

Tweed Vegetation Management Strategy

AUGUST 2004

Tweed Shire Council's floral emblem the Coolamon



Photos: John Turnbull



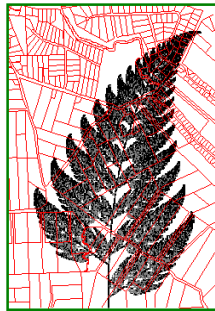
Volume 3 of 3 Appendices

TWEED VEGETATION MANAGEMENT STRATEGY 2004

Volume 3 of 3 – Appendices

Prepared by:

M.B. Kingston, J.W. Turnbull and P.W. Hall



Ecograph

**Ecological and Geographical
Information Systems Consultants**

Limpinwood Valley Road LIMPINWOOD
via MURWILLUMBAH NSW 2484
AUSTRALIA
Ph: 02 66793479 FAX: 02 66793419
Email: info@ecograph.com.au

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Appendix 1

Overview of Major Natural Habitats of the Tweed

(Adapted from Tweed Vegetation Management Plan 1999)

1.0 Major Natural Communities of the Tweed

1.1 Introduction

The Tweed Shire has been recognised for many years as possessing a rich flora and fauna of biological significance to Australia as a whole. In terms of the number of species present, it is likely to have one of the highest vertebrate biodiversities of any Local Government Area in Australia. Figures compiled by the former Australian Nature Conservation Agency (see SOE 1996) suggest that the region centred on the Tweed supports more species of bird, fish, amphibian, and mammals than Kakadu, and similar numbers of reptiles. Only in the wet tropics are similar numbers of species found within these groups.

As a result of these figures it is not surprising that Tweed Shire is also well represented in terms of the number of threatened species. The region contains a relatively high proportion of threatened vertebrates, and in addition, supports Australia's highest concentration of threatened plants (see SOE 1996). The biological richness of the Tweed Shire is at least partially related to the high diversity of ecosystem types, the development of which is enhanced by a wide range of landforms and geomorphological influences. The Shire also falls within the region defined by Burbidge (1960) as the *Macleay-McPherson Overlap* - a zone where temperate and sub-tropical bio-geographic provinces, both terrestrial and marine, meet. Consequently a large number of species occur either at their southern or northern distribution limits. In order to provide some further background on the biological characteristics of the Tweed some of the key natural communities are described below under the following major groupings:

- Terrestrial Communities
- Freshwater Communities
- Estuarine and Marine Communities

1.2 Terrestrial Communities

A large number and variety of major terrestrial habitat complexes can be recognised within the Shire. These communities are represented by distinct suites of flora and fauna. Human impacts on these systems have been variable with communities of the lowlands being preferentially cleared for agriculture and urban development. Areas of volcanic soils have also been heavily cleared. The major terrestrial communities within Tweed Shire include:

- Rainforest
- Freshwater Wetlands
- Riparian Complexes
- Eucalypt Forests
- Montane Heathland
- Melaleuca Forests
- Coastal Complexes
- Disturbed and Modified Terrestrial Communities

Descriptions of these major vegetation communities are provided below.

1.2.1 Rainforests

A number of distinct structural and floristic alliances of rainforest, as described by Floyd (1990), occur within the Tweed Shire region. They fall into four major subforms, namely:

- Sub-tropical Rainforest
- Dry Rainforest
- Warm Temperate Rainforest
- Cool Temperate Rainforest

Sub-tropical Rainforest - comprises the best-developed rainforest sub-formation in NSW, occupying warm fertile sites with high rainfall (Floyd 1990). The canopy possesses two or three tree layers and a diverse species composition. This subform features special life forms such as plank buttressing, strangler figs, thick woody vines, large epiphytes and large-leaved herbs.

Floyd (1990) divides this sub-formation into five alliances (containing 20 suballiances), four of which are recorded in Tweed Shire:

- *Argyrodendron trifoliatum* Alliance
- *Argyrodendron actinophyllum* Alliance
- *Dendrocnide-Ficus* Alliance
- *Caldcluvia* Alliance
- *Cupaniopsis-Acmena* Alliance

Two of these are of particular interest - *Argyrodendron trifoliatum* (Suballiance No.1) and *Cupaniopsis anacardioides-Acmena* spp. (Littoral rainforests).

Argyrodendron trifoliatum Suballiance No.1 includes **Warm sub-tropical rainforest on floodplain**, which is the major rainforest form on fertile soils under high rainfall (Adam 1987). This community is listed as an *Endangered Ecological Community* on Part 3 of Schedule 1 of the TSC Act (1995). Within Tweed Shire this community has been largely cleared for agriculture, particularly sugar cane production and is currently only represented by a few remnant fragments. Stotts Island Nature Reserve represents the largest single fragment of this community in NSW and comprises just 70 hectares (TSC 1994). Common species of this community include Bangalow Palm (*Archontophoenix cunninghamiana*), Strangler Fig (*Ficus watkinsiana*), Red Bean (*Dysoxylum mollissimum*), White Cedar (*Melia azedarach*), Blue Quandong (*Elaeocarpus angustifolius*), Red Cedar (*Toona ciliata*) and many others.

Cupaniopsis anacardioides-Acmena spp. Alliance (**Littoral rainforest**) is represented by a number of sub-alliances in the Tweed. This community is also listed as an *Endangered Ecological Community* on Part 3 of Schedule 1 of the TSC Act (1995). It is found as small stands growing in coastal areas, protected by dunes and dune vegetation and occasionally extending onto coastal headlands. It is characterised by its stunted, dense canopy that is subjected to salt and wind damage. Common species of these alliances include Tuckeroo (*Cupaniopsis anacardioides*), Riberry (*Syzygium luehmannii*), Broad-leaved Lily-Pilly (*Acmena hemilampra*), Beach Acronychia (*A. imperforata*), Coast Banksia (*B. integrifolia*) and Macaranga (*M. tanarius*). Examples within the Shire occur on Fingal Peninsula and behind the foredune complex north of Bogangar and at Wooyung. This vegetation type has been heavily disturbed and extensively cleared by sand mining, agriculture and urban development activities.

Dry Rainforest (also referred to as Araucarian vineforest) occurs where rainfall is relatively low for the development of rainforest, and where Spring is markedly dry. It typically contains two tree layers, the upper layer being characterised by a discontinuous emergent stratum of Hoop Pine (*Araucaria cunninghamii*), a species prized especially for its timber. Species within this vegetation type generally have smaller and harder leaves than the subtropical rainforest species. Although woody vines and stranglers may be common, other special life forms such as buttressing, palms and epiphytes are rare or absent. There is a well-developed prickly shrub layer with little or no ground layer vegetation. These communities are commonly found in fire-free niches in gorges or on stony slopes (Floyd 1990).

Within the Tweed Shire these communities occur in an area of rain shadow to the west and north-west of Mt. Warning on steep, stony, northern slopes; to the west of Toenail Point in Limpinwood Nature Reserve on steep, rhyolite slopes; and in Mebbin State Forest along Bog Onion and Forty Spur Roads on mudstones and coal below basalt. Typical species of this community include Hoop Pine (*Araucaria cunninghamii*), Onion Cedar (*Owenia cepiodora*), Grey Boxwood (*Drypetes australisica*), Scrub Bloodwood (*Baloghia inophylla*), Sweet Pittosporum (*Pittosporum undulatum*), Green Native Cascarilla (*Croton verreauxii*), Python Tree (*Austromyrtus bidwillii*), Silver Basswood (*Polyscias elegans*), White Handlewood (*Streblus brunonianus*), Brown Coffeewood (*Ixora beckleri*), Native Holly (*Alchornea ilicifolia*), Zig-Zag Vine (*Melodorum leichhardtii*) and many others.

Fringing or "gallery" rainforest communities can form as a dry rainforest alliance or a subtropical rainforest alliance. As the major rainforested creeks run downstream into broader, drier valleys, a floristically distinct gallery fringe develops, which is marked by the presence of Black Bean, (*Castanospermum australe*), Weeping Myrtle (*Waterhousea floribunda*), Silky Oak (*Grevillea robusta*) and Blue Quandong (*Elaeocarpus angustifolius*) among others. This vegetation type has been heavily disturbed by agricultural activities.

Warm Temperate Rainforest - has a simpler structure than the sub-tropical and dry rainforests, containing fewer species and a more uniform canopy of only two tree layers. This subform occurs in cool, moist areas that favour lichen rather than large epiphytic ferns or orchids and lack the special life forms of other rainforest communities (Floyd 1990).

Within Tweed Shire these forests approach their northern distribution limit occurring at Hogan's Scrub Wildlife Refuge (which has the largest count of tree species recorded for this community in NSW (Floyd 1990)), lower Couchy Creek and along Christies Creek in Mooball State Forest. Species typically occurring in this community include Coachwood (*Ceratopetalum apetalum*), Callicoma (*Callicoma serratifolia*), Mango Bark (*Canarium australasicum*), Sassafras (*Doryphora sassafras*), Macleay Laurel (*Anopterus macleayanus*) and many others.

Cool Temperate Rainforest is generally confined to cool, moist sites above 1000m; these are often on peaks or coastal escarpments frequently capped by persistent mist and rainclouds. It is characterised by a very uniform structure consisting of a single or at most two-layered tree canopy with a low species diversity. Large vines and buttressed trees are rare, but due to the high moisture a dense growth of mosses and lichens occurs on tree trunks and branches, as well as a ground layer of ferns and tree ferns (Floyd 1990).

Within Tweed Shire this community is close to its northern distribution limit and is dominated by Antarctic Beech (*Nothofagus mooreii*). It occurs along the edge of the eastern McPherson Range on Mt. Merino, Mt. Wagawn and Mt. Hobwee and within Limpinwood Nature Reserve. Typical species of the community include Mountain Silky Oak (*Orites excelsa*), Dorrigo Waratah (*Alloxylon pinnatum*), Native Hydrangea (*Abrophyllum ornans*), Possumwood (*Quintinia sieberi*) and others.

The rainforests of the Tweed Shire are internationally recognised as part of the central eastern rainforests of Australia's World Heritage Area (DEH 1995). The Limpinwood and Numinbah Nature Reserves and the Mt. Warning, Nightcap and Border Ranges National Parks of Tweed Shire were all included on the World Heritage List in 1986 (TSC 1994).

1.2.2 Freshwater Wetlands

Freshwater wetlands provide a high diversity of habitats in the form of lagoons, rivers, creeks, billabongs and dams. Wetlands may be permanent or intermittent. In coastal areas, such as Tweed Shire, wetlands are often situated adjacent to saline areas. The freshwater ecosystem often grades into brackish areas, with a corresponding change in species composition.

In recent times a large number of wetlands in the Shire have been drained for agriculture and housing, and those that remain are commonly heavily grazed by domestic livestock or used as dump sites for industrial and domestic waste.

Pressey and Griffith (1992) for the NSW National Parks and Wildlife Service have mapped the distribution and extent of the Tweed wetlands. They identified forty-eight (48) floodplain wetlands with a total area of 144 ha, only 7 ha of which were formally reserved. The reserved areas occurred on Stotts Island Nature Reserve. Recently, further areas have been reserved with the gazettal of Cudgen Nature Reserve.

The vegetation of freshwater wetlands occurs in distinct zonation. Plant species grade from those on dry land surrounding the wetland, such as Forest Red Gum (*Eucalyptus tereticornis*), to species occupying waterlogged soil such as Broad-leaved Paperbark (*Melaleuca quinquenervia*), through to semi-emergent / semi-aquatic and fully aquatic species. The zonation of the vegetation allows a diversity of niches to be exploited by wildlife, especially invertebrates, amphibians and birds.

Ephemeral wetlands may be dominated by sedges and rushes, e.g. Cumbungi (*Typha* spp.), *Eleocharis* spp., *Juncus* spp., *Cyperus* spp., with subdominants of *Melaleuca* spp. or Swamp She-oak (*Casuarina glauca*). These species often also occur on the periphery of permanent wetlands, the preferred nesting habitat for many species of waterfowl.

Freshwater aquatic vegetation may be represented by semi-emergent or floating species such as Common Reed (*Phragmites australis*), Waterlilies (*Nymphaea* spp), and submerged vegetation Pondweeds (*Potamogeton* spp.) and Water milfoil (*Myriophyllum* spp.).

Wetlands are particularly important to some bird species as refuge areas during times of drought. In addition, during winter the freshwater wetlands provide a necessary food source for bird species normally associated with rainforest areas (DEH 1995).

1.2.3 Riparian Vegetation

A narrow fringe of riparian vegetation remains beside most of the major waterways despite intensive clearing in the past and invasion by exotic species (Schenk & Wallace 1996). These fringes provide essential linkages facilitating the movement of flora and fauna between larger areas of habitat. They generally support a higher diversity and density of flora and fauna because they are more fertile and better watered than the surrounding landscape. They are also necessary for the long-term survival of aquatic ecosystems, providing shade, shelter, food and habitat diversity and stream bank protection (Catterall 1993).

Riparian community types are highly significant because they often include elements of both rainforest and sclerophyll vegetation, and represent ecotones between terrestrial and aquatic vegetation types. They can be highly species diverse and commonly contain significant and depleted taxa. Common emergents or canopy species include numerous species with rainforest alliances such as Bennett's Ash (*Flindersia bennettiana*), Brush Box (*Lophostemon confertus*), Maiden's Blush

(*Sloanea australis*) and Durroby (*Syzygium moorei*), in addition to sclerophyll species such as; Flooded gum (*Eucalyptus grandis*), Forest Red Gum (*E. tereticornis*), River She-oak (*Casuarina cunninghamiana*) and Weeping Bottlebrush (*Callistemon viminalis*). The understorey frequently contains species such as Sandpaper Fig (*Ficus coronata*), and myrtaceous plants such as Weeping Myrtle (*Waterhousea floribunda*), *Acmena* spp. and *Syzygium* species, while the banks may be densely vegetated with ferns and sedges, or species with strong, mat-like binding roots such as the Matt-rush (*Lomandra longifolia*). Vines often occur, winding into the canopy, adding to the structural complexity of the vegetation and providing important cover for birds and other fauna. Flying Foxes frequently choose riparian areas to roost. Where Eucalypt species occur as part of riparian vegetation, these may form important koala feeding areas.

As creeks, streams or rivers pass through areas of differing soil fertility, moisture, depth, and aspect and land use, the riparian vegetation changes accordingly. In the upper reaches of the catchment, riparian vegetation tends to contain species with rainforest affiliations. This generally changes to a sclerophyll canopy or emergent layer, with a more restricted range of rainforest species at lower altitudes. In the case of the Tweed River and its associated floodplain, a range of vegetation community types existed prior to settlement including lowland sub-tropical rainforest, *Melaleuca* swamps, palm forests, *Crinum* lilly swamps, Swamp-oak (*Casuarina glauca*) forests and others. These community types are today in evidence on Stotts Island Nature Reserve. River She-oak (*Casuarina cunninghamiana*) is also a common and dominant riparian species in riparian areas. Particularly fertile, moist and protected sections of the major rivers or areas where rainfall is inadequate to support rainforest development may support the now uncommon fringing rainforest association of Black Bean - Weeping Myrtle (*Castanospermum australe* - *Waterhousea floribunda*). Riparian areas on the flood plain often support *Melaleuca* swamp forests. As the waterway approaches the ocean, She-oaks (especially *Casuarina glauca*) and mangroves (e.g. *Avicennia marina* var. *australasica*, *Bruguiera gymnorhiza* and *Excoecaria agallocha*) become the dominant canopy species in the zone immediately adjacent to the water.

1.2.4 Eucalypt Forest

Eucalypt dominated open forests and woodlands cover extensive areas of the Tweed Shire, largely on foothills and slopes of varying geology and soils. These community types vary in their floristics and structure, with sub-alliances reflecting variations in local physical characteristics.

Eucalypt forests are often descriptively referred to as “wet” or “dry” sclerophyll forests. While these terms are difficult to define floristically (often the same dominant species occur in both types), wet sclerophyll forests are generally more luxuriant, characterised by non-sclerophyll, often rainforest, species in the lower strata and occasionally in the canopy. Typical examples include tall open forests dominated by species such as Flooded Gum (*E. grandis*), Moist Blackbutt (*E. pilularis*), Tallowwood (*E. microcorys*), Sydney Blue Gum (*E. saligna*) and Brush Box (*Lophostemon confertus*). These community types occur on the protected moist, steeper, often southerly slopes of the foothills and ranges and along creek systems.

Dry sclerophyll forest community types tend to dominate the drier, more exposed ridges and northerly slopes. They generally (but not always) have a lower canopy and a more open understorey than wet sclerophyll community types. The ground layer is predominantly sclerophyllous, and often dominated by grasses and xeromorphic shrubs. Overall, the vegetation composition is less diverse than in wet sclerophyll community types. These forests nevertheless support a diverse range of fauna and are especially important to migratory birds such as honeyeaters (Catterall & Kingston 1993). Because eucalypt forests occupy most of the foothills and some alluvial areas, these community types have been preferentially cleared in the past. Unfortunately, expanding residential populations continue to put pressure on these community types (Catterall *et al.* 1996).

Dominant species in the canopy of these community types in the Tweed include White Mahogany (*E. acmenoides*), Grey Gum (*E. propinqua*), Dry Blackbutt (*E. pilularis*), Pink Bloodwood (*Corymbia intermedia*) and Grey Ironbark (*E. siderophloia*).

The most diverse species assemblages for many faunal groups can be found in wet sclerophyll community types with a closed understorey of rainforest species and ferns. The greater faunal diversity can be largely attributed to the structural diversity of the vegetation, including large, hollow-forming old-growth trees, and the nutritional value of the vegetation, as it occurs on moister, more fertile soils. The wet sclerophyll community types are particularly important for koalas, which feed on species such as Swamp Mahogany (*E. robusta*), Forest Red Gum (*E. tereticornis*) and Tallowwood (*E. microcorys*), common dominants of these community types. Fires are less common in moist forests than in dry sclerophyll, and in certain circumstances this absence of fire may allow regenerating rainforest species to eventually dominate the sclerophyll species.

