heath																					3
Ericaceae (Styphelioideae)	<i>Epacris pulchella</i>	Wallum Heath																					3
Ericaceae (Styphelioideae)	<i>Leucopogon parviflorus</i>	Coastal Beard-heath													1		1						2
Ericaceae (Styphelioideae)	<i>Monotoca elliptica</i>	Tree Broom-heath																					
Euphorbiaceae	<i>Amperea xiphoclada</i>	Broom Spurge													1		1						2

**Table B.2** Flora quadrat data (2 of 2)

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Euphorbiaceae	<i>Homalanthus populifolius</i>	Bleeding Heart										1	2	1								
Fabaceae (Caesalpinioideae)	<i>Senna pendula</i> var. <i>glabrata</i> *																					
Fabaceae (Faboideae)	<i>Aotus ericoides</i>													1								
Fabaceae (Faboideae)	<i>Bossiaea heterophylla</i>	Variable Bossiaea																				1
Fabaceae (Faboideae)	<i>Dillwynia floribunda</i>																					1
Fabaceae (Faboideae)	<i>Gompholobium pinnatum</i>	Pinnate Wedge Pea																				2
Fabaceae (Faboideae)	<i>Phyllota phyllicoides</i>	Heath Phyllota																				1
Fabaceae (Faboideae)	<i>Pultenaea flexilis</i>	Graceful Bsh-pea																				1
Fabaceae (Faboideae)	<i>Pultenaea paleacea</i> var. <i>paleacea</i>	Chaffy Bush-pea																			2	1
Fabaceae (Faboideae)	<i>Pultenaea villosa</i>	Hairy Bush-pea																			3	1
Fabaceae (Faboideae)	<i>Viminaria juncea</i>	Native Broom																			1	1



**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Myrtaceae	<i>Callistemon salignus</i>	Willow Bottlebrush																5	5		
Myrtaceae	<i>Eucalyptus resinifera</i> subsp. <i>resinifera</i> (shrub)	Red Mahogany																			
Myrtaceae	<i>Eucalyptus robusta</i> (shrub)	Swamp Mahogany																			
Myrtaceae	<i>Kunzea ambigua</i>	Tick Bush								2											
Myrtaceae	<i>Leptospermum juniperinum</i>	Prickly Tea-tree								3										2	
Myrtaceae	<i>Leptospermum liversidgei</i>	Olive Tea-tree														2					1
Myrtaceae	<i>Leptospermum polygalifolium</i>	Tantoon									2	1						5	5	5	3
Myrtaceae	<i>Leptospermum trinervium</i>	Flaky-barked Tea-tree															2				3
Myrtaceae	<i>Melaleuca ericifolia</i>	Swamp Paperbark											2								
Myrtaceae	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark								5						1	2	5	5		1
Myrtaceae	<i>Melaleuca quinquenervia</i> (shrub)	Broad-leaved Paperbark																			1
Myrtaceae	<i>Melaleuca sieberi</i>	Thyme Honey-myrtle									5							2	2	5	2
Myrtaceae	<i>Melaleuca thymifolia</i>	myrtle									2										1



**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Rubiaceae	<i>?Durringtonia paludosa</i>	Geebung									1										
Rutaceae	<i>Zieria smithii</i>	Sandfly Zieria																	2		
Santalaceae	<i>Leptomeria acida</i>	Native Currant	1																		
Sapindaceae	<i>Dodonaea triquetra</i>	Large-leaf Hop-bush								1											3
Thymelaeaceae	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>	Slender Rice-flower																			
Thymelaeaceae	<i>Wikstroemia indica</i>																				
Verbenaceae	<i>Lantana camara</i> *	Lantana									2										2
<b>Herbs - Ferns and Allies</b>																					
Adiantaceae	<i>Adiantum aethiopicum</i>	Common Maidenhair																			adj
Blechnaceae	<i>Blechnum indicum</i>	Swamp Water Fern										2	5	6							3
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	Harsh Ground Fern								2											
Dennstaedtiaceae	<i>Pteridium esculentum</i>	Bracken										2	1	5	5						1
Dicksoniaceae	<i>Calochlaena dubia</i>	Rainbow Fern																			
Gleicheniaceae	<i>Gleichenia dicarpa</i>	Pouched Coral Fern																			5



**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Lindsaeaceae	<i>Lindsaea linearis</i>	Screw Fern																			1
Lycopodiaceae	<i>Lycopodiella lateralis</i>	Slender Clubmoss																			2
Selaginellaceae	<i>Selaginella uliginosa</i>	Swamp Selaginella	1								1						adj				5
<b>Herbs - Dicots</b>																					
Acanthaceae	<i>Brunoniella pumilio</i>	Dwarf Blue Trumpet									2							3			2
Acanthaceae	<i>Pseuderanthemum variabile</i>	Pastel Flower																			
Amaranthaceae	<i>Alternanthera denticulata</i>	Lesser Joyweed									1										
Apiaceae	<i>Actinotus helianthi</i>	Flannel Flower													1						
Apiaceae	<i>Centella asiatica</i>	Indian Pennywort									2	2									1
Apiaceae	<i>Cyclospermum leptophyllum*</i>	Slender Celery																			
Apiaceae	<i>Hydrocotyle bonariensis*</i>																				
Apiaceae	<i>Hydrocotyle peduncularis</i>										2	1			2						2
Asteraceae	<i>Ageratina adenophora*</i>	Crofton Weed																			1
Asteraceae	<i>Aster subulatus*</i>	Wild Aster																			