1.2.5 Montane Heathland

This vegetation type typically occurs at higher altitudes in the National Parks of the McPherson and Border Ranges and the Mt. Warning and Nightcap National Parks. It forms a tall shrubland to closed heathland on exposed areas of Tertiary volcanics. Species of this community may grow in crevices or pockets of improved soils and include mallee forms of eucalypt such as *E. microcodon* together with She-oaks (*Casuarina* spp.), Wattles (*Acacia* spp.), *Banksia* spp., Bottlebrushes (*Callistemon* spp.) and heath species (e.g. *Leucopogon* spp.) This type may intergrade with the moist sclerophyll types (often with rainforest understorey) and the cool temperate or cool sub-tropical rainforest alliances. Several species of rare and/or threatened plants occur in this community or on its edges.

1.2.6 Melaleuca Forest

Melaleuca dominated community types tend to occur in low-lying areas subject to periodic inundation, on alluvial and estuarine sediments near the coast. Formerly extensive areas of *Melaleuca* and Swamp She-oak forests and *Melaleuca* / Palm swamps have been heavily cleared for agriculture, and more recently for housing. Today these areas remain only in isolated patches.

Melaleuca forests play an important ecological role in maintaining water quality, and provide habitat to numerous native fauna and avifauna. In particular, they provide nesting grounds for large flocks of species such as Egrets and Ibis. They store water after heavy rain, releasing it slowly into the ground water table, thereby reducing run-off and maintaining the estuarine environment. Koalas and other local and migratory fauna use *Melaleuca* forest as a refuge in periods of drought or fire.

Melaleuca species sometimes form dense stands, preventing development of an understorey. When present, the ground layer is often dominated by sedges or ferns. Species such as Broad-leaved Paperbark (*M. quinquenervia*) and Flaxleaf Paperbark (*Melaleuca linariifolia*) are often dominant. Open forests of *Melaleuca* and Swamp Box (*Lophostemon suaveolens*) often contain emergent eucalypts such as Swamp Mahogany (*E. robusta*), Forest Red Gum (*E. tereticornis*) and Pink Bloodwood (*Corymbia intermedia*). Other swamp sclerophyll forest or woodland community types include White Bottlebrush (*Callistemon salignus*), which has been reported as a “wetland” community type from the Tweed floodplain (Pressey and Griffith 1992).

1.2.7 Coastal Vegetation

Due to major physiographic variations and ongoing geomorphological processes, coastal vegetation communities form a wide variety of highly distinctive categories. The characteristics of some of these communities are outlined below.

1.2.7.1 Foredune Complex

This community type forms the first vegetation strip separating the ocean from the land. It protects other community types such as Littoral rainforest from salt-laden winds and storms. It typically comprises Horsetail She-oak (*Casuarina equisetifolia* var. *incana*), and subdominants such as Coast Banksia (*Banksia integrifolia* var. *integrifolia*), Tea Tree species (*Leptospermum* spp.), Coast Wattle (*Acacia longifolia* var. *sophorae*). Beach Spinifex (*Spinifex sericeus*) and Pigface (*Carpobrotus glaucescens*) form a creeping ground cover, holding the sand together. Within the Tweed much of this vegetation complex has been removed by sand mining operations during the 1960s and 1970s. The best remaining examples of this community are located at Fingal Peninsula, between Bogangar and Pottsville and at Wooyung.

1.2.7.2 Headland Heath / Grassland

This vegetation community type is commonly found on the oceanic headlands, and comprises grasses, dwarf heath plants, and the characteristic Screw Pine (*Pandanus tectorius*). The vegetation is very stunted due to exposure to strong salt-laden winds. Examples of this community type can be found on Norries Headland, Fingal Head and Hastings Point. Grasses may include Common Couch Grass (*Cynodon dactylon*) Kangaroo Grass (*Themeda triandra*) and Blady Grass (*Imperata cylindrica*).

1.2.7.3 Coastal Heath

Known as “Wallum”, this heathland / bushland characteristically consists of a mosaic of sedgeland, heaths or low shrublands, open-scrubs or tall shrublands and paperbarked tea-tree forests on coastal sands and peat. This vegetation community type once covered substantial areas of coastal plain between the hinterland and the sea. It is now represented only in the Cobaki area behind the Coolangatta airport; to the south of Round Mt.; in the vicinity of

Bogangar and as a wet heathland from the Cudgen Lake area. This vegetation community once commonly occurred in association with Melaleuca wetlands (WRG 1978).

1.2.7.4 Coastal Closed Forests - Shrublands

These vegetation community types are distributed along the central-eastern coastal and estuarine regions of the Shire. Slightly more fertile soils support development of a taller canopy containing a diverse range of species. A number of distinct structural and floristic types occur within Tweed Shire:

Dry sclerophyll open forests and woodlands dominated by species such as:

- Cypress Pine (*Callitris columellaris*) which are found on old dunal sands as localised monospecific occurrences or in association with *Acacia* spp. and Broom Heath (*Monotoca* spp.).
- Forest Red Gum (*E. tereticornis*) occurring on poorly drained flats such as in the Cobaki area.
- Black She-oak (*Allocasuarina littoralis*) from the Fingal Peninsula and Pottsville areas.
- Swamp Box - Pink Bloodwood - Forest Red Gum (*Lophostemon suaveolens* - *Corymbia intermedia* - *E. tereticornis*) areas on relatively heavy textured soils in the Cobaki, Cudgen Lake and Round Mt. Areas.
- Scribbly Gum (*E. racemosa*) on both bedrock and sand substrates in the Cobaki and Cudgen Lake areas. Scribbly Gum also occurs as a Mallee forest / woodland in these areas.

Wet sclerophyll open forests and woodlands including Swamp Mahogany (*E. robusta*) from the Cobaki area and to the north and south of Cudgen Lake.

Swamp open forests and woodlands such as Swamp She-oak (*Casuarina glauca*) occurring as monospecific or mixed stands with Broad-leaved Paperbark (*Melaleuca quinquenervia*) along the Tweed Estuary at Cobaki Broadwater, Stotts Island and Fingal Peninsula and other species including Flax-leaved Paperbark (*Melaleuca linariifolia*) and White Bottlebrush (*Callistemon salignus*).

Mallee open forests and woodlands containing Swamp Box (*Lophostemon suaveolens*) from Fingal Peninsula and Scribbly Gum (*E. racemosa*) from the Cobaki area and Cudgen Lake.

Dry sclerophyll shrublands containing Wallum Heath (*Banksia aemula*) and Black She-oak (*Allocasuarina littoralis*) in the Cudgen Lake area and Brush Box (*Lophostemon confertus*) on Fingal Peninsula where it is associated with Pink Bloodwood (*Corymbia intermedia*).

Closed Littoral rainforest including species such as Tuckerroo (*Cupaniopsis anacardioides*) and Beach Acronychia (*A. imperforata*). The shrub and ground layers may comprise a mixture of species from the foredune complex and swamp sclerophyll community types as well as littoral rainforest species, such as Kangaroo Grass (*Themeda triandra*), Midyim Berry (*Austromyrtus dulcis*), sedges, reeds, and many vines and ferns.

3.2.7.5 Disturbed and Modified Terrestrial Communities

Disturbed and highly modified areas now form a major part of the ecosystem complexes of Tweed Shire. Although their habitat value varies from marginal to practically non-existent, many native faunal species can be found moving through these areas, foraging, or nesting. Unfortunately, these areas are also the source of many of the processes threatening the integrity of the less disturbed neighbouring habitats. On the other hand they are also a major source of areas of regeneration. To maximise habitat values therefore requires careful management of these community types.

In the last twenty-five years, urban development has radiated from small communities at West and South Tweed Heads, Banora Point, Kingscliff, Bogangar and Pottsville along the coastal strip. Residential expansion has also occurred in the main corridor along the Pacific Highway, particularly at Murwillumbah and around the small, isolated communities in the hinterland of Uki, Tyalgum and Chillingham. While most of this development has been at relatively high densities, there have also been significant areas of bushland appropriated for rural residential uses.

The vegetation of these areas consists of mixed native species and exotic garden plants, woodlands and small patches of remnant open forest interspersed with urban infrastructure such as houses, roads, etc. The exotic and planted native species may intergrade with all natural vegetation communities where urban encroachment exists. Garden plants commonly "escape" into adjacent bushland areas, sometimes becoming serious weeds, as is the case with Lantana (*Lantana camara*) and Maderia Vine (*Anredera cordifolia*).

Disturbed and highly modified habitats also include rural lands used for agriculture and pastoral purposes. The Murwillumbah sugar district covering most of the lowland floodplain of the Tweed Valley is the most significant single area under cultivation. Other cropping is also carried out in this area. Grazing for dairy and beef production occurs mainly in the hinterland, particularly within the creek valleys and on the less fertile hill country. Also, fruit crops such as bananas, sub-tropical fruits and small crops of vegetables are produced (TSC 1994).

A number of timber plantations exist, scattered over the whole Shire. A major recent initiative has been a joint venture agreement between Tweed Shire Council and the NSW State Forests to develop a hardwood plantation of Eucalypt species at Byrrill Creek on 1000 hectares of Council owned land. There are also numerous smaller private holdings including a substantial area of exotic pine at King's Forest south of Kingscliff. Native plantations typically consist of Hoop Pine (*Araucaria cunninghamiana*) and /or eucalypts (e.g. *E. grandis*, *E. saligna*, *E. pilularis* and *E. cloeziana*). As plantations mature, natural regeneration often takes place, improving the habitat values of these areas.

As noted previously disturbed and highly modified areas are the source of many of the processes that threaten and diminish the habitat quality of existing natural areas. A major concern in the Tweed is the proliferation of a number of serious environmental weeds. Examples include:

- Camphor Laurel (*Cinnamomum camphora*)
- Large-leaved Privet (*Ligustrum lucidum*)
- Small-leaved Privet (*Ligustrum sinense*)
- Lantana (*Lantana camara*)
- Mist Flower (*Ageratina riparium*)
- Crofton Weed (*Ageratina adenophorum*)
- Kudzu Vine (*Pueraria lobata*)
- Madera Vine (*Anredera cordifolia*)
- Morning Glory (*Ipomoea purpurea*)
- Cats Claw Creeper (*Macfadyena unguis-catii*)
- Blue Trumpet Vine (*Thunbergia grandiflora*)
- Bitou Bush (*Chrysanthemoides monilifera* var. *rotundata*)

1.3 Freshwater Communities

Freshwater communities are an integral but often overlooked part of the Shire. These systems contribute to biological productivity in the ecosystems adjacent to them. They also heavily influence those systems (i.e. estuarine and marine) downstream. These freshwater bodies have their own distinctive suite of biotic communities associated with them. Human activity in the Shire is heavily dependent on these freshwater systems; they provide a major source of water for domestic, agricultural and commercial / industrial purposes. Water for these purposes is supplied by the Tweed River and one of its major tributaries, the Oxley River. One large impoundment, the Doon Doon Dam, supplies Bray Park Weir at Murwillumbah where water is treated for human consumption. The other major tributary, the Rous River, enters the Tweed River at Tumbulgum, downstream of Murwillumbah. The construction of Doon Doon dam has increased the volume of fresh water contained within the Shire boundaries.

The nature of the biota in rivers and streams is heavily influenced by the fact that the water is flowing in a predictable direction. The upper reaches of streams tend to be erosional - that is, material is being carried away downstream- whereas the lower reaches, rivers etc., tend to be depositional. This change in the geomorphological activity is followed by a corresponding change in the fauna. Fauna of the upper reaches is generally intolerant of high temperatures, require high oxygen concentrations, and frequently display marked adaptations to unidirectional flow. In the lower reaches, however, the fauna is characterised by being tolerant to temperature fluctuations and lower oxygen concentrations, and show no general adaptation to direction of water flow (Williams 1980).

Limited numbers of plant species exist in faster flowing streams - the biota is confined mainly to fauna, particularly fish and a highly diverse invertebrate assemblage including insects, crustaceans, and molluscs. The adaptations of this fauna are diverse and cover many morphological, behavioural and physiological features (Williams 1980).

Freshwater waterways derive a major part of their nutrients (that drive biological productivity) from input of organic material of terrestrial origin (e.g. leaf litter, terrestrial invertebrates). This material forms the major component of the diet of aquatic invertebrates, which themselves form the diet of many larger (mainly vertebrate) aquatic (e.g. fish, eels, crayfish) and semi-aquatic (e.g. tortoises, frogs) fauna (Cummins 1993).

Herptofauna (amphibians and reptiles) are strongly associated with freshwater streams, being either entirely aquatic, or spending a large proportion of their lifecycle in or near the water. Birds such as Kingfishers rely on freshwater organisms as their major food source; fish, frogs, small reptiles and insects all form part of their diet. Mammals that are reliant on healthy freshwater streams include the Platypus (*Ornithorhynchus anatinus*), which feeds on gravelly stream bottoms searching for worms and other bottom dwelling invertebrates and burrows into the sides of banks to sleep and nest. He microchirpoteran bat species Large-footed Myotis (*Myotis aerversus*) forages mostly low over water taking flying insects, aquatic insects and tiny fish. Specialist reptiles, such as the Eastern Water Dragon (*Physignathus lesuerii*), capture aquatic prey, and spend much time resting on rocks or overhanging branches in or next to the water. Tortoises, such as the Long-necked Tortoise (*Chelodina longicollis*), are almost entirely aquatic throughout their life.

1.4 Estuarine and Marine Communities

The major values of estuarine and marine communities are:

- as faunal habitat
- economic (through commercial fisheries and tourism)
- social / recreational (boating, fishing, diving, and education)

The main communities recognised are:

Estuarine

- Open Waters
- Mangroves
- Saltmarshes
- Unvegetated Mudflats
- Sandbanks
- Seagrass

Marine

- Open Waters
- Corals
- Rocky Headlands
- Disturbed and Modified Estuarine and Marine Environments

1.4.1 Estuarine Communities

1.4.1.1 Open Waters

Estuarine waters and shallow bays support a rich and varied fauna. Organically rich mudflats, sand banks or sand bottoms support dense populations of benthic invertebrates such as yabbies and soldier crabs. Many species of fish and other biota are entirely dependent on estuarine ecosystems.

Water running off the land and from adjacent areas into estuaries is nutrient loaded and supports a rich growth of food organisms. The nutrients assist in the establishment and maintenance of seagrass flats and productive shoal banks within the estuary and mangroves (Hutchings & Saenger 1987). Accelerated input of nutrients and sediment however, can have dramatic impacts on the estuarine ecosystem. Such inputs commonly arise from agricultural and stormwater run-off, earthworks, sewage outfall, and other point source discharges.

Within the Tweed, major areas of estuarine waters are associated with Cobaki, Tweed and Terranora Broadwaters; Cudgen Lake; Cudgera, Cudgen and Mooball Creeks, and Ukerebagh, Stotts, Greenbank and other islands associated with the Tweed estuary and Terranora Inlet. Tidal influence within the Tweed River extends to approximately Murwillumbah.

1.4.1.2 Mangroves

Mangroves are flowering plants that have special adaptations enabling them to live in the intertidal zone. They are of importance to estuarine ecosystems due to the provision of habitat for many juvenile fish and crustacean species and contribute to the detrital foodweb. Mangroves are critical to fisheries production, and provide roost sites for waders and other birds and bats, as well as functioning as sediment stabilisers by reducing wave and current effects.

Mangroves are intimately associated with terrestrial forests or mud flats on the landward side and with mudflats, seagrass or other marine or estuarine communities on the seaward/estuary side. Like the estuarine waters themselves, many mangrove areas are under stress due to poor water quality from land-based human activities such as clearing, chemical and fertiliser use, point source discharge and non-point source run-off.

Significant areas of mangrove occur in the Tweed estuary, fringing the islands and shore, with smaller areas in Cudgen Lake and Creek, Cudgera Creek and Mooball Creek. The only estuarine reserve in the Shire, Ukerebagh Nature Reserve, contains a small proportion of the Shire's mangrove area (TSC 1994).

1.4.1.3 Saltmarshes

Saltmarshes occur on tidally inundated ground at the landward edge of mangrove communities. This community is listed as an *Endangered Ecological Community* on Part 3 of Schedule 1 of the TSC Act (1995). A significant proportion of saltmarsh within the Tweed occurs along the Tweed and Cudgen estuaries, with a large proportion located within Ukerebagh Nature Reserve (Pressey & Griffith 1992). Saltwater Couch (*Sporobolus virginicus*) and succulents such as *Sarcocornia quinqueflora* dominate these community types, which form shallow intertidal areas that act as nurseries for estuarine fish (mainly juvenile bream and mullet) of economic importance. They provide important feeding and roosting areas for a wide variety of birds of conservation value. Many migratory species protected under international treaties (JAMBA, CAMBA) utilise saltmarshes. Unfortunately, many areas have been extensively disturbed by cattle, draining, bunding and weed invasion.

1.4.1.4 Unvegetated Mudflats

Significant areas of unvegetated mudflats occur in the intertidal regions of Tweed Shire. These areas provide a major source of food for waders at low tide and fish species at high tide. Single-celled and filamentous algae species are common but not obvious vegetation types on mudflats. Mudflats also contain high densities of molluscs, polychaetes, crabs and other crustaceans, etc. and are important habitats for commercial and recreational fisheries resources (DEH 1995). Unvegetated mudflats also provide future sites for seagrass and / or mangrove colonisation (DEH 1995).

1.4.1.5 Sandbanks

Sandbanks contain a high diversity of marine invertebrates (worms, molluscs etc.) as well as being frequented by Whiting, Bream and Flathead, which are important fish from a commercial and recreational perspective. Migratory wader birds often utilise sandbanks for roost sites at high tide and for feeding sites at low tide. The sandbanks within the Tweed Shire occur mainly in the lower Tweed estuary. These areas are dynamic in nature. These systems are sensitive to coastal construction, which affects local hydrology (i.e. groynes, sea walls etc., DEH 1995).

1.4.1.6 Seagrass

Seagrass plays a major role in detrital production, nutrient cycling, substrate stabilisation, food production (fish and crustaceans) and habitat provision. It requires a minimum standard of water quality for its survival. The majority of seagrass within the Shire is located in the lower Tweed estuary. Seagrass in the lower Tweed estuary is apparently increasing following a trend of significant decrease from the 1930s to 1976. Dredging and major floods have been cited for causing seagrass decline in the 1960s and early 1970s (PWD 1991).