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Asteraceae	<i>Bidens pilosa</i> *	Cobbler's Pegs													1	2					
Asteraceae	<i>Cirsium vulgare</i> *	Spear Thistle													1	1					
Asteraceae	<i>Conyza bonariensis</i> *	Flaxleaf Fleabane													3	2					
Asteraceae	<i>Cotula coronopifolia</i> *	Water Buttons									1										
Asteraceae	<i>Crassocephalum crepidioides</i> *	Thickhead								3	1										
Asteraceae	<i>Epilites australis</i>	Spreading Nut-heads			1						2										
Asteraceae	<i>Euchiton sphaericus</i>														1	1					
Asteraceae	<i>Gnomochaeta americana</i> *	Cudweed																			
Asteraceae	<i>Gnomochaeta spicata</i> *																				
Asteraceae	<i>Hypochoeris radicata</i> *	Flatweed									1				3	3	2				1
Asteraceae	<i>Lagenifera stipitata</i>	Blue Bottle-daisy														1					
Asteraceae	<i>Senecio madagascariensis</i> *	Fireweed											1		2						
Asteraceae	<i>Senecio sp.</i>																				1
Asteraceae	<i>Taraxacum officinale</i> *	Dandelion																			
Asteraceae	<i>Vernonia cinerea</i> var. <i>cinerea</i>												2		3	1					
Campanulaceae	<i>Wahlenbergia gracilis</i>	Australian Bluebell																			

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Carophyllaceae	<i>Cerastium glomeratum*</i>	Mouse-ear Chickweed																				
Chenopodiaceae	<i>Sarcocornia quinqueflora</i>	Glasswort				1	5															
Clusiaceae	<i>Hypericum japonicum</i>																					
Convolvulaceae	<i>Dichondra repens</i>	Kidney Weed														2		1				adj
Fabaceae (Faboideae)	<i>Lotus uliginosus*</i>	Birds-foot Trefoil																				
Fabaceae (Faboideae)	<i>Trifolium repens*</i>	White Clover										1			3	1						
Gentianaceae	<i>Centaureum tenuiflorum*</i>																					
Gentianaceae	<i>Schenkia spicata</i>	Spike Centaury																				
Geraniaceae	<i>Geranium homeanum</i>																					
Goodeniaceae	<i>Dampiera stricta</i>																					2
Goodeniaceae	<i>Goodenia bellidifolia</i> <i>subsp. bellidifolia</i>																					
Goodeniaceae	<i>Goodenia heterophylla</i> <i>subsp. heterophylla</i>																					
Goodeniaceae	<i>Goodenia paniculata</i>	Branched Goodenia																				
Haemodoraceae	<i>Haemodorum</i>	Bloodroot																				
																						adj

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
	<i>planifolium</i>																				
Haloragaceae	<i>Gonocarpus micranthus</i>		2									2	1	1			3				3
Haloragaceae	<i>Gonocarpus tetragynus</i>											1							1		
Haloragaceae	<i>Gonocarpus teucroides</i>	Raspwort																			
Lobeliaceae	<i>Lobelia alata</i>		2									2	2								
Lobeliaceae	<i>Pratia purpurascens</i>	Whiteroot											1		2	1	2	1			
Loganiaceae	<i>Mitrasacme polymorpha</i>																				1
Lythraceae	<i>Lythrum hyssopifolia</i>	Hyssop Loosestrife																			
Malvaceae	<i>Malva parviflora*</i>	Small-flowered Mallow													1						
Malvaceae	<i>Modiola caroliniana*</i>	Red-flowered Mallow																			
Malvaceae	<i>Sida rhombifolia*</i>	Paddy's Lucerne																			
Menyanthaceae	<i>Villarsia exaltata</i>	Yellow Marsh Flower												1							2
Myrsinaceae	<i>Anagallis arvensis*</i>	Scarlet Pimpernel, Blue Pimpernel																			
Oxalidaceae	<i>Oxalis sp.</i>																				
Plantaginaceae	<i>Plantago debilis</i>	Shade Plantain																			2
Plantaginaceae	<i>Plantago lanceolata*</i>	Lamb's Tongues																			
Plantaginaceae	<i>Veronica plebeia</i>	Creeping																			

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Polygonaceae	<i>Acetosella vulgaris</i> *	Speedwell																				
Polygonaceae		Sheep Sorrel																				
Polygonaceae	<i>Persicaria decipiens</i>	Slender Knotweed								3												
Ranunculaceae	<i>Ranunculus inundatus</i>	River Buttercup								2												
Ranunculaceae	<i>Ranunculus lappaceus</i>	Common Buttercup									1											
Rubiaceae	<i>Galium propinquum</i>	Maori Bedstraw										1										
Rubiaceae	<i>Pomax umbellata</i>												1									
Solanaceae	<i>Solanum nigrum</i> *	Black-berry								1												
		Nightshade											4									4
Stackhousiaceae	<i>Stackhousia viminea</i>	Slender																				
		Stackhousia																				
Theophrastaceae	<i>Samolus repens</i>	Creeping																				
		Brookweed					2															
Verbenaceae	<i>Verbena bonariensis</i> *	Purpletop																				
Violaceae	<i>Viola betonicifolia</i>	Native Violet																				
Violaceae	<i>Viola hederacea</i>	Ivy-leaved Violet																				1
<b>Herbs - Monocots</b>																						
Anthericaceae	<i>Caesia parviflora</i> var. <i>parviflora</i>	Pale Grass Lily																				1
Anthericaceae	<i>Dichopogon</i> sp.																					1

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Anthericaceae	<i>Thysanotus tuberosus</i>	Common Fringe-lily											1									
Anthericaceae	<i>Tricoryne elatior</i>	Yellow Autumn-lily																				1
Colchicaceae	<i>Burchardia umbellata</i>	Milkmaids																				
Commelinaceae	<i>Commelina cyanea</i>	Native Wandering Jew													1							
Cyperaceae	<i>Baumea juncea</i>		8	5	8	8	5		8		3											
Cyperaceae	<i>Baumea rubignosa</i>								2													
Cyperaceae	<i>Baumea teretifolia</i>												2									
Cyperaceae	<i>Carex appressa</i>	Tall Sedge									2											
Cyperaceae	<i>Carex gaudichaudiana</i>																				2	
Cyperaceae	<i>Carex longebrachiata</i>																					
Cyperaceae	<i>Carex pulmia</i>																					
Cyperaceae	<i>Causitis recurvata</i>																					1
Cyperaceae	<i>Chorizandra cymbaria</i>																					
Cyperaceae	<i>Chorizandra sphaerocephala</i>	Round-headed Bristle-sedge																				
Cyperaceae	<i>Cyperus aggregatus*</i>										2				1							
Cyperaceae	<i>Cyperus brevifolius*</i>																					
Cyperaceae	<i>Cyperus eragrostis*</i>																					
Cyperaceae	<i>Cyperus polystachyos</i>												1		1							



**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Cyperaceae	<i>Ficinia nodosa</i>	Knobby Club-rush	1							2											
Cyperaceae	<i>Fimbristylis dichotoma</i>	Common Fringe-sedge																			
Cyperaceae	<i>Gahnia clarkei</i>	Tall Saw-sedge	2								2	5	5	2							
Cyperaceae	<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge																3	5		
Cyperaceae	<i>Isolepis inundata</i>	Swamp Clubrush																			1
Cyperaceae	<i>Lepidosperma</i>																				
Cyperaceae	<i>?urophorum</i>																				
Cyperaceae	<i>Lepidosperma filiforme</i>										2		2								
Cyperaceae	<i>Lepidosperma laterale</i>																	5	5		1
Cyperaceae	<i>Lepidosperma longitidinale</i>	Pithy Sword-sedge																			1
Cyperaceae	<i>Ptilothrix deusta</i>																				
Cyperaceae	<i>Schoenus brevifolius</i>	Zig-zag Bog-rush																			2
Iridaceae	<i>Paterosonia glabrata</i>	Leafy Purple-flag																			
Iridaceae	<i>Sisyrinchium sp. A*</i>	Scourweed																			
Juncaceae	<i>Juncus cognatus*</i>																				2
Juncaceae	<i>Juncus continuus</i>																				
Juncaceae	<i>Juncus kraussii</i>	Sea Rush	2	5		3	7	5	6	2											5
Juncaceae	<i>Juncus prismatocarpus</i>																				

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Juncaceae	<i>Juncus</i> sp.																				
Juncaceae	<i>Juncus usitatus</i>																				
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	Wattle Mat-rush																			
Lomandraceae	<i>Lomandra glauca</i>	Pale Mat-rush															1				2
Lomandraceae	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush													1	2	5	3	2		
Lomandraceae	<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	Many-flowered Mat-rush													1	2					
Lomandraceae	<i>Lomandra obliqua</i>															1					
Orchidaceae	<i>Cryptostylis erecta</i>	Bonnet Orchid																			1
Orchidaceae	<i>Dipodium</i> sp.																				
Philydraceae	<i>Philydrum lanuginosum</i>	Woolly Waterlily																			
Phormiaceae	<i>Dianella caerulea</i> var. <i>producta</i>																				
Poaceae	<i>Aristida vagans</i>	Threearn																			
Poaceae	<i>Austrodanthonia racemosa</i>	Speargrass																			
Poaceae	<i>Austrodanthonia</i> sp.	Wallaby Grass																			
Poaceae	<i>Austrodanthonia tenuior</i>																				
Poaceae	<i>Austrodanthonia tenuior</i>																				

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Poaceae	<i>Austrostipa pubescens</i>																				
Poaceae	<i>Axonopus fissifolius*</i>	Narrow-leaved Carpet Grass									1			1	5	2	2				
Poaceae	<i>Briza maxima*</i>	Quaking Grass																			
Poaceae	<i>Briza minor*</i>	Shivery Grass													1						
Poaceae	<i>Bromus sp.*</i>																				
Poaceae	<i>Cynodon dactylon</i>	Couch																			
Poaceae	<i>Dichelachne micrantha</i>	Shorthair Plumegrass																			
Poaceae	<i>Dichelachne rara</i>																				
Poaceae	<i>Digitaria parviflora</i>	Small-flowered Finger Grass																			
Poaceae	<i>Echinopogon caespitosus var. caespitosus</i>	Tufted Hedgehog Grass																			2
Poaceae	<i>Echinopogon ovatus</i>	Forest Hedgehog Grass																			
Poaceae	<i>Ehrharta erecta*</i>	Panic Veldtgrass																			
Poaceae	<i>Entolasia marginata</i>	Bordered Panic								2			4								
Poaceae	<i>Entolasia stricta</i>	Wiry Panic								2											
Poaceae	<i>Eragrostis brownii</i>	Brown's Lovegrass													3	2	1				1

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Poaceae	<i>Eragrostis leptostachya</i>	Paddock Lovegrass																				
Poaceae	<i>Hemarthria uncinata</i> var. <i>uncinata</i>	Mat Grass	2								2	4	5	2								2
Poaceae	<i>Imperata cylindrica</i> var. <i>major</i>	Blady Grass	2								2	1	2									3
Poaceae	<i>Isachaeum australe</i> var. <i>australe</i>			2																		
Poaceae	<i>Isachne globosa</i>	Swamp Millet		5																		
Poaceae	<i>Lachnagrostis</i> <i>billardierei</i>											1										1
Poaceae	<i>Lachnagrostis</i> sp.																					
Poaceae	<i>Lolium lolia</i> var. <i>stipoides</i>	Stiff Ryegrass																				
Poaceae	<i>Microaena stipoides</i> var. <i>stipoides</i>																2	3				2
Poaceae	<i>Oplismenus aemulus</i>																					
Poaceae	<i>Oplismenus imbecillis</i>																					3
Poaceae	<i>Panicum simile</i>	Two-colour Panic																				1
Poaceae	<i>Paspalidium distans</i>			2																		
Poaceae	<i>Paspalum dilatatum</i> *	Paspalum																				
Poaceae	<i>Paspalum orbiculare</i>	Ditch Millet																				
Poaceae	<i>Paspalum unvillei</i> *	Vasey Grass	2																			2