1.4.2 Marine Communities

1.4.2.1 Open waters

Humpback whales (*Megaptera novaeangliae*) pass the Tweed regularly on their annual migration to the southern Great Barrier Reef. Bottlenose Dolphins (*Tursiops truncatus*) occur in large numbers off the coast. Other marine mammals that visit coastal areas infrequently include Pilot Whales, Killer Whales and Spinner Dolphins. Various species of shark and turtle also frequent the Tweed Shire coastline.

Offshore reefs and rocky headlands support a large range of bottom dwelling fish, many of which are of commercial importance. Pelagic fish (mid water migratory species) such as tailor, kingfish and mackerel will be found wherever accumulations of smaller schooling fish are to be expected (Woods 1978).

1.4.2.2 Coral Reefs

Coral reefs are the richest of all marine areas in terms of biodiversity (DEH 1995). The area around Cook Island off Fingal Peninsula is currently gazetted as a National Park and Marine Reserve to preserve the unique fauna and flora of the surrounding marine waters.

Associated with hard corals are many typical reef species including soft corals, anemones, sponges, seastars, hydroids, feather stars, crabs, fish (42 species) and at least 300 species of molluscs including cowries and cone shells (DEH 1995).

1.4.2.3 Rocky Headlands

Rocky headlands are a limited resource and provide a habitat for a variety of marine flora and fauna species. Rocky headlands and outcrops provide migratory and local wader bird species with roost sites at high tide and food (e.g. limpets, crabs etc.) at low tide. They also contribute to habitat diversity for recreational and commercial fish species, including Mulloway, Snapper and Bream. The diverse assemblages of epibenthic organisms, which inhabit rocky shores, provide both juvenile and adult fish with a wide range of food items.

1.4.2.4 Disturbed and Modified Estuarine and Marine Environments

Major development of canal estates and recreational areas since 1960 has completely altered much of the Shire's characteristic swampy lowlands through large-scale earth moving, pumping and drainage of land previously considered too low and flood prone for settlement.

These developments have also taken over large amounts of land previously occupied by mangroves and other estuarine communities. Construction of seaways, training walls and groynes are also major habitat modifications to the estuarine and marine environments. Modification of the estuarine and marine environment by human activity has also occurred more subtly through terrestrial inputs (sediment, nutrients, pesticides, etc.) and over-harvesting of fishery resources. These changes have resulted in significant declines in many species and changes in species composition. Many of the tributaries of the Tweed are no longer navigable by larger vessels due to accelerated sedimentation.

1.5 References

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Appendix 2

Mapping Methods from Tweed Vegetation Management Plan 1999

6. Vegetation Mapping and Communities

6.1 Remnant Vegetation Mapping

6.1.1 Mapping Methods and Criteria

Digital interpretation of satellite imagery (SPOT XS; August 1994) using image processing software (TNT/mips) provided a consistently interpreted map of vegetation cover. The boundaries of vegetation remnants were checked and amended where necessary using aerial photography (colour 1:25 000 March 1996). All remnant vegetation was classed into categories based on their overall condition and structure.

The criteria used to define these categories are shown in Table 6.1. The categories used are similar to those developed by Catterall & Kingston (1993a) and Kingston *et al.* (1996), but with minor modifications to account for differing vegetation conditions within the Tweed Shire. The category *Integral Bushland* represents a combination of the *Integral* and *Thinned* classes used by Catterall & Kingston (1993a). Due to the fine spatial resolution of the mapping, *Mosaic* categories used by Catterall & Kingston (1993a) for regional mapping were not considered necessary.

Table 6.1 Mapped Categories of Remnant Bushland

Mapped Category	Classification Criteria
Integral Bushland	<ul style="list-style-type: none"> • Bushland that is relatively homogeneous and intact • Mostly >70% canopy cover, crowns touching to overlapping. May include areas with some canopy thinning; minor areas with canopy cover 30 - 70% crowns slightly separated to touching. • Understorey usually present, sometimes grazed • May include 'naturally' sparse areas and/or medium to advanced regrowth
Regenerating Bushland	<ul style="list-style-type: none"> • Bushland that has been substantially modified or completely cleared in the past • Canopy removal extensive (<30% canopy cover; crowns separated) • Often contains a dense, monospecific understorey (typically Allocasuarina or Acacia) • Includes: <ul style="list-style-type: none"> - Coastal regeneration of <i>Casuarina equisetifolia</i> var. <i>incana</i> indicative of previous sand mining activities (interpreted from Murray & James 1998) - Early regrowth rainforest - Acacia / Other Sclerophyll regrowth - Camphor Laurel (<i>Cinnamomum camphora</i>) dominant areas
Other Regeneration	<ul style="list-style-type: none"> • Predominantly native vegetation that has been heavily modified, usually only a ground layer is present. This category only mapped within the Murray & James (1998) Study Area. • Includes: <ul style="list-style-type: none"> - Native grasslands - Mowed heathland

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Mapped Category	Classification Criteria
Other Remnant Vegetation	<ul style="list-style-type: none"> • This category includes: <ul style="list-style-type: none"> - Rock Faces - Foredune Complex - Saltmarsh Communities - Sedgeland / Rushland (interpreted from Murray & James 1998 Study Area only) - Fernland / Forbland (interpreted from Murray & James 1998 Study Area only) - Freshwater Wetlands
Native Plantations	<ul style="list-style-type: none"> • This category includes forest plantations dominated by native species • May contain a wide range of stages of maturity and silvicultural management • Some mapped areas particularly within State Forests are well developed, others include plantations in early stages of growth
Non -Bushland Matrix	<ul style="list-style-type: none"> • Includes cleared areas or bushland remnants too small to map • Less than 30% canopy cover • Early regrowth may be present • Areas devoted exclusively to urban, agricultural or exotic plantation forests

The remnant mapping was based on aerial photography dated March 1996. Due to clearing and regrowth since this time minor changes may be present at the time of publication. The estimated scale of mapping is 1:25 000. At this scale the boundary precision for remnants should be +/- 25 metres. It is important to note that at this scale, remnants less than one hectare or connections less than 25 metres wide could not be recognised and were thus classified as Non-Bushland Matrix.

These issues of precision and scale must be taken into consideration if data from this project is used in conjunction with other information referenced to the same area. For example particular care should be exercised with respect to overlays onto the cadastral base, which is much more precisely referenced.

The criteria used for determining vegetation associations within the remnant bushland areas are detailed in later sections.

6.2 Vegetation Typing and Classification

6.2.1 Mapping Methods and Criteria

Having accurately and consistently identified the extent and location of remnant vegetation within the Shire, these areas were then classified on the basis of four attributes:

- Vegetation Type
- Structural Formation
- Camphor Laurel (*Cinnamomum camphora*) Abundance
- Reliability

These are described briefly in Section 6.2.1.1 below.

The attribute mapping (described above) was based on a combination of the following:

- Incorporation of Existing Mapping;
- API (Aerial Photograph Interpretation); and
- Field Survey.

This optimised the amount of fieldwork necessary to provide a reasonably accurate overview of the Shire's vegetation communities

These techniques are discussed in Sections 6.2.2 and 6.2.3 below.

6.2.1.1 Vegetation Attributes and Codes

Vegetation Type

For the purposes of this study a total of 54 specific vegetation associations (termed *Vegetation Types*) were recognised within ten *Major Vegetation Community* categories. Specific *Vegetation Types* were based primarily on dominant canopy species and structural variation, but were also influenced by:

- Ability to be recognised using API techniques;
- Existing mapping codes where applicable; and
- Regional codes used to assess conservation status.

Table 6.3 lists each *Vegetation Type*, and indicates its membership of one of the *Major Vegetation Community* categories recognised. Appendix 3 contains a more detailed explanation of each *Vegetation Type*, equivalent codes from related mapping, ecological attributes, and regional conservation status. Detailed profiles of each mapped *Vegetation Type* are provided in Appendix 12.

Table 6.3 Vegetation Codes and Types

Vegetation Code	Vegetation Type
Rainforest and Riparian Communities	
101	Littoral Rainforest
102	Sub-tropical / Warm Temperate Rainforest on Bedrock Substrates
103	Dry Rainforest
104	Lowland Rainforest on Floodplain
105	Myrtaceous Riparian Low Closed Forest to Woodland
106	River She-oak Open Forest
Sclerophyll Open Forests on Bedrock Substrates	
201	Blackbutt Open Forest Complex
202	Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex
203	Rough-barked Apple Open Forest
204	Scribbly Gum / Pink Bloodwood Open Forest
205	Sydney Blue Gum Open Forest
206	Flooded Gum Open Forest
207	Brush Box Open Forest
208	Tallowwood Open Forest
211	Turpentine +/- Pink Bloodwood Open Forest
Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	
301	Coastal Pink Bloodwood Open Forest to Woodland
302	Coastal Pink Bloodwood / Brush Box Open Forest to Woodland
303	Coastal Brush Box Open Forest to Woodland
304	Coastal Forest Red Gum Open Forest to Woodland
305	Coastal Swamp Mahogany Open Forest to Woodland
306	Coastal Scribbly Gum Open Forest to Woodland
307	Coastal Blackbutt Open Forest to Woodland
308	Coastal Tallowwood Open Forest to Woodland
309	Coastal Swamp Box Open Forest to Woodland
310	Banksia Dry Sclerophyll Open Forest to Shrubland
311	Coastal Acacia Communities
312	Black She-oak Low Open Forest to Woodland
313	Cypress Pine Open Forest to Woodland
Melaleuca and Swamp She-oak Forests	
401	Broad-leaved Paperbark Closed Forest to Woodland
402	Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland

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Vegetation Code	Vegetation Type
403	Broad-leaved Paperbark + Eucalyptus spp. +/- Swamp Box Closed Forest to Woodland
601	Swamp She-oak Closed Forest to Woodland
Coastal Heathlands	
501	Dry Heathland to Shrubland
502	Wet Heathland to Shrubland
Estuarine Complexes	
602	Mangrove Low Closed Forest to Woodland
603	Saltmarsh Communities
Sedgelands and Related Communities	
701	Sedgeland / Rushland (Murray & James 1998 Study Area only)
702	Fernland / Forbland (Murray & James 1998 Study Area only)
703	Freshwater Wetlands
Foredune Complex	
801	Foredune Complex
Miscellaneous Map Units	
901	Rock Faces
903	Open Water
998	Not Assessed
999	Remnant Vegetation Outside LGA
Highly Modified / Disturbed	
902	Native Grasslands (Murray & James 1998 Study Area only)
1001	Mowed Heathland (Murray & James 1998 Study Area only)
1002	Early Regrowth Rainforest
1003	Acacia / Other Sclerophyll Regrowth Open Forest to Woodland
1004	Camphor Laurel Dominant Closed to Open Forest
1005	Native Plantation
1006	Exotic Plantation
1007	Urban Bushland
1008	Post-mining Regeneration
1099	Substantially Cleared of Native Vegetation

Structural Formation

Codes to describe vegetation structure were adapted from the approach devised by Walker & Hopkins (1984). Table 6.4 outlines the height class, life form and projective foliage cover of the tallest vegetation stratum for each structural code utilised.

Camphor Laurel Abundance

Camphor Laurel (*Cinnamomum camphora*) is an exotic tree that has colonised (and often dominates) large areas of disturbed and previously cleared native vegetation. The categories used to describe this species' abundance are shown in Table 6.5. This data was used to generate Map 6.

Reliability

Due to differences in sampling effort, access and mapping techniques some areas are likely to be more reliably mapped than others. A reliability code was therefore allocated to each mapped area, according to the source of the data and/or the manner in which data was collected. Reliability codes are shown in Table 6.6.

Table 6.4 Structural Formation Codes

Structural Classification			
Code	Description	Projective Foliage Cover of Tallest Stratum	Life Form of Tallest Stratum
T3	<u>Tall open-forest</u>	70-30%	Trees >30m.
T2	<u>Tall woodland</u>	30-10%	Trees >30m.
M4	<u>Closed-forest</u>	100-70%	Trees 10-30m.
M3	<u>Open-forest</u>	70-30%	Trees 10-30m.
M2	<u>Woodland</u>	30-10%	Trees 10-30m.
M1	<u>Open-woodland</u>	<10%	Trees 10-30m.
L4	<u>Low closed-forest</u>	100-70%	Trees <10m.
L3	<u>Low-open forest</u>	70-30%	Trees <10m.
L2	<u>Low woodland</u>	30-10%	Trees <10m.
L1	<u>Low open-woodland</u>	<10%	Trees <10m.
S4	<u>Closed-scrub</u>	100-70%	Shrubs >2m.
S3	<u>Open-scrub</u>	70-30%	Shrubs >2m.
S2	<u>Tall shrubland</u>	30-10%	Shrubs >2m.
<u>S1</u>	Tall Open Shrubland	<10%	Shrubs >2m.
<u>Z</u>	Heathland	>10%	Shrubs 0.25 - 2m.
<u>G</u>	Grassland	>10%	Herbaceous Layer
<u>F</u>	Fernland / Forbland / Herbland	30%-100%	Herbaceous Layer
<u>Y</u>	Sedgeland / Rushland	>10%	Herbaceous Layer
<u>NA</u>	Not Applicable		
<u>ND</u>	Not Determined		

Table 6.5 Camphor Laurel Abundance Codes

Camphor Laurel Abundance Codes	
Code	Description
D	Dominant
C	Co-dominant
S	Occasional / Patchy or Edges Only
N	Not Detected from API
NA	Not Applicable (Matrix)
ND	Not Determined (Outside LGA, National Parks and State Forests)

Table 6.6 Reliability Codes

Reliability Status	
1	On-Site Traversal and API
2	Limited On-Site and/or Remote Field Observation and API
3	Other Information Source and API
4	API Only
5	Not Determined

Exotic Weeds

Opportunistic data relating to the presence and infestation levels of other exotic weed species was also recorded using codes identical to those used for Camphor Laurel presence. However, through field survey it was realised that the distribution of weeds was much patchier than could be reliably mapped at the 1:25000 scale, so this attribute was discarded from the final analyses.

Polygon Coding

Using the attributes and codes described above, an attribute code string was allocated to each mapped area. An example of the coding string is presented in Table 6.7 below.

Table 6.7 Polygon Coding String

Vegetation Type	Structural Classification	Camphor Laurel Presence	Other Weed Presence	Reliability
eg. 207 M3 C S 1				
This string would indicate a Brush Box Open Forest, with 30-70% foliage cover of trees 10-30m., possessing Camphor Laurel as a co-dominant and with some other weeds present in the canopy and that this was an On Site Traversal with API				

6.2.2 Existing Mapping

As noted previously, the vegetation mapping was compiled from a combination of existing mapping, fieldwork and aerial photo interpretation. Existing mapping from four sources were used:

- State Forests (as at April 1996)
- Australian Koala Foundation (Phillips & Callaghan 1996)
- Caldera Environment Centre (Murray & James 1998)
- Stotts Island Nature Reserve (Wilson *et al.* 1986)

Due to differences in methodology, data quality and content, and spatial overlap, these existing mapping sources were incorporated in a number of different ways. The manner in which this was achieved is described briefly below. An inset to Map 5 indicates where these data sources were used. It should also be noted that the source of the mapping for each unique polygon is recorded within the GIS database.

State Forests Mapping

The State Forests mapping, covering the areas of Mebbin, Wollumbin, Mooball and Nullum State Forests, was incorporated in full using equivalent codes noted in Appendix 3. Both the original State Forests codes and their Tweed Vegetation Management Plan equivalents are preserved in the GIS database. No structural Camphor Laurel presence data were available. This mapping was given a reliability code of *Other Information Source and API*.

Australian Koala Foundation Mapping

Mapping information from this study (Phillips & Callaghan 1996) was used in areas not covered by the more detailed mapping of Murray & James (1998). This included an area east of the Pacific Highway and south of the Tweed River. The Australian Koala Foundation mapping completed for areas north of

the Tweed River were completely revised on the basis of fieldwork and Aerial Photo Interpretation (API) conducted as part of this study.

To ensure consistency and resolve minor georeferencing issues, the remnant vegetation mapping generated for this project was used to define bushland from non-bushland areas. Internal boundaries used to differentiate vegetation types were derived from the Phillips & Callaghan (1996) mapping supported by limited API and fieldwork. The original Phillips & Callaghan (1996) vegetation units were allocated to equivalent Tweed Vegetation Management Plan codes as shown in Appendix 3. Original codes are not preserved in the final GIS database.

Structural information and Camphor Laurel presence was determined for some polygons from limited field survey and existing coding of Camphor Laurel dominated areas. However this information was not available for the majority of areas covered by this mapping. Reliability was determined as *Other Information Source and API*.

Caldera Environment Centre Mapping;

This work was conducted along the entire Tweed coast in areas below the 10m contour line using 1:8000 aerial photography dated 1991. It was supported by detailed and extensive fieldwork conducted mostly during 1995. Known changes in vegetative cover between 1991 and 1998 have been accounted for in the mapping.

Due to its fine scale and high level of detail this mapping took precedence over any overlapping mapping and was incorporated in full into the GIS database. Equivalent Tweed Vegetation Management Plan codes were allocated to each mapped area (polygon). Both the original polygon descriptions and the codes derived for this study are preserved in the GIS database. Since almost all polygons contained unique vegetation descriptions that were stored in a relational database, no attempt has been made to represent equivalent codes within Appendix 3.

Structural Formation and Camphor Laurel codes were determined by querying the detailed database associated with the mapping. Since extensive fieldwork was known to have taken place, Reliability was considered: *On Site Traversal and API*.

Stotts Island Nature Reserve Mapping

This mapping was restricted to Stotts Island Nature Reserve in the Tweed River. Vegetation map units were collapsed to equivalent Tweed Vegetation Management Plan codes as shown in Appendix 3. The linework for the collapsed communities was subsequently digitised. Since the original mapping was not available digitally, the original codes are not preserved in the GIS database.

6.2.3 Air Photo Interpretation and Field Survey

Air Photo Interpretation (API) was performed mainly on the basis of topographic variations, spatial patterns/texture calibrated by field observations and, in some areas, mapping from existing studies. Photos were initially interpreted in the field where boundaries were broadly defined, codes recorded, and notes made to assist more detailed interpretation. Stereoscopic interpretation of overlapping photos was then used to refine the mapped boundaries. For many areas field verification was not feasible. For these areas codes were determined primarily from API, sometimes supported by other limited information (e.g. soils mapping, general knowledge of vegetation/terrain relationships). The major source for the API work was the colour 1:25 000 March 1996 colour photographs.