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Poaceae	<i>Pennisetum clandestinum*</i>	Kikuyu Grass								5											
Poaceae	<i>Phragmites australis</i>	Common Reed	1																		
Poaceae	<i>Poa sp.</i>											3									
Poaceae	<i>Setaria pumila*</i>	Pale Pigeon Grass																			
Poaceae	<i>Setaria sphacelata*</i>	South African Pigeon Grass								1											
Poaceae	<i>Sporobolus africanus*</i>	Parramatta Grass																			
Poaceae	<i>Sporobolus fertilis*</i>	Giant Parramatta Grass								1											
Poaceae	<i>Sporobolus virginicus</i>	Sand Couch				2	5														
Poaceae	<i>Themeda australis</i>	Kangaroo Grass											3			3	6				6
Poaceae	<i>Vulpia sp.*</i>														1						
Restionaceae	<i>Baloskion tetraphyllum subsp. meiotachyum</i>	Plume Rush										1	6	6	5	3					5
Restionaceae	<i>Empodisma minus</i>												2								
Restionaceae	<i>Hypolaena fastigiata</i>																	3			
Restionaceae	<i>Leptocarpus tenax</i>																				
Restionaceae	<i>Lepyrodia scariosa</i>																				
Xanthorrhoeaceae	<i>Xanthorrhoea latifolia subsp. latifolia</i>																				

**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
Xanthorrhoeaceae	<i>Xanthorrhoea macronema</i>																					
	<i>Xyris complanata</i>															2						
<b>Climbers/Vines</b>																						
Apocynaceae	<i>Marsdenia suaveolens</i>	Scented Marsdenia																1				2
Apocynaceae	<i>Parsonsia straminea</i>	Common Silkpod								2		1										1
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga Vine																				
Convolvulaceae	<i>Convolvulus erubescens</i>	Blushing Bindweed																				1
Convolvulaceae	<i>Polymeria calycina</i>										1											
Dilleniaceae	<i>Hibbertia scandens</i>	Climbing Guinea Flower												2	1							1
Fabaceae (Faboideae)	<i>Desmodium rhytidophyllum</i>															1						
	<i>Desmodium varians</i>	Slender Tick-trefoil														1						1
Fabaceae (Faboideae)	<i>Glycine clandestina</i>																					1
Fabaceae	<i>Glycine microphylla</i>	Small-leaf Glycine														3						1



**Table B.2 Flora quadrat data (2 of 2)**

Family	Scientific Name	Common Name	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
(Faboideae)																					
Fabaceae	<i>Glycine tabacina</i>																				
(Faboideae)																					
Fabaceae	<i>Hardenbergia violacea</i>	False Sarsparilla														1					
(Faboideae)																					
Fabaceae	<i>Kennedia rubicunda</i>	Dusky Coral Pea										1	2	2							
(Faboideae)																					
Lauraceae	<i>Cassytha glabella forma glabella</i>										1										2
Lauraceae	<i>Cassytha pubescens</i>												1								
Luzuriagaceae	<i>Eustrephus latifolius</i>	Wombat Berry																			1
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	Scrambling Lily																			1
Passifloraceae	<i>Passiflora edulis*</i>	Common Passionfruit																			
Pittosporaceae	<i>Billardiera scandens</i>	Hairy Apple Berry														1					1
Smilacaceae	<i>Smilax glyciphylla</i>	Sweet Sarsparilla														1					1

\*denotes exotic species.

---

*Appendix C*

# Fauna Species List

---

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC Act Status	LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall		Hawks		North		
								River	Downs	Nest	North	Shearwater	Estate	
<b>Amphibians</b>														
Hylidae	<i>Litoria caerulea</i>	Green Tree Frog			20			X						
	<i>Litoria dentata</i>	Bleating Tree Frog			25	X		X						
	<i>Litoria fallax</i>	Dwarf Tree Frog			147	X	X	X					X	
	<i>Litoria freycineti</i>	Freycinet's Frog			30	X								
	<i>Litoria gracilentata</i>	Dainty Tree Frog			10	X	X	X						
	<i>Litoria jervisiensis</i>	Heath Frog			17		X	X						
	<i>Litoria latopalmarata</i>	Broad-palmed Frog			59	X							X	
	<i>Litoria nasuta</i>	Rocket Frog			10	X	X	X						
	<i>Litoria peronii</i>	Peron's Tree Frog			104		X	X	X				X	
	<i>Litoria tyleri</i>	Laughing Tree Frog			59			X	X				X	
	<i>Litoria verreauxii</i>	Whistling Tree Frog			26	X		X	X					
	Myobatrachidae	<i>Crinia signifera</i>	Common Eastern Froglet			193	X	X	X	X	X			X
		<i>Crinia tinnula</i>	Wallum Froglet	V		42	X	X	X	X	X			
<i>Limnodynastes dumerilii</i>		Eastern Banjo Frog			19		X	X						
<i>Limnodynastes ornatus</i>		Ornate Burrowing Frog			10	X								
<i>Limnodynastes peronii</i>		Striped Marsh Frog			142	X	X	X	X				X	
<i>Limnodynastes</i>	Spotted Marsh Frog			19	X	X	X	X				X		