Although the remnant bushland mapping is accurate to approximately one hectare (see Section 6.1.1 above) most small remnants (< 10 ha) were allocated to a single category representing its *vegetation type*, while larger and less homogeneous areas were often split into two or more categories.

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Extensive field survey was conducted in 1998 by *Ecograph* in the western Shire (see inset to Map 5), and on a selective basis within areas previously mapped by Phillips & Callaghan (1996).

Appendix 3

Vegetation Condition Criteria

Vegetation Condition Codes# and Classification Criteria			
Condition Code	Condition Category	General Site Criteria (specific performance measures to be determined)	Other Criteria
Ex	Old-Growth / Undisturbed / Excellent Condition	<ul style="list-style-type: none"> • Vegetation with negligible unnatural disturbance • A significant proportion of plants with age-related features (such as tree hollows) and a species composition characteristic of the ecologically mature forest ecosystem. • May include non-woody communities (eg. heathland, sedgeland, etc.) of native vegetation in excellent condition. • Abundant habitat for wildlife • Mature upper stratum • A well developed understorey will usually be present 	<p>Note: It is expected that many areas identified as "Candidate Old Growth" and "Disturbed Old Forest" in the CRA "Growth Stage" layer would meet the criteria for this category.</p> <p>However, due to differences in resolution, data from the CRA mapping project are addressed as separate data layers. (see criteria used to determine Ecological Status for details)</p>
RN	Relatively Natural / Good Condition	<ul style="list-style-type: none"> • Vegetation that is relatively homogenous and intact • Minimal canopy disturbance • Understorey usually present • Advanced regrowth may be present • May have a history of logging or burning but has retained a significant component of its original vegetation diversity. May contain a low to moderate proportion of weed species in the understorey. 	
HD	Heavily Modified / Disturbed / Poor Condition	<ul style="list-style-type: none"> • Vegetation that has been substantially modified by clearing for agriculture, logging, mining or other disturbance • Canopy removal typically between 70% and 30% • Includes recent regeneration • Understorey usually disturbed or absent • May have extensive weed invasion in the understorey • May include medium to advanced regrowth 	<p>1 - Polygons tagged in Murray & James (1998; Caldera Environment Centre) mapping as weeds "Dominant" in "Tallest" or "Mid" strata.</p> <p>2- Mapped Areas noted in Ecograph (1998) field notes with weeds "Dominant" or "Co-dominant".</p> <p>3 - TVMP Vegetation Codes:</p> <p>1001 - Mowed Heathland (Murray & James 1998 Study Area only)</p> <p>1002 - Early Regrowth Rainforest</p> <p>1003 - Acacia Other Sclerophyll Regrowth</p> <p>1004 - Camphor Laurel Dominant Closed to Open Forest</p> <p>1008 - Post Mining Regeneration</p>

Supplementary Attribute only - Not determined for all areas

Appendix 4

Equivalent Vegetation Codes

Codes and Classification		Equivalent and Similar Map Units from Other Studies												
Vegetation Code	Vegetation Type	Wilson (1986) Stotts Is.	NSW State Forests (Research Note No. 17) - Forest Type	Floyd (1990) Sub-alliance	Pressey & Griffith (1992) Communities	NPWS Coastal Map Codes (Griffith 1993)	Hager & Benson (1994) Association	NRAC (NPWS 1995)	AKF Codes (Phillips & Callaghan 1996)	GCCC Codes (Kingston et al. 1998)	Caldera Environ. Centre (Murray & James 1998)	Byron Shire Codes (Landmark et al. 1999)	CRA Forest Ecosystem (NPWS 1999)	CRA Forest Ecosystem Comments
Vegcode	Vegtype	WIL86	RN17	FLOYD90	P&G92	GRIFF93	H&B94	NRAC95	AKF96	GCCC98	CEC98	BYRON99	CRA_FE99	CRA99DESC
101	Littoral Rainforest		24	16 / 17	F1	0502	RF115 / RF116	No Equiv	litrf	28	see sep. sheet	11	168	Rainforest
102	Sub-tropical / Warm Temperate Rainforest on Bedrock Substrates		1 / 4 / 7 / 2 / 11 / 15 / 23 / 8	33 / 7(uncommon) / 5, 11, 2, 39 / 6 / 1, 35 / 9 / 26	No Equiv	0002 / 0004	RF300 / RF106, RF104, RF110, RF101, RF306 / RF105 / RF100, RF302 / RF108 / RF205	No Equiv	rf / rfe / f	29	see sep. sheet	12 / 13 / 16 / 17 / 23	168	Rainforest
103	Dry Rainforest		21	21	No Equiv	No equiv - (1002 occurs south of Tweed)	RF200	No Equiv	No Equiv	29	see sep. sheet	No Equiv	168	Rainforest
104	Lowland Rainforest on Floodplain	VT/TFSS/PR HP1/PRHP2 /PR	1	3	F9	No Equiv	RF102	No Equiv	rip	20	see sep. sheet	No Equiv	168	Rainforest
105	Myrtaceous Riparian Low Closed Forest to Woodland		23 / 26 (on drainage lines)	29	No Equiv	No Equiv	RF208	No Equiv	rip	No Equiv	see sep. sheet	No Equiv	168	Rainforest
106	River She-oak Open Forest		211	No Equiv	No Equiv	No Equiv	QF100a	58	rip	20	see sep. sheet	No Equiv	120	River Oak
107	Cool Temperate Rainforest		16								see sep. sheet		168	Rainforest
201	Blackbutt Open Forest Complex		36 (Moist) / 37 (Dry) / 41	No Equiv	No Equiv	3504 / 3006	EF145a	2	epil / epilemic / epilemicpro / epilemicproa / epilemicprob / epileteremicepro / epilop	36	see sep. sheet	No Equiv	95	Northern Moist Blackbutt
202	Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex		65 / 60 / 61 / 62	No Equiv	No Equiv	3509 (in part) / 3537 (in part)	EF600a	71 / 11 / 56 / 12 / 67 (all in part)	esideacm / eacmeresid epro	1	see sep. sheet	No Equiv	152	Wet Bloodwood Tallwood
203	Broad-leaved Apple Open Forest		129	No Equiv	No Equiv	No Equiv	EF201a	48 (in part)	No Equiv	No Equiv	see sep. sheet	No Equiv	122	Rough-barked Apples
204	Scribbly Gum / Pink Bloodwood Open Forest		119	No Equiv	No Equiv	3009	EF235c	55	No Equiv	3	see sep. sheet	No Equiv	65	Heathy Scribbly Gum Forest
205	Sydney Blue Gum Open Forest		46	No Equiv	No Equiv	3008 (in part)	EF011a	3	esal	2	see sep. sheet	33 / 34	104	Northern Wet Tallwood - Blue Gum
206	Flooded Gum Open Forest		48	No Equiv	No Equiv	3004	EF010a	27	egran	2 / 20 (in part)	see sep. sheet	33 / 34	26	Coastal Flooded Gum

Codes and Classification		Equivalent and Similar Map Units from Other Studies												
Vegetation Code	Vegetation Type	Wilson (1986) Stotts Is.	NSW State Forests (Research Note No. 17) - Forest Type	Floyd (1990) Sub-alliance	Pressey & Griffith (1992) Communities	NPWS Coastal Map Codes (Griffith 1993)	Hager & Benson (1994) Association	NRAC (NPWS 1995)	AKF Codes (Phillips & Callaghan 1996)	GCCC Codes (Kingston et al. 1998)	Caldera Environ. Centre (Murray & James 1998)	Byron Shire Codes (Landmark et al. 1999)	CRA Forest Ecosystem (NPWS 1999)	CRA Forest Ecosystem Comments
Vegcode	Vegtype	WIL86	RN17	FLOYD90	P&G92	GRIFF93	H&B94	NRAC95	AKF96	GCCC98	CEC98	BYRON99	CRA_FE99	CRA99DESC
207	Brush Box Open Forest		53	No Equiv	No Equiv	3002	EF001a	No Equiv	lop	2	see sep. sheet	18 / 21 / 22 / 23 / 33 / 34	103	Northern Wet Brushbox
208	Tallowood Open Forest		45 / 47	No Equiv	No Equiv	3007 / 3508	EF165a	89	No Equiv	No Equiv	see sep. sheet	No Equiv	102	Northern Ranges Dry Tallowood
211	Turpentine +/- Pink Bloodwood Open Forest		49	No Equiv	No Equiv	3546 (in part)	EF003a	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	147	Turpentine
212	Swamp Box Open Forest		No Equiv	No Equiv	F5 (in part)	3543 / 3003	EF002a	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	112	Paperbark
213	New England Blackbutt Open Forest		163								see sep. sheet		148	Very Wet New England Blackbutt-Tallowood
301	Coastal Pink Bloodwood Open Forest to Woodland		119 (in part)	No Equiv	F5 (in part)	3005 / 3528 and 3533 (in part)	EF330a	72	No Equiv	39 (in part)	see sep. sheet	44	23	Coast Range Bloodwood - Mahogany (in part)
302	Coastal Pink Bloodwood / Brush Box Open Forest to Woodland		53 (in part)	No Equiv	F5 (in part)	3016	EF330a (in part)	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	106	Open Coastal Brushbox
303	Coastal Brush Box Open Forest to Woodland		53	No Equiv	F2	3002	EF001a	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	106	Open Coastal Brushbox
304	Coastal Forest Red Gum Open Forest to Woodland		92	No Equiv	F5	3512	EF050a	80	abceT / abceTb / abeT / cfeter	6 / 8 (in part) / 20 (in part)	see sep. sheet	43	73	Lowland Red Gum
305	Coastal Swamp Mahogany Open Forest to Woodland		30	No Equiv	F7	4002	EF099a	52	c / cfb / cfemic / cferob / cferoblconb / cflcon	25 (in part)	see sep. sheet	63	142	Swamp Mahogany
306	Coastal Scribbly Gum Open Forest to Woodland		117	No Equiv	F6	3516	EF235a	47	cfesigb / cfesigerob / d	3	see sep. sheet	42 (in part)	74	Lowlands Scribbly Gum
307	Coastal Blackbutt Open Forest to Woodland		36 (Moist) / 37 (Dry)	No Equiv	F3	3006 / 3504	EF145a	44	No Equiv	No Equiv	see sep. sheet	No Equiv	37	Dry Heathy Blackbutt - Bloodwood
308	Coastal Tallowood Open Forest to Woodland		45	No Equiv	No Equiv	3508	EF165a	89	No Equiv	No Equiv	see sep. sheet	No Equiv	146	Tallowood
309	Coastal Swamp Box Open Forest to Woodland		No Equiv	No Equiv	F5 (in part)	3003 / 3543	EF002a	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	112	Paperbark
310	Banksia Dry Sclerophyll Open Forest to Shrubland		107	No Equiv	<i>Banksia integrifolia</i> var. <i>integrifolia</i> (Fore-dune vegetation)	3523	QF120a ?(B. integ.)	75	bank	25	see sep. sheet	44 / 84 (in part)	5	Banksia
311	Coastal Acacia Communities		214	No Equiv	No Equiv	3547	ND	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	151	Wattle
312	Black She-oak Low Open Forest to Woodland		No Equiv	No Equiv	No Equiv	3513	QF101a	10	No Equiv	No Equiv	see sep. sheet	No Equiv	18	Casuarina Woodland

Codes and Classification		Equivalent and Similar Map Units from Other Studies												
Vegetation Code	Vegetation Type	Wilson (1986) Stotts Is.	NSW State Forests (Research Note No. 17) - Forest Type	Floyd (1990) Sub-alliance	Pressey & Griffith (1992) Communities	NPWS Coastal Map Codes (Griffith 1993)	Hager & Benson (1994) Association	NRAC (NPWS 1995)	AKF Codes (Phillips & Callaghan 1996)	GCCC Codes (Kingston et al. 1998)	Caldera Environ. Centre (Murray & James 1998)	Byron Shire Codes (Landmark et al. 1999)	CRA Forest Ecosystem (NPWS 1999)	CRA Forest Ecosystem Comments
Vegcode	Vegtype	WIL86	RN17	FLOYD90	P&G92	GRIFF93	H&B94	NRAC95	AKF96	GCCC98	CEC98	BYRON99	CRA_FE99	CRA99DESC
313	Cypress Pine Open Forest to Woodland		215	No Equiv	F4	3502	QF141a	No Equiv	call	3 (in part)	see sep. sheet	45	22	Coast Cypress Pine
401	Broad-leaved Paperbark Closed Forest to Woodland	TPS/DPS	31	No Equiv	F8	4003 / 5506	WT002a	20	a	9	see sep. sheet	61 (in part)	112	Paperbark
402	Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland		31	No Equiv	F8	4099	WT002b	50	ae	15	see sep. sheet	61 (in part)	112	Paperbark
403	Broad-leaved Paperbark + Eucalyptus spp.+/- Swamp Box Closed Forest to Woodland		31 (in part)	No Equiv	F8	4013 / 4098	No Equiv	No Equiv	ab / abcde / abce / abe / ace / aceter / acetera / b	8	see sep. sheet	No Equiv	112	Paperbark
601	Swamp She-oak Closed Forest to Woodland	CGF	32	No Equiv	F10	4005	WTF001b	26	e	16	see sep. sheet	62	143	Swamp Oak
501	Dry Heathland to Shrubland		223	No Equiv	Sh / H1	5402 / 5410 / 5409 / 5803 / 5902	ND	No Equiv	dhe	25 (in part)	see sep. sheet	No Equiv	64	Heath
502	Wet Heathland to Shrubland		223	No Equiv	H2	6002 / 5504 / 6004	ND	No Equiv	whe	25	see sep. sheet	No Equiv	64	Heath
503	Montane Heathland/Scrub		224 / 26 (on ridges)								see sep. sheet		169	Scrub
602	Mangrove Low Closed Forest to Woodland		33	No Equiv	M	2502	WTF300b, WTF301a, WTF303b, WTF304a	No Equiv	mang	22 / 18	see sep. sheet	91 / 92	77	Mangrove
603	Saltmarsh Communities		No Equiv	No Equiv	S1 / S2 / S3	6102	ND	No Equiv	saltm	No Equiv	see sep. sheet	No Equiv	77	No Equiv
701	Sedgeland / Rushland (Murray & James 1998 Study Area Only)		231 (in part)	No Equiv	E1 / E2 / Lepironia articulata / Phragmites australis / Typha orientalis / Baumea teretifolia, Chorizandra sphaerocephala, Leptocarpus tenax, Restio pallens and Schoenus brevifolius	6404 / 6413 / 6405 / 6403 / 6503 / 6504	ND	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	141	Swamp
702	Fernland / Forbland (Murray & James 1998 Study Area Only)		231 (in part)	No Equiv	E3 (in part)	6602 / 6702	ND	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	141	Swamp
703	Freshwater Wetlands	LS/RS	231	No Equiv	No Equiv	No Equiv	ND	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	141	Swamp

Codes and Classification		Equivalent and Similar Map Units from Other Studies												
Vegetation Code	Vegetation Type	Wilson (1986) Stotts Is.	NSW State Forests (Research Note No. 17) - Forest Type	Floyd (1990) Sub-alliance	Pressey & Griffith (1992) Communities	NPWS Coastal Map Codes (Griffith 1993)	Hager & Benson (1994) Association	NRAC (NPWS 1995)	AKF Codes (Phillips & Callaghan 1996)	GCCC Codes (Kingston et al. 1998)	Caldera Environ. Centre (Murray & James 1998)	Byron Shire Codes (Landmark et al. 1999)	CRA Forest Ecosystem (NPWS 1999)	CRA Forest Ecosystem Comments
Vegcode	Vegtype	WIL86	RN17	FLOYD90	P&G92	GRIFF93	H&B94	NRAC95	AKF96	GCCC98	CEC98	BYRON99	CRA_FE99	CRA99DESC
801	Foredune Complex		233	No Equiv	<i>Spinifex sericeus</i> / <i>Acacia longifolia</i> var. <i>sophorae</i> / <i>Banksia integrifolia</i> var. <i>integrifolia</i> and associates	6202 / 9010	ND	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	172	Sand Ridges
901	Rock Faces		234	No Equiv	No Equiv	9103	No Equiv	No Equiv	No Equiv	35	see sep. sheet	No Equiv	No Equiv	No Equiv
903	Open Water		235	No Equiv	No Equiv	9104	No Equiv	No Equiv	water	No Equiv	see sep. sheet	No Equiv	171	Water Surfaces
998	Not Assessed		NA	NA	NA	NA	NA	NA	NA	NA	see sep. sheet	NA	No Equiv	NA
999	Remnant Vegetation Outside LGA		NA	NA	NA	NA	NA	NA	NA	NA	see sep. sheet	NA	No Equiv	NA
902	Native Grasslands (Murray & James 1998 Study Area Only)		230	No Equiv	No Equiv	6204, 4003, 6203	No Equiv	No Equiv	No Equiv	999	see sep. sheet	N	No Equiv	No Equiv
1001	Mowed Heathland (Murray & James 1998 Study Area Only)		223	No Equiv	No Equiv	No Equiv	ND	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	No Equiv	No Equiv
1002	Early Regrowth Rainforest		221 (in part)	No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	banreg (part)	34 (in part)	see sep. sheet	52 (in part)	168	Rainforest
1003	Acacia / Other Sclerophyll Regrowth Open Forest to Woodland		No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	151	Wattle
1004	Camphor Laurel Dominant Closed to Open Forest		221 (in part)	No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	acinn / cinn / cinnhoop	34	see sep. sheet	16 / 17 / 18 / 22	201	Camphor Laurel
1005	Native Plantation		218	No Equiv	No Equiv	9210	No Equiv	No Equiv	eucpl	37	see sep. sheet	No Equiv	165	Forestry Plantations
1006	Exotic Plantation		218	No Equiv	No Equiv	9210	No Equiv	No Equiv	pin	19	see sep. sheet	No Equiv	165	Forestry Plantations
1007	Urban Bushland		219	No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	No Equiv	No Equiv
1008	Post-mining Regeneration		219	No Equiv	No Equiv	9204, 3527, 5408, 5411	No Equiv	No Equiv	No Equiv	No Equiv	see sep. sheet	No Equiv	167	Introduced Scrub
1099	Substantially Cleared of Native Vegetation		220 / 216 / 217	No Equiv	No Equiv	9203	No Equiv	No Equiv	clear	No Equiv	see sep. sheet	No Equiv	173	Cleared - Partially Cleared