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall River Downs	Hawks		North Shearwater Estate
				Act Status	2007/2008					Nest North	North	
	<i>tasmaniensis</i>											
	<i>Paracrinia haswelli</i>	Haswell's Tree Frog			17	X			X			
	<i>Pseudophryne bibronii</i>	Bitrons Toadlet			34	X	X					X
	<i>Pseudophryne coriacea</i>	Red-backed Toadlet			243	X						
	<i>Uperoleia fusca</i>	Dusky Toadlet			6	X	X					
	<i>Uperoleia laevigata</i>	Smooth Toadlet			32	X	X					
<b>Aves</b>												
Acanthizidae	<i>Acanthiza chrysorrhoa</i>	Yellow Thornbill				X			X			X
	<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill			7	X	X		X			
	<i>Acanthiza lineata</i>	Stirated Thornbill				X			X			X
	<i>Acanthiza pusilla</i>	Brown Thornbill			353	X	X		X			
	<i>Acanthiza reguloides</i>	Buff-rumped Thornbill			11	X						
	<i>Gerygone albogularis</i>	White-throated Gerygone			44	X	X		X	X		X
	<i>Gerygone mouki</i>	Brown Gerygone			213	X			X			
	<i>Sericornis frontalis</i>	White-browed Scrubwren			363	X	X		X			X
Accipitridae	<i>Accipiter novaehollandiae</i>	Grey Goshawk			29				X			
	<i>Aquila audax</i>	Wedge-tailed Eagle			49	X			X			X

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall		Hawks		North Shearwater Estate
				Act Status	Count				River Downs	Nest North			
	<i>Circus approximans</i>	Swamp Harrier				41	X	X					
	<i>Elanus axillaris</i>	Black-shouldered Kite				92	X						
	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle				306	X	X	X	X	X	X	X
	<i>Haliastur sphenurus</i>	Whistling Kite				345	X	X	X	X	X	X	X
	<i>Hieraaetus morphnoides</i>	Little Eagle	V			13		X					
	<i>Pandion haliaetus</i>	Osprey				59	X	X	X	X	X		
Alcedinidae	<i>Ceyx azureus</i>	Azure Kingfisher				52		X					X
	<i>Dacelo novaeguineae</i>	Laughing Kookaburra				460	X	X	X	X	X	X	X
	<i>Todiramphus sanctus</i>	Sacred Kingfisher				165	X		X	X	X	X	X
Anatidae	<i>Anas castanea</i>	Chestnut Teal				119	X	X	X	X			X
	<i>Anas superciliosa</i>	Pacific Black Duck				185	X	X	X	X	X	X	X
	<i>Aythya australis</i>	Hardhead				27			X				
	<i>Chenonetta jubata</i>	Australian Wood Duck				135	X	X	X	X			X
	<i>Cygnus atratus</i>	Black Swan				218	X	X	X	X	X	X	X
Anhingidae	<i>Anhinga melanogaster</i>	Darter							X				X
Apodidae	<i>Apus pacificus</i>	Fork-tailed Swift				4	X		X				
	<i>Hirundapus caudacutus</i>	White-throated Needletail				111	X		X				X
Ardeidae	<i>Ardea alba</i>	Great Egret					X	X	X	X	X	X	X

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC Act Status		LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall River Downs		Hawks Nest		North Shearwater Estate	
				Status	Act				Downs	River	North	North	North	Estate
	<i>Ardea ibis</i>	Cattle Egret				31	X	X	X					X
	<i>Ardea intermedia</i>	Intermediate Egret				12	X							
	<i>Ardea pacifica</i>	White-necked Heron				24	X	X						X
	<i>Butorides striatus</i>	Striated Heron				17	X							
	<i>Egretta garzetta</i>	Little Egret				31			X					
	<i>Egretta novaehollandiae</i>	White-faced Heron				218	X	X						
	<i>Ixobrychus flavicollis</i>	Black Bittern	V			4	X							
Artamidae	<i>Artamus cyanopterus</i>	Dusky Woodswallow				136	X	X						
	<i>Artamus leucorhynchus</i>	White-breasted Woodswallow				159		X						
	<i>Cracticus nigrogularis</i>	Pied Butcherbird				80	X	X	X		X	X		X
	<i>Cracticus tibicen</i>	Australian Magpie				575	X	X	X		X	X		X
	<i>Cracticus torquatus</i>	Grey Butcherbird				238	X	X	X					X
	<i>Strepera graculina</i>	Pied Currawong				404	X	X	X		X	X		
Cacatuidae	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo				58	X	X	X					X
	<i>Cacatua tenuirostris</i>	Long-billed Corella				2			X					
	<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-Cockatoo				282	X	X	X		X	X		
	<i>Calyptorhynchus lathami</i>	Glossy Black-cockatoo	V			160								X?
	<i>Eolophus roseicapillus</i>	Galah				148	X	X	X					



**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		Riverside (1988-2006)	Conacher 2007/2008	Myall		Hawks		North Shearwater Estate
				Act Status	LGA Count			River Downs	Nest North			
Campephagidae	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike			294	X	X	X	X		X	
	<i>Lalage sueurii</i>	White-winged Triller					X					
Centropodidae	<i>Centropus phasianinus</i>	Pheasant Coucal			116	X	X	X			X	
Charadriidae	<i>Eiseyornis melanops</i>	Black-fronted Dotterel			1	X	X					
	<i>Vanellus miles</i>	Masked Lapwing			244	X	X	X	X		X	
Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E		136		X					
Cisticolidae	<i>Cisticola exilis</i>	Golden-headed Cisticola			43	X	X					
Climacteridae	<i>Cormobates leucophaea</i>	White-throated Treecreeper			314	X	X	X			X	
Columbidae	<i>Chalcophaps indica</i>	Emerald Dove			23		X					
	<i>Columba leucomela</i>	White-headed Pigeon			60	X	X	X				
	<i>Geopelia humeralis</i>	Bar-shouldered Dove			137	X	X	X				
	<i>Geopelia striata</i>	Peaceful Dove			17	X	X	X				
	<i>Leucosarcia picata</i>	Wonga Pigeon			116	X	X	X			X	
	<i>Macropygia amboinensis</i>	Brown Cuckoo-Dove			128	X	X					
	<i>Ocyphaps lophotes</i>	Crested Pigeon			116	X	X	X	X		X	
	<i>Phaps chalcoptera</i>	Common Bronzewing			4	X		X				
	<i>Streptopelia chinensis*</i>	Spotted Turtle-Dove			79	X	X	X				
Coraciidae	<i>Eurystomus orientalis</i>	Dollarbird			166		X	X			X	

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall		Hawks		North Shearwater Estate
				Act Status	Count				River Downs	Nest North			
Corcoraciidae	<i>Corcorax melanorhamphos</i>	White-winged Chough			29	X	X						
Corvidae	<i>Corvus coronoides</i>	Australian Raven			137	X	X	X	X	X		X	
	<i>Corvus orru</i>	Torresian Crow			220	X	X	X	X		X		
Cuculidae	<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo			248	X		X					
	<i>Cacomantis pallidus</i>	Pallid Cuckoo			27	X	X						
	<i>Eudynamys scolopacea</i>	Common Koel				X	X						
	<i>Scythrops novaehollandiae</i>	Channel-billed Cuckoo			64		X	X	X			X	
Dicruridae	<i>Dicrurus bracteatus</i>	Spangled Drongo			93			X	X			X	
Estrildidae	<i>Neochmia temporalis</i>	Red-browed Finch			410	X	X	X					
	<i>Taeniopygia bichenovii</i>	Double-barred Finch			6	X							
Falconidae	<i>Falco berigora</i>	Brown Falcon			27	X	X	X	X		X		
	<i>Falco cenchroides</i>	Nankeen Kestrel			40			X	X				
	<i>Falco longipennis</i>	Australian Hobby			15			X					
Haematopodidae	<i>Haematopus fluiginosus</i>	Sooty Oystercatcher	V		13			X					
	<i>Haematopus longirostris</i>	Pied Oystercatcher	E		91			X	X	X			
Hirundinidae	<i>Hirundo neoxena</i>	Welcome Swallow			265	X	X	X	X	X	X	X	
	<i>Petrochelidon ariel</i>	Fairy Martin			3	X							
Laridae	<i>Chroicocephalus novaehollandiae</i>	Silver Gull				X		X					

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		Riverside (1988-2006)	Conacher 2007/2008	Myall		Hawks		North Estate
				Act Status	LGA Count			River Downs	Nest North	Shearwater Estate		
	<i>Sterna hirundo</i>	Common Tern			1	X		X				
	<i>Thalasseus bergii</i>	Crested Tern			170	X						
Maluridae	<i>Malurus cyaneus</i>	Superb Fairy-wren			285	X	X	X	X	X	X	X
	<i>Malurus lamberti</i>	Variiegated Fairy-wren			496	X	X	X	X			X
	<i>Stipiturus malachurus</i>	Southern Emu-wren			57	X		X				
Megaluridae	<i>Megalurus gramineus</i>	Little Grassbird			1	X						
	<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill			328	X	X	X	X	X	X	X
Meliphagidae	<i>Anthochaera carunculata</i>	Red Wattlebird			206	X	X	X	X	X		
	<i>Anthochaera chrysoptera</i>	Little Wattlebird			371	X	X	X	X	X	X	X
	<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater			32	X	X	X	X			X
	<i>Lichenostomus chrysops</i>	Yellow-faced Honeyeater			521	X	X	X	X	X	X	X
	<i>Lichenostomus fuscus</i>	Fuscous Honeyeater			4			X				
	<i>Lichmera indistincta</i>	Brown Honeyeater			17			X				
	<i>Manorina melanocephala</i>	Noisy Miner			209	X	X	X	X	X	X	X
	<i>Meliphaga lewinii</i>	Lewin's Honeyeater			654	X	X	X	X	X	X	X
	<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater			13			X				
	<i>Melithreptus lunatus</i>	White-naped Honeyeater			107			X				X
	<i>Myzomela sanguinolenta</i>	Scarlet Honeyeater			133	X	X	X	X	X	X	X

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		Riverside (1988-2006)	Myall		Hawks		North Shearwater Estate
				Act Status	LGA Count		Conacher 2007/2008	River Downs	Nest North		
	<i>Philemon citreogularis</i>	Little Friarbird		5					X		
	<i>Philemon corniculatus</i>	Noisy Friarbird		222	X	X	X	X	X		X
	<i>Phylidonyris niger</i>	White-cheeked Honeyeater		527	X	X	X	X	X		
	<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater		60	X		X	X	X		
Meropidae	<i>Merops ornatus</i>	Rainbow Bee-eater		13	X		X				
Monarchidae	<i>Grallina cyanoleuca</i>	Magpie-lark		112	X	X	X	X	X		X
	<i>Myiagra rubecula</i>	Leaden Flycatcher		82	X	X	X	X			X
Motacillidae	<i>Anthus novaeseelandiae</i>	Richards Pipit		40			X				
Nectariniidae	<i>Dicaeum hirundinaceum</i>	Mistletoebird		67	X	X	X				
Neosittidae	<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	43	X	X	X				
Oriolidae	<i>Oriolus sagittatus</i>	Olive-backed Oriole		123		X	X				X
	<i>Sphecotheres viridis</i>	Figbird					X				
Pachycephalidae	<i>Colluricincla harmonica</i>	Grey Shirke-thrush		393	X		X				
	<i>Falcunculus frontatus</i>	Crested Shrike-tit					X				
	<i>Pachycephala pectoralis</i>	Golden Whistler		366	X	X	X				X
	<i>Pachycephala rufiventris</i>	Rufous Whistler		148	X	X	X				X
Pardalotidae	<i>Pardalotus punctatus</i>	Spotted Pardalote		257		X	X				
	<i>Pardalotus striatus</i>	Striated Pardalote		25	X		X				X