Wilson et al. (1986) Vegetation Type	
Mapping of Stotts Is. Nature Reserve. Unpublished mapping 1986.	
Code	Vegetation Type
LS	Lilly Swamp
RS	Reed Swamp
TPS	True Paperbark Swamp
DPS	Depauperate Paperbark Swamp
CGF	<i>Casuarina glauca</i> Forest
VT	Vine Thicket
TFSF	Tall Fringing Sub-tropical Rainforest
PRHP1	Palm Rainforest with Hoop Pine (5 - 40%)
PRHP2	Palm Rainforest with Hoop Pine (2 - 5%)
PR	Palm Rainforest

NSW State Forests - Forest Types		
Forestry Commission of NSW 1989. Forest Types in New South Wales: Research Note 17. Forestry Commission of New South Wales. Sydney 1989.		
Type No	Vegetation Type	League
A. RAINFOREST GROUP		
1	Booyong	(a) Subtropical Rainforest league
2	Yellow Carabeen	(a) Subtropical Rainforest league
3	Corkwood-Sassafras- Crabapple-Silver Sycamore	(a) Subtropical Rainforest league
4	Black Bean	(a) Subtropical Rainforest league
5	Booyong-Coachwood	(a) Subtropical Rainforest league
6	Fig-Giant Stinger	(a) Subtropical Rainforest league
7	Palm	(a) Subtropical Rainforest league
10	Coachwood	(b) Warm Temperate Rainforest league
11	Coachwood-Crabapple	(b) Warm Temperate Rainforest league
12	Coachwood-Sassafras	(b) Warm Temperate Rainforest league
13	Water Gum-Coachwood	(b) Warm Temperate Rainforest league
14	Lilly Pilly	(b) Warm Temperate Rainforest league
15	Sassafras	(b) Warm Temperate Rainforest league
16	Negrohead Beech	(c) Cool Temperate Rainforest league
17	Negrohead Beech- Coachwood	(c) Cool Temperate Rainforest league
18	Pinkwood	(c) Cool Temperate Rainforest league
19	Mountain Quandong	(c) Cool Temperate Rainforest league
20	Mountain Walnut	(c) Cool Temperate Rainforest league
21	Hoop Pine	(d) Dry and Depauperate Rainforest league
22	Yellow Tulipwood	(d) Dry and Depauperate Rainforest league
23	Myrtle	(d) Dry and Depauperate Rainforest league
24	Tuckeroo	(d) Dry and Depauperate Rainforest league
25	Headland Brush Box	(d) Dry and Depauperate Rainforest league
26	Viney Scrub	(d) Dry and Depauperate Rainforest league
B. EUCALYPT AND RELATED GROUP		
30	Swamp Mahogany	(a) Maritime league
31	Paperbark	(a) Maritime league
32	Swamp Oak	(a) Maritime league
33	Mangrove	(a) Maritime league
36	Moist Blackbutt	(b) Blackbutt league
37	Dry Blackbutt	(b) Blackbutt league
38	Largefruited Blackbutt	(b) Blackbutt league
39	Blackbutt-Spotted Gum	(b) Blackbutt league
40	Blackbutt-Scribbly Gum	(b) Blackbutt league
41	Blackbutt-Bloodwood/ Apple	(b) Blackbutt league
42	Blackbutt-Sydney Peppermint-Smooth-barked Apple	(b) Blackbutt league
45	Tallowwood	(c) Sydney Blue Gum/Bangalay league
46	Sydney Blue Gum	(c) Sydney Blue Gum/Bangalay league
47	Tallowwood-Sydney Blue Gum	(f) Grey Box-Ironbark league
48	Flooded Gum	(f) Grey Box-Ironbark league
49	Turpentine	(f) Grey Box-Ironbark league
50	Bangalay	(f) Grey Box-Ironbark league
51	Dunn's White Gum	(f) Grey Box-Ironbark league
52	Roundleaved Gum-Turpentine	(f) Grey Box-Ironbark league
53	Brush Box	(f) Grey Box-Ironbark league
54	Whitetopped Box	(f) Grey Box-Ironbark league
60	Narrowleaved White Mahogany-Red Mahogany-Grey	(d) Grey Gum-Grey Ironbark league
61	Broadleaved White Mahogany	(d) Grey Gum-Grey Ironbark league

Type No	Vegetation Type	League
62	Grey Gum-Grey Iron-bark-White Mahogany	(d) Grey Gum-Grey Ironbark league
63	Woollybutt	(d) Grey Gum-Grey Ironbark league
64	Grey Gum-Stringybark	(d) Grey Gum-Grey Ironbark league
65	Forest Red Gum-Grey Gum/Grey Ironbark-Roughba	(c) Sydney Blue Gum/Bangalay league
66	Grey Ironbark-Stringybark	(c) Sydney Blue Gum/Bangalay league
67	Grey Gum-Ironbark	(c) Sydney Blue Gum/Bangalay league
68	Red Mahogany	(c) Sydney Blue Gum/Bangalay league
70	Spotted Gum	(e) Spotted Gum league
71	Richmond Range Spotted Gum	(e) Spotted Gum league
72	Spotted Gum-Grey Box	(e) Spotted Gum league
73	Spotted Gum-Sydney Blue Gum/Bangalay	(e) Spotted Gum league
74	Spotted Gum-Ironbark/ Grey Gum	(e) Spotted Gum league
75	Spotted Gum-Yellow/White Stringybark	(e) Spotted Gum league
76	Spotted Gum-Blackbutt	(e) Spotted Gum league
80	Grey Ironbark-Grey Box	(f) Grey Box-Ironbark league
81	Grey Box-Northern	(f) Grey Box-Ironbark league
82	Grey Box	(d) Grey Gum-Grey Ironbark league
83	Grey Box-Ironbark (not Grey)	(d) Grey Gum-Grey Ironbark league
84	Ironbark	(d) Grey Gum-Grey Ironbark league
85	(Coastal) Grey Box-Forest Red Gum	(d) Grey Gum-Grey Ironbark league
86	Coastal Grey Box-Woollybutt	(d) Grey Gum-Grey Ironbark league
87	Steel Box/Craven Grey Box	(d) Grey Gum-Grey Ironbark league
88	Gum-Box-Stringybark	(d) Grey Gum-Grey Ironbark league
92	Forest Red Gum	(g) Red Gum league
93	Eastern Red Gums	(g) Red Gum league
97	Needlebark Stringybark	(h) Scribbly Gum-Stringybark-Silvertop Ash league
98	Dorrigo White Gum	(h) Scribbly Gum-Stringybark-Silvertop Ash league
99	Red Box	(h) Scribbly Gum-Stringybark-Silvertop Ash league
100	Yellow Bloodwood	(h) Scribbly Gum-Stringybark-Silvertop Ash league
101	Blue Mountain Ash	(h) Scribbly Gum-Stringybark-Silvertop Ash league
102	Yertchuk	(h) Scribbly Gum-Stringybark-Silvertop Ash league
103	Apple Box	(h) Scribbly Gum-Stringybark-Silvertop Ash league
104	Longleaved Box	(h) Scribbly Gum-Stringybark-Silvertop Ash league
105	Smoothbarked Apple	(h) Scribbly Gum-Stringybark-Silvertop Ash league
106	Smoothbarked Apple-Sydney Peppermint-Stringybark	(h) Scribbly Gum-Stringybark-Silvertop Ash league
107	Banksia	(h) Scribbly Gum-Stringybark-Silvertop Ash league
108	Bangalay-Banksia	(h) Scribbly Gum-Stringybark-Silvertop Ash league
109	Brittle Gum	(h) Scribbly Gum-Stringybark-Silvertop Ash league
110	Brittle Gum-Peppermint	(h) Scribbly Gum-Stringybark-Silvertop Ash league
111	Peppermint	(h) Scribbly Gum-Stringybark-Silvertop Ash league
112	Silvertop Ash	(h) Scribbly Gum-Stringybark-Silvertop Ash league
113	Silvertop Ash-Peppermint	(h) Scribbly Gum-Stringybark-Silvertop Ash league
114	Silvertop Ash-Stringybark	(h) Scribbly Gum-Stringybark-Silvertop Ash league
115	Sydney Peppermint-Stringybark	(h) Scribbly Gum-Stringybark-Silvertop Ash league
116	Sydney Peppermint-Turpentine/Bloodwood	(h) Scribbly Gum-Stringybark-Silvertop Ash league
117	Scribbly Gum	(h) Scribbly Gum-Stringybark-Silvertop Ash league
118	Scribbly Gum-Silvertop Ash	(h) Scribbly Gum-Stringybark-Silvertop Ash league
119	Scribbly Gum-Bloodwood	(h) Scribbly Gum-Stringybark-Silvertop Ash league
120	Scribbly Gum/Brittle Gum-Snow Gum	(h) Scribbly Gum-Stringybark-Silvertop Ash league
121	Blueleaved Stringybark	(h) Scribbly Gum-Stringybark-Silvertop Ash league
122	New England 1 Stringybark	(h) Scribbly Gum-Stringybark-Silvertop Ash league
123	Coastal Stringybark	(h) Scribbly Gum-Stringybark-Silvertop Ash league
124	Red Stringybark	(h) Scribbly Gum-Stringybark-Silvertop Ash league

Type No	Vegetation Type	League
125	Red Stringybark-Scribbly Gum/Brittle Gum	(h) Scribbly Gum-Stringybark-Silvertop Ash league
126	Stringybark-Bloodwood	(h) Scribbly Gum-Stringybark-Silvertop Ash league
127	Stringybark-Smoothbarked Apple	(h) Scribbly Gum-Stringybark-Silvertop Ash league
128	Sydney Peppermint	(h) Scribbly Gum-Stringybark-Silvertop Ash league
129	Rough-barked Apples	(h) Scribbly Gum-Stringybark-Silvertop Ash league
130	Red Bloodwood	(h) Scribbly Gum-Stringybark-Silvertop Ash league
131	Peppermint-Mountain/Manna Gum	(h) Scribbly Gum-Stringybark-Silvertop Ash league
136	Snow Gum-Black	(i) Snow Gum league
137	Black Sallee	(i) Snow Gum league
138	Snow Gum	(i) Snow Gum league
139	Alpine Snow Gum	(i) Snow Gum league
140	Snow Gum-Mountain/ Manna Gum	(i) Snow Gum league
141	Candlebark	(i) Snow Gum league
142	New England Peppermint	(i) Snow Gum league
143	Swamp Gum/Black Gum/ Broadleaved Sallee	(i) Snow Gum league
147	Alpine Ash	(j) Alpine Ash league
148	Alpine Ash-Mountain/ Manna Gum	(j) Alpine Ash league
150	Messmate	(k) Messmate-Brown Barrel league
151	Brown Barrel-Messmate	(k) Messmate-Brown Barrel league
152	Messmate-Gum	(k) Messmate-Brown Barrel league
153	Messmate-Silvertop Stringybark	(k) Messmate-Brown Barrel league
154	Brown Barrel	(k) Messmate-Brown Barrel league
155	Brown Barrel-Gum	(k) Messmate-Brown Barrel league
156	Brown Barrel/Messmate-Ash	(k) Messmate-Brown Barrel league
157	Yellow Stringybark-Gum	(k) Messmate-Brown Barrel league
158	Southern Blue Gum	(k) Messmate-Brown Barrel league
159	Mountain/Manna Gum	(k) Messmate-Brown Barrel league
160	Manna Gum-Stringybark	(k) Messmate-Brown Barrel league
161	Roundleaved Gum	(k) Messmate-Brown Barrel league
162	White Ash	(k) Messmate-Brown Barrel league
163	New England Blackbutt	(k) Messmate-Brown Barrel league
164	Eurabbie	(k) Messmate-Brown Barrel league
165	Gully Peppermint	(k) Messmate-Brown Barrel league
166	River Peppermint	(k) Messmate-Brown Barrel league
167	Silvertop Stringybark	(k) Messmate-Brown Barrel league
168	Silvertop Stringybark-Gum	(k) Messmate-Brown Barrel league
169	Yellow Stringybark	(k) Messmate-Brown Barrel league
171	Yellow Box	(l) Yellow Box-White Box-Red Gum league
172	Yellow Box-Blakely's Red Gum	(l) Yellow Box-White Box-Red Gum league
174	White Box-Western Boxes	173 Yellow Box-White Box
175	White Box	173 Yellow Box-White Box
176	White Box~Stringybark	173 Yellow Box-White Box
177	Red Gum-Stringybark	173 Yellow Box-White Box
178	Western Red Gums	173 Yellow Box-White Box
180	Black Cypress Pine	(m) Black Cypress Pine league
181	Black Cypress Pine-Ironbark	(m) Black Cypress Pine league
182	Black Cypress Pine- Box	(i) Snow Gum league
183	Black Cypress Pine- Red Gum	(i) Snow Gum league
184	Black Cypress Pine- Scribbly Gum	(i) Snow Gum league
185	Black Cypress Pine- White Cypress Pine	(j) Alpine Ash league
188	White Cypress Pine	(n) White Cypress Pine league
189	White Cypress Pine-Narrowleaved Ironbark	(n) White Cypress Pine league
190	White Cypress Pine-Brown Bloodwood	(n) White Cypress Pine league

Type No	Vegetation Type	League
191	White Cypress Pine-Western Ironbarks	(n) White Cypress Pine league
192	White Cypress Pine-Red Gum	(n) White Cypress Pine league
193	White Cypress Pine-Box	(n) White Cypress Pine league
194	White Cypress Pine-Black Cypress Pine	(n) White Cypress Pine league
195	White Cypress Pine-Hillside Red Gum	(n) White Cypress Pine league
199	River Red Gum	(o) River Red Gum league
200	River Red Gum-Box/Coolabah	(o) River Red Gum league
202	Black Box/Coolabah	(p) Western Box-Ironbark
203	Western Box	(p) Western Box-Ironbark
204	Ironbark-Western Box	(p) Western Box-Ironbark
205	Ironbark-Red Gum	(p) Western Box-Ironbark
206	Red Ironbark	(p) Western Box-Ironbark
207	Silverleaved Ironbark	(p) Western Box-Ironbark
208	Narrowleaved Ironbark-Bull Oak	(p) Western Box-Ironbark
209	Brown Bloodwood-Ironbark/Red Gum	(p) Western Box-Ironbark
210	Red Ironbark-Stringybark	(p) Western Box-Ironbark
211	River Oak	(q) Non-Eucalypt league
212	Belah	(q) Non-Eucalypt league
213	Bull Oak	(q) Non-Eucalypt league
214	Wattle	(q) Non-Eucalypt league
215	Coast Cypress Pine	(q) Non-Eucalypt league
C. NON-FOREST AND ARTIFICIAL GROUP		
216	Improved Pasture and Cropland	(a) Artificial communities
217	Agricultural Plantations, Orchards and Vineyards	(a) Artificial communities
218	Forestry Plantations	(a) Artificial communities
219	Settlements, Roads Gravel Pits, etc.	(a) Artificial communities
220	Cleared/Partially Cleared	(a) Artificial communities
221	Introduced Scrub	(a) Artificial communities
223	Heath	(b) Shrub-Dominant communities
224	Scrub	(b) Shrub-Dominant communities
225	Mallee	(b) Shrub-Dominant communities
226	Saltbush	(b) Shrub-Dominant communities
227	Grass Tree	(b) Shrub-Dominant communities
230	Natural Grassland	(c) Herb-Dominant communities
231	Swamp	(c) Herb-Dominant communities
232	Herbfield and Fjaeldmark	(c) Herb-Dominant communities
233	Sand Ridge	(d) Sites with vegetation largely absent
234	Rock	(d) Sites with vegetation largely absent
235	Water Surfaces	(d) Sites with vegetation largely absent

Rainforest Sub-alliances (Floyd 1990)	
Floyd, A. 1990. Australian Rainforests in New South Wales. Volume 1 & 2. Surrey Beatty & Sons, Pty. Ltd., Sydney.	
Code	Description
	Sub-tropical Rainforest
	<i>Argyrodendron trifoliolatum</i> Alliance
1	<i>Argyrodendron trifoliolatum</i>
2	<i>Toona - Flindersia</i> spp.
3	<i>Cryptocarya obovata - Dendrocnide excelsa - Ficus</i> spp. - <i>Araucaria</i>
5	<i>Castanospermum - Dysoxylum muelleri</i>
6	<i>Archontophoenix - Livistona</i>
	<i>Argyrodendron actinophyllum</i> Alliance
7	<i>Argyrodendron actinophyllum</i>
9	<i>A. actinophyllum - Dysoxylum muelleri - Syzygium francisii</i>
	<i>Caldcluvia</i> Alliance
11	<i>Caldcluvia - Cryptocarya erythroxyton - Orites - Melicope octandra - Acmena</i>
	<i>Cupaniopsis anacardioides - Acmena</i> spp. Alliance
16	<i>Syzygium luehmannii - Acmena hemilampra</i>
17	<i>Cupaniopsis anacardioides</i>
	Dry Rainforest
	<i>Drypetes australisica - Araucaria</i> Alliance
21	<i>Araucaria cunninghamii</i>
	<i>Castanospermum - Waterhousea floribunda</i> Alliance
26	<i>Waterhousea floribunda - Tristaniopsis laurina</i>
	<i>Choricarpa - Backhousia</i> spp. Alliance
29	<i>Backhousia myrtifolia - Lophostemon confertus - Tristaniopsis</i>
	Warm Temperate Rainforest
	<i>Ceratopetalum apetalum</i> Alliance
33	<i>Ceratopetalum / Schizomeria - Argyrodendron / Sloanea</i>
35	<i>Ceratopetalum - Doryphora</i>
	<i>Doryphora sassafras</i> Alliance
39	<i>Schizomeria - Doryphora - Caldcluvia - Orites</i>

Coastal Lowlands Plant Communities (Pressey & Griffith 1992)

Pressey, R.L. and Griffith, S.J. 1992. Vegetation of the Coastal Lowlands of Tweed Shire, Northern New South Wales: Plant Communities, Species and Conservation . Proc. Linn. Soc. N.S.W., 113 (3), p 203-243.