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC Act Status	LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall River Downs	Hawks		North	
									Nest	North	Shearwater	Estate
Passeridae	<i>Passer domesticus*</i>	House Sparrow			11	X		X				
Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian Pelican			380	X	X	X	X			
Petroicidae	<i>Eopsaltria australis</i>	Eastern Yellow Robin			336	X	X	X				X
	<i>Microeca fascinans</i>	Jacky Winter			35	X		X				
Phalacrocoracidae	<i>Phalacrocorax carbo</i>	Great Cormorant			153	X	X	X				X
	<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant				X		X				X
	<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant			141	X	X	X				X
	<i>Phalacrocorax varius</i>	Pied Cormorant			144			X				X
Phasianidae	<i>Coturnix ypsilophora</i>	Brown Quail			56	X		X				X
Podargidae	<i>Podargus strigoides</i>	Tawny Frogmouth			158	X	X	X		X		X
Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian Grebe			10			X				
Psittacidae	<i>Glossopsitta concinna</i>	Musk Lorikeet			64	X	X	X				X
	<i>Glossopsitta pusilla</i>	Little Lorikeet	V		91		X					
	<i>Platycercus eximius</i>	Eastern Rosella			241	X	X	X				X
	<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet			294	X	X	X		X		X
	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet			189	X	X	X				X

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		Riverside (1988-2006)	Conacher 2007/2008	Myall		Hawks		North Shearwater Estate
				Act Status	LGA Count			River Downs	Nest North			
Psophodidae	<i>Psophodes olivaceus</i>	Eastern Whipbird			554	X	X	X	X		X	
Ptilonorhynchidae	<i>Ptilonorhynchus violaceus</i>	Satin Bowerbird			215	X	X					
Recurvirostridae	<i>Himantopus himantopus</i>	Black-winged Stilt			3	X						
Rhipiduridae	<i>Rhipidura albiscapa</i>	Grey Fantail			514	X	X	X			X	
	<i>Rhipidura leucophrys</i>	Willie Wagtail			202	X	X	X	X		X	
	<i>Rhipidura rufifrons</i>	Rufous Fantail			138		X					
Scolopacidae	<i>Gallinago hardwickii</i>	Latham's Snipe			14	X						
	<i>Numenius madagascariensis</i>	Eastern Curlew			32	X						
	<i>Numenius phaeopus</i>	Whimbrel			7	X						
Strigidae	<i>Ninox connivens</i>	Barking Owl	V		7		X					
	<i>Ninox novaeseelandiae</i>	Southern Boobook			117	X	X	X				
	<i>Ninox strenua</i>	Powerful Owl			60			X			X	
Sturnidae	<i>Sturnus tristis*</i>	Common Myna				X		X				
	<i>Sturnus vulgaris*</i>	Common Starling	V		25	X						
Sulidae	<i>Morus serrator</i>	Australasian Gannet			93			X				
Threskiornithidae	<i>Platalea regia</i>	Royal Spoonbill				X	X	X			X	
	<i>Threskiornis aethiopica</i>	Sacred Ibis					X					
	<i>Threskiornis molucca</i>	Australian White Ibis			97	X	X	X	X	X	X	

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC Act Status	LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall River		Hawks		North Shearwater Estate	
								Downs	North	Nest	North	North	Estate
Timaliidae	<i>Threskiornis spinicollis</i>	Straw-necked Ibis			38	X		X					
	<i>Zosterops lateralis</i>	Silvereye			386	X	X	X					
	<i>Tyto alba</i>	Barn Owl					X						
	<i>Tyto novaehollandiae</i>	Masked Owl	V		72					X			
	<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo										X	
		Pacific Baza											X
<b>Mammals</b>													
Acrobatidae	<i>Acrobates pygmaeus</i>	Feathertail Glider			30	X		X					
Bovidae	<i>Bos taurus*</i>	European Cattle			12	X	X	X					
	<i>Capra hircus*</i>	Goat			4	X							
Burramyidae	<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V		4			X					
Canidae	<i>Canis lupus dingo*</i>	Dingo			4	X				X			
	<i>Canis lupus familiaris*</i>	Dog			12	X		X					
	<i>Vulpes vulpes*</i>	European Red Fox			401	X		X					X
Dasyuridae	<i>Antechinus flavipes</i>	Yellow-footed Antechinus			16					X			
	<i>Antechinus stuartii</i>	Brown Antechinus			206	X		X		X			X
	<i>Sminthopsis murina</i>	Common Dunnart			10	X							X



**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		Riverside (1988-2006)	Myall		Hawks		North Estate
				Act Status	LGA Count		Conacher 2007/2008	River Downs	Nest North	Shearwater	
Equidae	<i>Equus caballus</i> *	Horse			12	X					
Felidae	<i>Felis catus</i> *	Cat			38	X	X	X			
Leporidae	<i>Lepus capensis</i> *	Brown Hare			32	X	X	X			X
	<i>Oryctolagus cuniculus</i> *	Rabbit			32	X	X	X			X
Macropodidae	<i>Macropus giganteus</i>	Eastern Grey Kangaroo			67	X	X	X			X
	<i>Macropus rufogriseus</i>	Red-necked Wallaby			135	X	X	X			X
	<i>Wallabia bicolor</i>	Swamp Wallaby			161	X	X	X			
Molossidae	<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V		28	X	X	X			X
	<i>Mormopterus species 2.</i>	Undescribed Freetail Bat			1		X	X			X
	<i>Tadarida australis</i>	White-striped Freetail-bat			78		X	X			X
Muridae	<i>Melomys burtoni</i>	Grassland Melomys					X	X			
	<i>Mus musculus</i> *	House Mouse			31	X	X	X			
	<i>Pseudomys gracilicaudatus</i>	Eastern Chestnut Mouse	V		16		X	X			
	<i>Pseudomys novae-hollandiae</i>	New Holland Mouse			22			X	X		
	<i>Rattus fuscipes</i>	Bush Rat			251	X	X	X			X
	<i>Rattus lutreolus</i>	Swamp Rat			75	X	X	X			
	<i>Rattus rattus</i> *	Black Rat			50	X					
Peramelidae	<i>Isodon macrourus</i>	Northern Brown Bandicoot			94	X	X	X			

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC Act Status	LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall River Downs	Hawks		North	
									Nest	North	Shearwater	Estate
	<i>Perameles nasuta</i>	Long-nosed Bandicoot			238	X						
Petauridae	<i>Petaurus breviceps</i>	Sugar Glider			263	X	X					X
	<i>Petaurus norfolcensis</i>	Squirrel Glider	V		91	X	X					
Phalangeridae	<i>Trichosurus vulpecula</i>	Common Brushtail Possum			308	X	X	X	X			X
Phascolarctidae	<i>Phascolarctos cinereus</i>	Koala	V, E2		655	X	X			X		
Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum			141	X	X					
Pteropodidae	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	119	X	X	X				X
	<i>Pteropus scapulatus</i>	Little Red Flying-fox			2		X					
	<i>Syconycteris australis</i>	Common Blossom-bat	V		4	X				X		
Tachyglossidae	<i>Tachyglossus aculeatus</i>	Short-beaked Echidna			240	X						
Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat			89	X	X	X				X
	<i>Chalinolobus morio</i>	Chocolate Wattled Bat			341	X	X	X				X
	<i>Miniopterus australis</i>	Little Bentwing-bat	V		109	X	X	X				X
	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V		118	X						
	<i>Myotis macropus</i>	Large-footed Myotis	V		702	X						X
	<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat			33	X		X				
	<i>Nyctophilus gouldi</i>	Gould's Long-eared Bat			378			X				X
	<i>Nyctophilus sp.</i>	Long-eared Bat			12		X	X				X

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC		LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall		Hawks		North	
				Act Status	Count				River Downs	Nest North	Shearwater Estate			
	<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V		28	X	X	X	X	X				X
	<i>Scotorepens orion</i>	Eastern Broad-nosed Bat			39		X							
	<i>Vespadelus darlingtoni</i>	Large Forest Bat			1002	X								
	<i>Vespadelus pumilus</i>	Eastern Forest Bat			663	X	X							X
	<i>Vespadelus regulus</i>	Southern Forest Bat			429	X		X						
	<i>Vespadelus vulturinus</i>	Little Forest Bat			145	X	X	X						X
<b>Reptiles</b>														
Agamidae	<i>Amphibolurus muricatus</i>	Jacky Lizard			46	X		X						X
	<i>Physignathus lesueurii</i>	Eastern Water Dragon			48			X						X
Boidae	<i>Morelia spilota spilota</i>	Diamond Python			29	X								X
Chelidae	<i>Chelodina longicollis</i>	Eastern Snake-necked Turtle			14				X					X
Colubridae	<i>Dendrelaphis punctulatus</i>	Common Tree Snake			13				X					
Elapidae	<i>Cacophis squamulosus</i>	Golden-crowned Snake			20	X								
	<i>Hemiaspis signata</i>	Black-bellied Swamp Snake			15	X								
	<i>Pseudechis porphyriacus</i>	Red-bellied Black Snake			75	X	X	X						
	<i>Pseudonaja textilis</i>	Eastern Brown Snake			22	X								
Scincidae	<i>Ctenotus robustus</i>	Striped Skink			24	X								X

**Table C.1 Fauna species recorded on the subject land and adjacent land**

Family	Scientific Name	Common name	TSC Act Status	EPBC Act Status	LGA Count	Riverside (1988-2006)	Conacher 2007/2008	Myall River Downs	Hawks		North Shearwater Estate
									Nest	North	
	<i>Ctenotus taeniolatus</i>	Copper-tailed Skink			8					X	
	<i>Egernia major</i>	Land Mullet					X				
	<i>Eulamprus quoyii</i>	Eastern Water Skink			37	X		X			X
	<i>Lampropholis delicata</i>	Dark-flecked Garden Sunskink			136	X	X				X
	<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink			28	X	X				X
	<i>Saproscincus mustelina</i>	Weasel Skink			8	X					
	<i>Tiliqua scincoides</i>	Eastern Blue Tongue			23	X		X			
Varanidae	<i>Varanus varius</i>	Lace Monitor			115	X		X			X
	<i>Cryptophis nigrescens</i>										X
	<i>Desmansia psammophis</i>	Yellow-faced Whip Snake									X
	<i>Carilia foliorum</i>										X
	<i>Cryptobopharus virgatus</i>										X
	<i>Pogona barbata</i>										X

\* denotes exotic species