Code	Description
E1	<i>Baumea rubignosa</i> tall closed sedgeland
E2	<i>Eleocharis equisetina</i> tall closed sedgeland
E3	<i>Triglochin procera</i> tall forbland to tall open forbland
F1	Littoral rainforest (low to tall simple notophyll-microphyll forest)
F2	<i>Lophostemon confertus</i> tall to very tall closed forest (grading into mallee forest)
F3	<i>Eucalyptus pilularis</i> very tall open forest
F4	<i>Callitris columellaris</i> tall open to closed forest
F5	<i>Eucalyptus tereticornis</i> - <i>Corymbia intermedia</i> - <i>Lophostemon suaveolens</i> tall to very tall open forest
F6	<i>Eucalyptus (signata) racemosa</i> mid-high to tall open forest and woodland
F7	<i>Eucalyptus robusta</i> mid-high to very tall open forest (grading into mallee forest and woodland)
F8	<i>Melaleuca quinquenervia</i> tall to very tall open to closed forest
F9	<i>Archontophoenix cunninghamiana</i> - <i>Melaleuca quinquenervia</i> very tall feather palm swamp forest
F10	<i>Casuarina glauca</i> tall to very tall open to closed forest
Sh	<i>Banksia aemula</i> very tall (dry) shrubland to open shrubland
H1	<i>Banksia aemula</i> mid-high to tall closed (dry) heathland
H2	<i>Banksia oblongifolia</i> - <i>Leptospermum liversidgei</i> - <i>Lepyrodia interrupta</i> - <i>sprengelia sprengelioides</i> - <i>Xanthorrhoea fulva</i> mid-high to tall closed (wet) heathland
M	
S1	<i>Sporobolus virginicus</i> - <i>Sarcocornia quinqueflora</i> dwarf to mid-high closed tussock grassland/chenopod shrubland
S2	<i>Juncus kraussii</i> tall to very tall closed rushland
S3	<i>Baumea juncea</i> tall to very tall closed sedgeland

NPWS Coastal Map Code Equivalent (Griffith 1993)	
Griffith, S. (1993). Conservation Status of Coastal Plant Communities in Northern N.S.W. - A Review. NSW National Parks and Wildlife Service. July 1993.	
Code	Description
	FOREST AND WOODLAND
	Sub-tropical Rainforest
0002	<i>Livistona australis</i> - <i>Archontophoenix cunninghamiana</i>
0004	<i>Archontophoenix cunninghamiana</i>
	Littoral Rainforest
0502	<i>Cupaniopsis anacardioides</i>
	Dry Rainforest
1002	<i>Ficus rubignosa</i>
	Mangrove Forest and Woodland
2502	<i>Avicennia marina</i> var. <i>australasica</i>
	Wet Sclerophyll Forest
3002	<i>Lophostemon confertus</i>
3003	<i>Lophostemon suaveolens</i>
3004	<i>Eucalyptus grandis</i>
3005	<i>Corymbia intermedia</i>
3006	<i>Eucalyptus pilularis</i>
3007	<i>Eucalyptus microcorys</i>
3008	<i>Eucalyptus saligna</i> - <i>Eucalyptus microcorys</i>
3009	<i>Eucalyptus racemosa</i> (<i>signata</i>) - <i>Corymbia intermedia</i>
3016	<i>Lophostemon confertus</i> - <i>Corymbia intermedia</i>
	Dry Sclerophyll Forest and Woodland
3502	<i>Callitris columellaris</i>
3504	<i>Eucalyptus pilularis</i>
3508	<i>Eucalyptus microcorys</i>
3509	<i>Eucalyptus siderophloia</i> - <i>E. acmenoides</i> / <i>E. carnea</i> - <i>E. tereticornis</i>
3512	<i>Eucalyptus tereticornis</i>
3513	<i>Allocasuarina littoralis</i>
3516	<i>Eucalyptus racemosa</i> (<i>signata</i>)
3523	<i>Banksia integrifolia</i> var. <i>integrifolia</i>
3527	<i>Leptospermum laevigatum</i>
3528	<i>Corymbia intermedia</i>
3533	<i>Corymbia intermedia</i> - <i>Eucalyptus tereticornis</i>
3537	<i>Eucalyptus acmenoides</i>
3543	<i>Lophostemon suaveolens</i>
3546	<i>Syncarpia glomulifera</i> - <i>Eucalyptus resinifera</i> ssp. <i>Hemilampra</i>
3547	<i>Acacia aulacocarpa</i> var. <i>aulacocarpa</i>
	Swamp Sclerophyll Forest and Woodland
4002	<i>Eucalyptus robusta</i>
4003	<i>Melaleuca quinquenervia</i>
4005	<i>Casuarina glauca</i>
4013	<i>Melaleuca quinquenervia</i> - <i>Lophostemon suaveolens</i> / <i>Eucalyptus tereticornis</i>

Code	Description
4098	<i>Eucalyptus robusta</i> - <i>Melaleuca quinquenervia</i>
4099	<i>Melaleuca quinquenervia</i> - <i>Casuarina glauca</i>
	MALLEE FOREST AND WOODLAND
	Dry Sclerophyll Mallee Forest and Woodland
5402	<i>Banksia aemula</i>
5408	<i>Acacia sophorae</i>
5409	<i>Banksia integrifolia</i> var. <i>integrifolia</i> - <i>Allocasuarina littoralis</i> - <i>Themeda australis</i> (<i>triandra</i>)
5410	<i>Letospermum laevigatum</i>
5411	<i>Chrysanthemoides monilifera</i> ssp. <i>rotundata</i> - <i>Acacia sophorae</i>
	Swamp / Wet Sclerophyll Shrubland
5504	<i>Leptospermum juniperinum</i>
5506	<i>Melaleuca quinquenervia</i>
	HEATHLAND
	Dry Heathland
5803	<i>Banksia aemula</i> - <i>Allocasuarina littoralis</i>
	Graminoid Clay Heathland
5902	<i>Banksia oblongifolia</i> - <i>Allocasuarina littoralis</i> - <i>Aristida warburgii</i> - <i>Ptilanthelium deustum</i>
	Wet Heathland
6002	<i>Banksia oblongifolia</i> - <i>Leptospermum liversidgei</i> - <i>Lepyrodia interrupta</i> - <i>Sprengelia sprengelioides</i> - <i>Xanthorrhoea fulva</i>
6004	<i>Xanthorrhoea fulva</i>
	CHENOPOD SHRUBLAND
6102	<i>Sarcocornia quinqueflora</i> - <i>Sporobolus virginicus</i>
	TUSSOCK GRASSLAND
6202	<i>Spinifex sericeus</i>
6203	<i>Ischaemum australe</i>
6204	<i>Aristida warburgii</i> - <i>Eremochloa bimaclata</i> - <i>Schoenus brevifolius</i>
	SEDGELAND
6403	<i>Leptocarpus tenax</i> - <i>Restio pallens</i> - <i>Schoenus brevifolius</i>
6404	<i>Baumea rubignosa</i>
6405	<i>Lepironia articulata</i>
6413	<i>Eleocharis equisetina</i>
	RUSHLAND
6503	<i>Phragmites australis</i>
6504	<i>Typha orientalis</i>
	FORBLAND
6602	<i>Carex pumila</i> - <i>Phyla nodiflora</i>
	FERNLAND
6702	<i>Blechnum indicum</i>
	COMPLEX MAP UNITS
9010	<i>Foredune Complex</i>
	MISCELLANEOUS MAP UNITS
9103	<i>Rock</i> (includes sandrock)
9104	<i>Open Water</i>
9203	<i>Cleared</i>

Code	Description
9204	<i>Disturbance associated with past mining (includes quarries)</i>
9210	<i>Plantation</i>

Heritage Commission - Plant Community Codes (Hager & Benson 1994)	
Hager, T. & Benson, J.S. 1994. Review of the Conservation status of Vegetation Communities in New South Wales. Part 3 Forest Communities in North Eastern NSW. Final Report to the Australian Heritage Commission. NSW NPWS and Royal Botanic Gardens.	
Code	Description
EF001a	<i>Lophostemon confertus</i>
EF002a	<i>Lophostemon suaveolens</i>
EF003a	<i>Syncarpia glomulifera</i>
EF010a	<i>Eucalyptus grandis</i>
EF011a	<i>Eucalyptus saligna</i>
EF050a	<i>Eucalyptus tereticornis</i>
EF099a	<i>Eucalyptus robusta</i>
EF145a	<i>Eucalyptus pilularis</i>
EF165a	<i>Eucalyptus microcorys</i>
EF201a	<i>Angophora subvelutina</i>
EF235a	<i>Eucalyptus racemosa (signata)</i>
EF235c	<i>Eucalyptus racemosa (signata) - Corymbia intermedia</i>
EF330a	<i>Corymbia intermedia</i>
EF600a	<i>Eucalyptus siderophloia</i>
QF100a	<i>Casuarina cunninghamiana</i>
QF101a	<i>Allocasuarina littoralis</i>
QF120a	<i>Banksia integrifolia</i>
QF141a	<i>Callitris columellaris</i>
RF100	<i>Heritiera trifoliata (Argyrodendron trifoliolatum)</i>
RF101	<i>Toona australis - Flindersia spp.</i>
RF102	<i>Cryptocarya obovata - Dendrocnide excelsa - Ficus spp. - Araucaria cunninghamii</i>
RF104	<i>Castanospermum australe - Dysoxylum muelleri</i>
RF105	<i>Archontophoenix cunninghamiana - Livistona australis</i>
RF106	<i>Heritiera actinophylla (Argyrodendron actinophyllum)</i>
RF108	<i>H. actinophylla (A. actinophyllum) - Dysoxylum muelleri - Syzygium francisii</i>
RF110	<i>Caldcluvia paniculata - Cryptocarya erythroxylon - Orites excelsa - Melicope octandra - Acmena brachyandra (A. ingens)</i>
RF115	<i>Syzygium luehmannii - Acmena hemilampra</i>
RF116	<i>Cupaniopsis anacardioides</i>
RF200	<i>Araucaria cunninghamii</i>
RF205	<i>Waterhousea floribunda - Tristaniopsis laurina</i>
RF208	<i>Backhousia myrtifolia - Lophostemon confertus - Tristaniopsis laurina</i>
RF300	<i>Ceratopetalum apetalum - Schizomeria ovata - Heritiera actinophylla (Argyrodendron actinophyllum) - Sloanea woolsii</i>
RF302	<i>Ceratopetalum apetalum - Schizomeria ovata - Caldcluvia paniculata</i>
RF306	<i>Schizomeria ovata - Doryphora sassafras - Caldcluvia -paniculata - Orites excelsa</i>
WT002a	<i>Melaleuca quinquenervia</i>
WT002b	<i>Melaleuca quinquenervia - Casuarina glauca</i>
WTF001b	<i>Casuarina glauca - Juncus spp.</i>
WTF300b	<i>Bruguiera gymnorhiza - Avicennia marina</i>
WTF301a	<i>Rhizophora stylosa</i>
WTF303b	<i>Aegiceras corniculatum - Avicennia marina</i>

Heritage Commission - Plant Community Codes (Hager & Benson 1994)

Hager, T. & Benson, J.S. 1994. Review of the Conservation status of Vegetation Communities in New South Wales. Part 3 Forest Communities in North Eastern NSW. Final Report to the Australian Heritage Commission. NSW NPWS and Royal Botanic Gardens.

Code	Description
WTF304a	<i>Avicennia marina</i>

Natural Resources Audit Council Vegetation Codes (NPWS 1995)

Vegetation survey and mapping of upper northeast New South Wales for the Natural Resources Audit Council. NSW NPWS Sydney.

Code	Description
1	<i>Eucalyptus tereticornis</i> - <i>Corymbia intermedia</i> - <i>E. siderophloia</i>
2	<i>Eucalyptus pilularis</i>
3	<i>Eucalyptus saligna</i> - <i>E. microcorys</i>
10	<i>Allocasuarina littoralis</i>
12	<i>Eucalyptus siderophloia</i> - <i>E. carnea</i>
20	<i>Melaleuca quinquenervia</i>
26	<i>Casuarina glauca</i>
27	<i>Eucalyptus grandis</i>
44	<i>Eucalyptus pilularis</i> - <i>E. intermedia</i>
47	<i>Eucalyptus racemosa</i> (<i>signata</i>)
48	<i>Angophora subvelutina</i> - <i>Corymbia intermedia</i>
50	<i>Melaleuca quinquenervia</i> - <i>Casuarina glauca</i>
52	<i>Eucalyptus robusta</i>
55	<i>Eucalyptus racemosa</i> (<i>signata</i>) - <i>Corymbia gummifera</i>
56	<i>Eucalyptus siderophloia</i>
58	<i>Casuarina cunninghamiana</i>
67	<i>Eucalyptus propinqua</i> - <i>E. siderophloia</i>
71	<i>Corymbia intermedia</i> - <i>E. microcorys</i> - <i>E. acmenoides</i>
72	<i>Corymbia intermedia</i>
75	<i>Banksia integrifolia</i> ssp. <i>integrifolia</i>
80	<i>Eucalyptus tereticornis</i>
89	<i>Eucalyptus microcorys</i>

AKF - Vegetation Codes

Phillips, S., Callaghan, J.1996. Koala Habitat Atlas, Project No. 4: Tweed Coast. The Australian Koala Foundation, September 1996.

Code	Description
a	
ab	
abcde	
abce	
abceT	
abceTb	
abe	
abeT	
ac	
ace	
aceter	
acetera	
acinn	
ae	
b	
bank	
banreg	
c	
call	
cf	
cfb	
cfemic	
cferob	
cferoblconb	
cfesig	
cfesigb	
cfesigerob	
cfeter	
cfetera	
cfcon	
cinn	
cinnhoop	
clear	
d	
dhe	
e	
eacmereseseipro	
egran	
epil	
epilemic	
epilemicpro	
epilemicproa	
epilemicprob	
epileteremicepro	
epilop	
esal	
esideacm	
eter	
eucpl	
f	
ft	
littrf	
lop	
mang	

AKF - Vegetation Codes	
Phillips, S., Callaghan, J.1996. Koala Habitat Atlas, Project No. 4: Tweed Coast. The Australian Koala Foundation, September 1996.	
Code	Description
Moobal_S_F	

Gold Coast City Council – NCS Vegetation Codes (1998)		
Kingston, M., Turnbull, J., Hall, P., Boulton, S., Storey, R., & Kordas, G. 1998. Gold Coast City Council Nature Conservation Strategy Volume 2: Flora and Fauna Resource Inventory and Ecological Assessment. Prepared by Mary Maher & Assoc. & Ecograph for Gold Coast City Council, Feb 1998.		
Code	Description	Dominant Canopy Species
37	Native Plantation	Hoop pine and/or eucalypts
77	Cleared Between Photos	
999	Matrix	
21	Ephemeral Wetlands	Sedges / rushes, eg Typha spp. Juncus spp. Cyperus spp
22	Saltmarsh	Sporobolus spp.
26	Sandflats / Mudflats	unvegetated
33	Freshwater with Aquatic Vegetation	Typha spp, / Phragmites australis
36	Sand Blows	unvegetated
40	Seagrasses	Zostera capricornia / Halophila ovalis / H. spinulosa
65	Marine Rocky Intertidal	
1	White Mahogany - Grey Gum - Queensland White Stringybark - Broad Leaved White Mahogany - Woodland/Open Forest Complex	E. acmenoides and/or E. tindaliae and/or E. propinqua +/- E. umbra
2	Brush Box - Moist Eucalypt Open Forest Complex (Often with rainforest understorey)	Lophostemon confertus +/- E. microcorys & other Eucs +/- Rf (Wet Sclerophyll) M. quinquinervia & L. suaveolens common at low altitudes
3	Pink Bloodwood - Narrow Leaved Red Gum and/or Scribbly Gum Woodland/Open Forest Complex	C. intermedia +/- E. seeana and/or E. racemosa
4	Spotted Gum and Ironbark Open Forest Complex	C. citriodora +/- E. siderophloia and/or E. fibrosa (Includes areas of C. henryi)
5	Blackbutt Woodland/ Open Forest	E. pilularis + other Eucs +/- Angophora spp.
6	Blue Gum - Grey Ironbark and/or Pink Bloodwood Woodland/Open Forest	E. tereticornis E. siderophloia +/- Eucs
7	Gum-Topped Box Open Forest	E. mollucana +/- other Eucs
8	Broad-leaved Paperbark - Blue Gum - Swamp Box Open Forest	Melaleuca quinquinervia +/- E. tereticornis +/- Loph suaveolens +/- Eucs
9	Broad-leaved Paperbark Open Forest	Melaleuca quinquinervia
10	Bush-house Paperbark dominated Woodland/Open Forest +/- emergent Eucalypts	Melaleuca irbyiana +/- other Melaleuca +/- Eucs
11	Prickly -leaved Paperbark dominated Shrubland +/- emergent Eucalypts	Melaleuca nodosa +/- other Melaleuca +/- Eucs
12	Black Tea-tree dominated Woodland/Open Forest +/- emergent Eucalypts	Melaleuca bracteata +/- other Melaleuca +/- Eucs
13	Flax-leaved Paperbark dominated Woodland/Open Forest +/- emergent Eucalypts	Melaleuca linariifolia +/- other Melaleuca +/- Eucs
14	Sieber's Paperbark dominated Shrubland +/- emergent Eucalypts	Melaleuca sieberi +/- other Melaleuca +/- Eucs
15	Swamp She-oak / Broad-leaved Paperbark Open Forest	Casuarina glauca + Melaleuca quinquenervia +/- Eucs
16	Swamp She-oak Open Forest	Casuarina glauca +/- mangroves
17	Black She-oak +/- Acacia spp. Low Closed Shrubland to Open Forest	Allocasuarina littoralis +/- Acacia aulacocarpa +/- emergent ecalypts
18	Mangrove Forests Vegetation	Avicennia marina +/- Aegiceras corniculatum +/- Ceriops tagal +/- Rhizophora stylosa +/- Bruguiera gymnorrhiza +/- Allocasuarina or Casuarina a
19	Mixed Exotic Plantation	Pinus caribaea / P.elliottii or other exotic spp.
20	Riverine	Casuarina cunninghamiana +/- Cinamomum camphora +/- E. grandis +/- E. tereticornis, often with rainforest species
23	Foredune Complex	Casuarina equestifolia
24	Mountain Heath / Shrubland	E. approximans - E. notabilis - Casuarina rigida
25	Coastal Heath	Banksia aemula / Baeckea linearis / Epacridaceae with E. robusta / E. racemosa / C. intermedia emergents

Code	Description	Dominant Canopy Species
28	Littoral Rainforest	Cupaniopsis anacardioides, Flindersia schottiana, Endiandra sieberi, Livistona australis, other vineforest spp. C.intermedia +/- E. seeana
29	Sub-tropical to Warm Temperate Rainforest	Ceratopetalum apetalum / Loph. confertus +/- E. microcorys & other Eucs / notophyll rainforest species
30	Cool Temperate Rainforest	Nothofagus moorei / Ceratopetalum apetalum / microphyll rainforest species
35	Rock Faces	lithophytes
38	New England Blackbutt +/- Tallowwood +/- Scribbly Gum Woodland to Open Forest Complex	E. andrewsii spp campanulata +/- E. oreados +/- E. microcorys +/- E. signata +/- E. approximans
39	Coastal Woodland to Open Forest	Endiandra sieberi / Loph. confertus / C. intermedia +/- Mel. quinquenervia +/- E.tereticornis
99	Remnants Outside City Boundary	
31	Headland Heath / Grasslands	Pandanus tectorius / Banksia integrifolia / Casuarina equisetifolia
34	Urban Woodland	Mixed native species and garden plants

Caldera Environment Centre (Murray & James 1998)						
Murray, A. & James, H. (1998). Mapping of the Coastal Vegetation of the Tweed Shire. (unpublished). Caldera Environment Centre, Murwillumbah.						
CAL_POLYID	CAL_DESC	CAMPHCODE	FIELDCODE	CONDCODE	STRUCTCODE	VEGCODE
10001	Melaleuca quinquenervia +/- Eucalyptus robusta tall open forest to woodland + Andropogon virginicus / Axonopus communis / Paspalum notatum / Pteridium esculentum / Blechnum indicum low to tall closed to sparse grassland / fernland	N	1	0	NA	1099
10002	Eucalyptus signata midhigh to tall open woodland + closed to sparse mid stratum of Banksia aemula / Leptospermum whitei / Leptospermum polygalifolia / Leptospermum trinervium	N	1	0	M3	306
10003	Restio tetraphyllus low (open) sedgeland	N	1	0	Y	701
10004	Eucalyptus signata mid high to tall open forest to open woodland + (sparse) mid stratum of Leptospermum polygalifolia and Leptospermum whitei	N	1	0	M3	306
10005	Banksia robur / Leptospermum spp / Baeckea stenophylla midhigh to very tall closed to sparse heathland	N	1	0	M1	502
10006	Eucalyptus signata midhigh to tall open woodland + closed to sparse mid stratum of Banksia aemula / Leptospermum polygalifolia / Leptospermum whitei / Leptospermum trinervium	N	1	0	M3	306
10007	Eucalyptus robusta / Melaleuca quinquenervia midhigh to tall open forest to open woodland	N	1	0	M3	403
10008	Eucalyptus signata / Banksia aemula mid high to tall (open) woodland	N	1	0	M3	306
10009	Andropogon virginicus / Imperata cylindrica / Paspalum urvillei / Paspalum notatum / Ischaemum australe closed to sparse grassland	N	1	0	G	902
10009	Andropogon virginicus / Imperata cylindrica / Paspalum urvillei / Paspalum notatum / Ischaemum australe closed to sparse grassland	ND	3	4	Z	502
10010	Leptospermum liversidgei / Xanthorrhoea fulva / Banksia oblongifolia tall closed (wet) heathland	N	1	0	Z	502
10011	Banksia aemula (very) tall (sparse) shrubland	N	1	0	L3	501
10012	Eucalyptus signata midhigh open woodland + (closed) mid stratum of Banksia aemula	N	1	0	M2	306
10013	Melaleuca quinquenervia / Eucalyptus robusta midhigh to tall open forest to open woodland	N	1	0	M3	403
10014	Banksia aemula / Leptospermum spp. (very) tall heathland	N	1	0	Z	501
10015	Melaleuca quinquenervia low closed to open shrubland	N	1	0	L4	401
10016	Eucalyptus intermedia / E. tereticornis / Lophostemon confertus (very) tall open forest to open woodland	N	1	0	M3	301
10017	Eucalyptus robusta / Melaleuca quinquenervia tall open forest to woodland + Blechnum indicum / Hypolepis muelleri (very) tall closed to sparse fernland	N	1	0	M3	403
10018	Melaleuca quinquenervia / Eucalyptus robusta midhigh to tall open forest + Blechnum indicum / Blechnum camfieldii / Todea barbara / Pteridium esculentum (very) tall closed to sparse fernland	N	1	0	M3	403
10019	Acacia melanoxylon +/- Melaleuca quinquenervia / Eucalyptus robusta midhigh to tall open forest to open woodland + Blechnum indicum / Gahnia clarkei / Lygodium microphyllum (very) tall closed to sparse fernland / sedgeland	N	1	0	M2	311
10020	Allocasuarina littoralis midhigh open woodland + closed to sparse mid stratum of Leptospermum polygalifolia / Leptospermum trinervium	N	1	0	L3	312
10021	Melaleuca quinquenervia +/- Casuarina glauca / Eucalyptus tereticornis midhigh to tall (open) woodland + Blechnum indicum / Gahnia clarkei / Lygodium microphyllum / Todea barbara (very) tall (sparse) fernland / sedgeland	N	1	0	M3	401
10022	Melaleuca quinquenervia / Archontophoenix cunninghamiana tall closed to open forest	N	1	0	M4	104
10023	Eucalyptus tereticornis / Eucalyptus intermedia midhigh to tall woodland + (sparse) mid stratum of Acronychia imperforata / Allocasuarina littoralis	N	1	0	M3	304
10024	Melaleuca quinquenervia midhigh to tall open forest to open woodland + Blechnum indicum / Hypolepis muelleri / Lygodium microphyllum (very) tall closed to sparse fernland	N	1	0	M3	401
10025	Eucalyptus robusta +/- Melaleuca quinquenervia low to midhigh open forest to open woodland + Blechnum indicum / Hypolepis muelleri / Gahnia clarkei / Restio tetraphyllus (very) tall closed to sparse fernland / sedgeland	N	1	0	M2	305
10026	Phragmites australis / Ischaemum australe / Imperata cylindrica / Blechnum indicum tall closed grassland / fernland	N	1	0	G	902
10027	Eucalyptus robusta +/- Melaleuca quinquenervia midhigh to tall (open) woodland + Blechnum indicum / Pteridium esculentum / Lygodium microphyllum / Gahnia clarkei (very) tall (sparse) fernland / sedgeland	N	1	0	M3	305
10028	Eucalyptus robusta +/- Melaleuca quinquenervia low to midhigh open woodland + Gahnia clarkei / Restio tetraphyllus / Xanthorrhoea fulva (very) tall closed to open sedgeland	N	1	0	M2	305
10029	Gahnia clarkii / Restio tetraphyllus / Xanthorrhoea fulva tall closed sedgeland	N	1	0	Y	701
10030	Casuarina glauca / Avicennia marina low to midhigh open forest to open woodland	N	1	0	M2	601
10031	Juncus kraussii / Baumea juncea / Phragmites australis (very) tall closed sedgeland / grassland	N	1	0	NA	1099
10032	Blechnum indicum / Phragmites australis / Ischaemum australe (very) tall closed fernland / grassland	N	1	0	NA	1099
10033	Baeckea stenophylla / Aotus lanigera / Conospermum taxifolium tall (sparse) shrubland + Digitaria didactyla / Axonopus communis / Caustis recurvata mid high to tall (sparse) grassland / sedgeland	N	1	0	M1	502
10034	Eucalyptus robusta +/- Eucalyptus signata / Lophostemon suaveolens mid high to tall open forest to open woodland + Blechnum indicum tall closed fernland	N	1	0	M3	305
10035	Melaleuca quinquenervia / Eucalyptus robusta midhigh to tall open forest to open woodland + Blechnum indicum / Ischaemum australe / Andropogon virginicus / Axonopus virginicus tall closed to sparse fernland / grassland	N	1	0	M2	403
10036	Sporobolus virginicus low sparse grassland	N	1	0	G	603
10037	Casuarina glauca / Avicennia marina midhigh open woodland to isolated clumps + Juncus kraussii / Fimbristylis ferruginea tall sparse sedgeland	N	1	0	M2	601
10038	Ischaemum australe / Imperata cylindrica / Digitaria didactyla / Setaria sphacelata low to tall closed grassland	N	1	0	G	902
10039	Eucalyptus tereticornis / Melaleuca quinquenervia mid high to tall open forest to open woodland + Imperata cylindrica / Themeda australis / Ischaemum australe tall closed to sparse grassland	NA	4	0	NA	1099

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10039	Eucalyptus tereticornis / Melaleuca quinquenervia mid high to tall open forest to open woodland + Imperata cylindrica / Themeda australis / Ischaemum australe tall closed to sparse grassland	N	1	0	M2	403
10040	Avicennia marina / Casuarina glauca midhigh to tall open forest to open woodland	N	1	0	M3	602
10041	Melaleuca quinquenervia +/- Eucalyptus robusta, Lophostemon suaveolens tall open forest to open woodland + Blechnum indicum / Cyclosorus interruptus / Hypolepis muelleri tall closed to sparse fernland	N	1	0	M3	401
10042	Baeckea stenophylla mid high to tall (sparse) shrubland + closed to sparse ground stratum of Lepyrodia interrupta / Xanthorrhoea fulva / Xanthorrhoea macronema	N	1	0	L3	502
10043	Eucalyptus signata / Eucalyptus robusta +/- Lophostemon suaveolens / Melaleuca quinquenervia tall open forest to open woodland + closed to sparse mid stratum of Leptospermum whitei / Leptospermum polygalifolia / Leptospermum trinervium	N	1	0	M3	306
10044	Eucalyptus robusta / Eucalyptus intermedia low to midhigh open forest to open woodland + sparse mid stratum of Leptospermum polygalifolia / Leptospermum whitei	N	1	0	L2	305
10045	Melaleuca quinquenervia +/- Lophostemon suaveolens / Eucalyptus robusta midhigh to tall (open) woodland + Blechnum indicum / Ischaemum australe tall (sparse) fernland / grassland	N	1	0	M3	401
10046	Eucalyptus robusta +/- Melaleuca quinquenervia / Lophostemon suaveolens midhigh to tall open forest to open woodland + Blechnum indicum / Cyclosorus interruptus / Gleichenia dicarpa / Gahnia clarkei (very) tall closed to sparse fernland / sedgeland	N	1	0	M3	305
10047	Eucalyptus signata midhigh to tall (open) woodland + closed to sparse mid stratum of Banksia aemula / Leptospermum whitei / Leptospermum polygalifolia / Leptospermum trinervium	N	1	0	M2	306
10048	Eucalyptus signata midhigh (open) woodland + Lomandra longifolia / Pteridium esculentum / Imperata cylindrica tall open to sparse rushland / fernland / grassland	N	1	0	M1	306
10049	Blechnum indicum / Restio tetraphyllus (very) tall fernland / sedgeland	S	1	0	F	702
10050	Eucalyptus signata +/- Eucalyptus robusta midhigh (open) woodland + (open) ground stratum of Baeckea stenophylla / Restio tetraphyllus	N	1	0	M1	306
10051	Eucalyptus signata +/- Eucalyptus robusta midhigh open woodland + Pteridium esculentum / Restio tetraphyllus mid high to tall open fernland / sedgeland	N	1	0	M1	306
10052	Eucalyptus robusta / Melaleuca quinquenervia / Acacia melanoxylon low open woodland + Restio tetraphyllus tall closefd to open sedgeland	N	1	0	L2	403
10053	Banksia aemula / Leptospermum trinervium / Leptospermum polygalifolia very tall open to sparse heathland	N	1	0	Z	501
10054	Leptospermum trinervium / Leptospermum polygalifolia tall (closed) shrubland + sparse ground stratum of Lepydodia interrupta / Restio pallens / Leptocarpus tenax / Xanthorrhoea fulva	N	1	0	L3	502
10055	Disturbed wet meadow - closed to open grass/sedgeland	N	1	0	G	902
10056	Juncus kraussii / Juncus usitatus / Fimbristylis ferruginea / Digitaria didactyla (very) tall closed sedgeland / grassland	N	1	0	NA	1099
10057	Disturbed wet meadow - closed to open grass / rush / sedgeland	N	1	0	G	902
10058	Avicennia marina midhigh open forest to woodland + (sparse) mid stratum of Bruguiera gymnorhiza	N	1	0	M3	602
10059	Casuarina glauca / Avicennia marina midhigh to tall open forest to open woodland + Sporobolus virginicus low open grassland	N	1	0	M3	602
10060	Phragmites australis very tall closed grassland	N	1	0	NA	1099
10061	Fimbristylis ferruginea / Triglochin striata midhigh to tall sedgeland	N	1	0	Y	701
10062	Avicennia marina +/- Casuarina glauca low to midhigh open forest + sparse mid stratum of Avicennia marina / Cynanchum carnosum	N	1	0	L3	602
10063	Casuarina glauca midhigh open woodland + Juncus usitatus / Fimbristylis ferruginea / Viola hederacea mid high to tall (closed) sedgeland / forbland	N	1	0	NA	1099
10064	Casuarina glauca midhigh open forest to open woodland + Digitaria didactyla low (sparse) grassland	N	1	0	M2	601
10065	Fimbristylis ferruginea / Triglochin striata midhigh to tall (open) sedgeland	N	1	0	Y	701
10066	Avicennia marina +/- Bruguiera midhigh open forest + Acrostichum speciosum tall closed to sparse fernland	N	1	0	M3	602
10067	Casuarina glauca midhigh open woodland + sparse mid stratum of Excoecaria agallocha / Casuarina glauca	N	1	0	M3	601
10068	Eucalyptus tereticornis midhigh to tall open woodland + open mid stratum of Casuarina glauca and Cupaniopsis anacardioides	N	1	0	M2	304
10069	Avicennia marina / Casuarina glauca low (open) woodland + Sporobolus virginicus / Phragmites australis / Sesuvium portulacastrum low to very tall (closed) grassland / forbland	N	1	0	L3	602
10070	Casuarina glauca midhigh to tall open forest + open mid stratum of Rf species	S	1	0	M3	601
10071	Casuarina glauca +/- Melaleuca quinquenervia midhigh (open) woodland + Phragmites australis / Bacopa monnieri low to very tall (closed) grassland / forbland	N	1	0	M3	402
10072	Casuarina glauca midhigh open forest to open woodland + Gahnia clarkei / Hypolepis muelleri (very) tall (sparse) sedgeland / fernland	N	1	0	M3	601
10073	Casuarina glauca +/- Avicennia marina low to midhigh open woodland	N	1	0	M1	601
10074	Casuarina glauca +/- Melaleuca quinquenervia midhigh to tall open forest to open woodland + Baumea juncea tall (sparse) sedgeland	N	1	0	M3	402
10075	Melaleuca quinquenervia midhigh to tall open forest to open woodland + Gahnia clarkei / Histiopteris incisa / Hypolepis muelleri (very) tall closed to open sedgeland / fernland	N	1	0	M3	401
10076	Casuarina glauca / Excoecaria agallocha midhigh to tall open forest to open woodland + Acrostichum speciosum tall closed to open fernland	N	1	0	M3	601
10077	Avicennia marina +/- Bruguiera gymnorhiza midhigh open forest to open woodland + closed to open mid stratum of Aegiceras corniculatum / Avicennia marina	N	1	0	M2	602
10078	Avicennia marina midhigh open forest to woodland + closed to open mid stratum of Bruguiera gymnorhiza / Excoecaria agallocha / Avicennia marina	N	1	0	M3	602
10079	Casuarina glauca midhigh to tall open forest to open woodland + (open) midstratum of Rf species	N	1	0	M3	601
10080	Avicennia marina +/- Excoecaria midhigh open woodland + closed to sparse mid stratum of Aegiceras corniculatum / Avicennia marina	N	1	0	M1	602
10081	Casuarina glauca midhigh to tall open forest to woodland	N	1	0	M3	601

CAL_POLYID	CAL_DESC	CAMP CODE	FIELD CODE	COND CODE	STRUCT CODE	VEG CODE
10082	Casuarina glauca midhigh to tall (open) woodland + closed to sparse mid stratum of Excoecaria agallocha / Clerodendrum inerme / Flagellaria indica	N	1	0	M2	601
10083	Avicennia marina midhigh open forest to woodland + (open) mid stratum of Bruguiera gymnorrhiza / Aegiceras corniculatum	N	1	0	M3	602
10084	Avicennia marina low woodland + (open) mid stratum of Aegiceras corniculatum	N	1	0	L3	602
10085	Avicennia marina low open forest to woodland + sparse ground stratum of Rhizophora stylosa / Aegiceras corniculatum	N	1	0	L3	602
10086	Avicennia marina / Rhizophora stylosa low closed forest	N	1	0	L4	602
10087	Casuarina glauca midhigh to tall open woodland + Fimbristylis ferruginea tall (sparse) sedgeland	N	1	0	M2	601
10088	Casuarina glauca midhigh (open) woodland + (open) mid stratum of Bruguiera gymnorrhiza / Excoecaria agallocha / Casuarina glauca / Flagellaria indica	N	1	0	M3	601
10089	Avicennia marina midhigh open woodland + closed to open mid stratum of Bruguiera gymnorrhiza / Avicennia marina	N	1	0	M1	602
10090	Casuarina glauca +/- Excoecaria midhigh open woodland + (sparse) mid stratum of Excoecaria agallocha / Casuarina glauca	N	1	0	M2	601
10091	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open woodland + sparse mid stratum of Melaleuca quinquenervia and Rf species	N	1	0	M2	401
10092	Melaleuca quinquenervia midhigh to tall open forest + open to sparse mid stratum of Rf species	N	1	0	M3	401
10093	Melaleuca quinquenervia low to midhigh open woodland + Typha orientalis / Blechnum indicum (very) tall closed rushland / fernland	N	1	0	Y	401
10094	Melaleuca quinquenervia low to midhigh open woodland + Hypolepis muelleri tall closed fernland	S	1	0	Y	701
10095	Eucalyptus pilularis / Eucalyptus intermedia / Lophostemon confertus mid high to tall open forest to woodland + (open) mid stratum of Rf species	N	1	0	M3	307
10096	Melaleuca quinquenervia low to midhigh open woodland + Hypolepis muelleri tall closed fernland	N	1	0	Y	701
10097	Baccharis halimifolia (very) tall closed shrubland + Phragmites australis very tall (open) grassland	N	1	0	L4	1099
10098	Avicennia marina low open forest to open woodland + Sporobolus virginicus low open to sparse grassland	N	1	0	M1	602
10099	Sporobolus virginicus / Sarcocornia low (sparse) grassland / forbland	N	1	0	G	603
10100	Casuarina glauca midhigh to tall open forest to open woodland + (open) mid stratum of Excoecaria agallocha	N	1	0	M3	601
10101	Araucaria cunninghamii midhigh to tall open forest to woodland + (open) mid stratum of Araucaria cunninghamii / Cupaniopsis anacardioides	N	1	0	M3	102
10102	Cupaniopsis anacardioides / Acacia aulacocarpa / midhigh to tall open forest to open woodland + (open) mid stratum of Rf species	N	1	0	M3	101
10103	Avicennia marina +/- Rhizophora stylosa dwarf (closed) forest	N	1	0	L4	602
10104	Avicennia marina +/- Rhizophora stylosa dwarf to low open forest	N	1	0	L3	602
10105	Avicennia marina +/- Rhizophora stylosa dwarf to low open forest to woodland	N	1	0	L3	602
10106	Avicennia marina / Rhizophora stylosa low closed forest	N	1	0	L4	602
10107	Avicennia marina / Rhizophora stylosa +/- Bruguiera gymnorrhiza low open forest + (open) mid stratum of Aegiceras corniculatum	N	1	0	L3	602
10108	Casuarina glauca low to midhigh open forest to open woodland + Zoysia macrantha low (open) grassland	N	1	0	L3	601
10109	Casuarina glauca midhigh to tall (open) woodland + (sparse) mid stratum of Casuarina glauca / Hibiscus tiliaceus / Excoecaria agallocha / Cupaniopsis anacardioides	N	1	0	M2	601
10110	Avicennia marina dwarf open woodland + Sporobolus virginicus low open to sparse grassland	N	1	0	L1	602
10111	Casuarina glauca midhigh (open) woodland + (sparse) mid stratum of Excoecaria agallocha / Casuarina glauca	N	1	0	M2	601
10112	Avicennia marina / Rhizophora stylosa low open forest to open woodland + closed ground stratum of Aegiceras corniculatum	N	1	0	L3	602
10113	Casuarina glauca midhigh to tall open forest to woodland + open to sparse mid stratum of Rf species	N	1	0	M3	601
10114	Avicennia marina / Rhizophora stylosa dwarf to low woodland	N	1	0	L3	602
10115	Avicennia marina +/- Casuarina glauca low (open) woodland + (sparse) mid stratum of Aegiceras corniculatum / Avicennia marina	N	1	0	L2	602
10116	Avicennia marina / Rhizophora stylosa low open forest to woodland + (sparse) mid stratum of Aegiceras corniculatum / Avicennia marina	N	1	0	L3	602
10117	Casuarina glauca midhigh open woodland + closed to open mid stratum of Hibiscus tiliaceus / Bruguiera gymnorrhiza	N	1	0	M2	601
10118	Avicennia marina +/- Rhizophora stylosa / Bruguiera gymnorrhiza low (closed) forest	N	1	0	L4	602
10119	Avicennia marina / Rhizophora stylosa low closed forest	N	1	0	L4	602
10120	Casuarina glauca / Avicennia marina / Bruguiera gymnorrhiza low open woodland + Sporobolus virginicus / Zoysia macrantha low open grassland	N	1	0	L2	601
10121	Avicennia marina +/- Bruguiera gymnorrhiza / Rhizophora stylosa low to midhigh open forest to woodland	N	1	0	M3	602
10122	Bruguiera gymnorrhiza / Excoecaria agallocha +/- Avicennia marina low to midhigh open forest to woodland	N	1	0	M3	602
10123	Excoecaria agallocha +/- Aegiceras corniculatum mid high to tall sparse shrubland + Sporobolus virginicus low (open) grassland	N	1	0	L1	602
10124	Melaleuca quinquenervia / Eucalyptus tereticornis midhigh woodland + Baumea juncea / ischaemum australe tall closed sedgeland / grassland	N	1	0	M3	401
10125	Casuarina glauca midhigh to tall open forest to woodland + Eriochloa procera tall open grassland	N	1	0	M3	601
10126	Casuarina glauca +/- Excoecaria low to midhigh open woodland + Sporobolus virginicus low closed grassland	N	1	0	M1	601
10127	Casuarina glauca +/- Excoecaria low to midhigh open woodland + Sporobolus virginicus low closed grassland	N	1	0	M1	601
10128	Casuarina glauca midhigh to tall (open) woodland + Sporobolus virginicus / Baumea juncea low to tall closed grassland / sedgeland	N	1	0	M3	601
10129	Avicennia marina low to midhigh (closed) forest	N	1	0	L4	602
10130	Avicennia marina low open forest + sparse mid stratum of Rhizophora stylosa / Avicennia marina	N	1	0	L3	602
10131	Avicennia marina +/- Rhizophora stylosa low open forest to woodland	N	1	0	L3	602

CAL_POLYID	CAL_DESC	CAMP CODE	FIELD CODE	COND CODE	STRUCT CODE	VEG CODE
10132	Avicennia marina +/- Rhizophora stylosa dwarf to low open forest to open woodland + (open) mid stratum of Avicennia marina / Rhizophora stylosa	N	1	0	L3	602
10135	Avicennia marina +/- Rhizophora stylosa dwarf to low open forest	N	1	0	L3	602
10136	Avicennia marina +/- Rhizophora stylosa dwarf to low open forest	N	1	0	L3	602
10137	Avicennia marina / Rhizophora stylosa low open forest to open woodland + closed ground stratum of Aegiceras corniculatum	N	1	0	L3	602
10138	Casuarina glauca / Melaleuca quinquenervia midhigh to tall open forest to woodland + Baumea juncea tall closed to open sedgeland	N	1	0	M3	402
10139	Casuarina glauca low to midhigh open woodland to isolated trees + Sporobolus virginicus / Juncus kraussii low to tall (sparse) grassland / rushland	N	1	0	M2	601
10140	Avicennia marina +/- Bruguiera gymnorhiza low to midhigh open forest to woodland + closed to open mid stratum of Aegiceras corniculatum	N	1	0	L3	602
10141	Avicennia marina +/- Casuarina glauca low to midhigh (open) woodland	N	1	0	L3	602
10142	Avicennia marina midhigh (open) woodland + (open) mid stratum of Avicennia marina +/- Bruguiera gymnorhiza	N	1	0	M3	602
10143	Avicennia marina +/- Casuarina glauca low to midhigh (open) woodland + Sporobolus virginicus / Suaeda australis / Sarcocornia quinqueflora low to mid high (sparse) grassland / forbland	N	1	0	L2	602
10144	Avicennia marina / Casuarina glauca midhigh open forest to woodland + closed to open mid stratum of Aegiceras corniculatum / Bruguiera gymnorhiza	N	1	0	M3	602
10146	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	99	0	NA	903
10147	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10148	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10149	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10150	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	99	0	NA	903
10151	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10151	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	ND	0	4		998
10152	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10152	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	ND	3	4	Y	701
10152	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	ND	3	4	Z	502
10152	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	4	Z	502
10153	Outside study area. Estuarine waters	NA	1	0	NA	903
10154	Outside study area. Estuarine waters	NA	1	0	NA	903
10155	Outside study area. Estuarine waters	NA	99	0	NA	903
10156	Outside study area. Estuarine waters	NA	99	0	NA	903
10157	Outside study area. Estuarine waters	NA	99	0	NA	903
10158	Outside study area. Estuarine waters	NA	1	0	NA	903
10159	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10160	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
10161	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10162	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10163	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10164	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	1	0	NA	903
10165	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10166	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
10167	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
20001	Avicennia marina / Rhizophora stylosa dwarf to low open forest to woodland	N	1	0	L3	602
20002	Avicennia marina/ Rhizophora stylosa low open forest	N	1	0	L3	602
20003	Casuarina glauca / Melaleuca quinquenervia low woodland	N	1	0	L3	402
20004	Avicennia marina / Rhizophora stylosa low open forest	N	1	0	L3	602
20005	Avicennia marina / Rhizophora stylosa / Bruguiera low open forest to open woodland + Aegiceras (very) tall shrubland	N	1	0	L3	602
20006	Casuarina glauca / Avicennia marina dwarf to low open woodland + Juncus kraussii / Sporobolus virginicus low to tall rushland/grassland	N	1	0	L2	601
20007	Avicennia / Rhizophora stylosa low to midhigh open woodland + Aegiceras (very) tall (open) shrubland	N	1	0	M1	602
20008	Aegiceras midhigh to very tall open shrubland + Sporobolus virginicus / Zoysia low open grassland	N	1	0	L1	602

CAL_POLYID	CAL_DESC	CAMP CODE	FIELD CODE	COND CODE	STRUCT CODE	VEG CODE
20009	Casuarina glauca / Avicennia marina low open forest	N	1	0	L3	601
20010	Avicennia / Rhizophora stylosa low to midhigh open woodland + Aegiceras (very) tall (open) shrubland	N	1	0	M1	602
20011	Casuarina glauca / Hibiscus tiliaceus low to midhigh open forest to woodland	N	1	0	L3	601
20012	Casuarina glauca / Hibiscus tiliaceus low to midhigh open forest to open woodland	N	1	0	L3	601
20013	Casuarina glauca / Glochidion ferdinandii midhigh open forest to open woodland	N	1	0	M3	601
20014	Banksia integrifolia / Casuarina glauca midhigh open forest to woodland with disturbed rainforest understorey.	N	1	0	M3	310
20015	Casuarina glauca / Banksia integrifolia low to midhigh open forest to woodland with disturbed exotic understorey	N	1	0	L3	601
20016	Sporobolus virginicus low to midhigh grassland to open grassland	N	1	0	G	603
20017	Avicennia marina / Excoecaria / Rhizophora low open forest to open woodland	N	1	0	L3	602
20018	Casuarina glauca +/- Hibiscus tiliaceus midhigh (open) woodland	N	1	0	M1	601
20019	Low to tall sparse grassland to isolated grasses	N	1	0	G	902
20020	Low to tall closed to sparse grassland / sedgeland	N	1	0	G	902
20021	Casuarina equisetifolia / Banksia integrifolia low to midhigh open forest to open woodland + Chrysanthemoides monillifera midhigh to tall closed shrubland to isolated shrubs	N	1	3	L3	1008
20022	Casuarina equisetifolia / Melaleuca quinquenervia low to midhigh open forest	N	1	0	M3	402
20023	Casuarina equisetifolia midhigh open forest to open woodland + Chrysanthemoides monillifera midhigh to very tall closed to open shrubland	N	1	3	L3	1008
20024	Casuarina equisetifolia / Banksia integrifolia low to midhigh open woodland	N	1	3	M1	1008
20025	Casuarina equisetifolia / Banksia integrifolia low to midhigh open forest to open woodland + Chrysanthemoides monillifera (very) tall closed to sparse shrubland	N	1	3	M2	1008
20026	Banksia integrifolia low to midhigh open woodland	N	1	3	M1	310
20027	Casuarina equisetifolia low to midhigh open forest to woodland + Chrysanthemoides monillifera (very) tall closed to open shrubland	N	1	3	M3	1008
20028	Avicennia marina / Sporobolus virginicus dwarf to low (forest) isolated clumps	N	1	0	L3	602
20029	Banksia integrifolia low to midhigh open forest to woodland + Chrysanthemoides monillifera (very) tall closed to sparse shrubland	N	1	3	L3	310
20030	Casuarina equisetifolia low open woodland + Chrysanthemoides monillifera midhigh to tall closed shrubland to isolated clumps	N	1	3	L2	1008
20031	Hibiscus tiliaceus / Banksia integrifolia midhigh open forest + Littoral Rf mid stratum	N	1	0	M3	310
20032	Casuarina equisetifolia / Banksia integrifolia low to midhigh open forest to open woodland + Chrysanthemoides monillifera (very) tall closed to sparse shrubland	N	1	3	L2	1008
20033	Banksia integrifolia / Acacia sophorae / Hibiscus tiliaceus tall open to sparse shrubland + Baumea juncea / Digitaria didactyla low closed sedgeland/grassland	N	1	0	L2	310
20034	Avicennia marina / Rhizophora stylosa low to midhigh open forest to woodland + Aegiceras (extremely) tall closed to sparse shrubland	N	1	0	L3	602
20035	Casuarina glauca / Excoecaria midhigh open forest to woodland	N	1	0	M3	601
20036	Casuarina glauca / Excoecaria midhigh open forest to woodland	N	1	0	M3	601
20037	Sporobolus low (closed) grassland	N	1	0	G	603
20038	midhigh to tall Littoral Rainforest (closed forest)	N	1	0	M4	101
20039	Casuarina glauca / Excoecaria / Bruguiera midhigh open forest to woodland	N	1	0	M3	601
20040	Sporobolus virginicus low grassland (saltmarsh)	N	1	0	G	603
20041	Avicennia marina / Excoecaria / Bruguiera low to midhigh open forest to woodland	N	1	0	L3	602
20042	Sporobolus virginicus low grassland (saltmarsh)	N	1	0	G	603
20043	Sporobolus virginicus low grassland (saltmarsh)	N	1	0	G	603
20044	Sporobolus virginicus low grassland (saltmarsh)	N	1	0	G	603
20045	Avicennia low to midhigh woodland + Sporobolus virginicus low (open) grassland	N	1	0	M3	602
20046	Banksia integrifolia / Casuarina glauca low to midhigh woodland to open woodland	N	1	0	L3	310
20047	Casuarina glauca / Littoral Rf midhigh open forest to open woodland	N	1	0	M3	601
20048	Casuarina glauca / Littoral Rf midhigh open forest to open woodland	N	1	0	M3	601
20049	Sporobolus virginicus low (open) grassland (saltmarsh)	N	1	0	G	603
20050	Sporobolus virginicus low (sparse) grassland (saltmarsh)	N	1	0	G	603
20051	Banksia integrifolia mid-high open forest forest to woodland	N	1	0	M3	310
20052	Sporobolus virginicus low (open) grassland	N	1	0	G	603
20053	Banksia integrifolia low (open) woodland	N	1	0	L3	310
20054	Sporobolus virginicus low (open) grassland (saltmarsh)	N	1	0	G	603
20055	Casuarina glauca low to midhigh open woodland	N	1	3	M1	601
20056	Casuarina glauca midhigh open forest to woodland	N	1	0	M3	601
20057	Avicennia dwarf to low open woodland to isolated clumps	N	1	0	L2	602
20058	Avicennia marina dwarf (midhigh) woodland + Sporobolus virginicus low (sparse) grassland	N	1	0	L2	602
20059	Avicennia marina dwarf to low woodland + Sporobolus virginicus low (sparse) grassland	N	1	0	L2	602
20060	Avicennia marina / Rhizophora stylosa low to midhigh open forest to woodland + Aegiceras (very) tall closed to sparse shrubland	N	1	0	L3	602
20061	Avicennia marina / Rhizophora stylosa low to midhigh open forest to woodland + Aegiceras (very) tall closed to sparse shrubland	N	1	0	L3	602
20062	Casuarina glauca / Hibiscus tiliaceus low to midhigh woodland	N	1	0	L3	601
20063	Hibiscus tiliaceus +/- Avicennia marina low open forest	N	1	0	L3	602
20065	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
20066	Land outside study area consisting of bedrock soils	NA	1	0	NA	1099
20066	Land outside study area consisting of bedrock soils	ND	1	3	L4	101

CAL_POLYID	CAL_DESC	CAMP CODE	FIELD CODE	COND CODE	STRUCT CODE	VEG CODE
20067	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
20068	Outside study area. Estuarine waters	NA	1	0	NA	903
20069	Area near high tide level consisting of bare sand or mud.	NA	1	0	NA	1099
20070	Outside study area. Estuarine waters	NA	1	0	NA	903
20071	Outside study area. Estuarine waters	NA	99	0	NA	903
20072	Outside study area. Estuarine waters	NA	99	0	NA	903
20073	Area near high tide level consisting of bare sand or mud.	NA	1	0	NA	1099
20074	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
20075	Outside study area. Estuarine waters	NA	99	0	NA	903
30001	Excoecaria agallocha / Casuarina glauca midhigh open woodland + Aegiceras (very) tall (closed) shrubland	N	1	0	M2	602
30002	Avicennia marina / Bruguiera / Aegiceras midhigh closed to open forest	N	1	0	M4	602
30003	Avicennia marina / Casuarina glauca midhigh (open) woodland + Hibiscus tiliaceus low closed forest	N	1	0	M3	602
30004	Casuarina glauca / Avicennia marina low open woodland to isolated clumps + Acrostichum speciosum tall to very tall fernland	N	1	0	L2	601
30005	Archontophoenix cunninghamiana / STRf midhigh to tall open forest	N	1	0	M3	104
30006	Archontophoenix cunninghamiana / STRf midhigh to tall open forest	N	1	0	M3	104
30007	Melaleuca quinquenervia midhigh to tall (open) woodland	N	1	0	M3	401
30008	Avicennia marina +/- Casuarina glauca low to midhigh open forest to woodland	N	1	0	L3	602
30009	Avicennia marina / Bruguiera / Aegiceras midhigh to tall closed forest to open woodland	N	1	0	M4	602
30010	Avicennia marina / Bruguiera / Excoecaria low to midhigh closed forest to open woodland + Acrostichum speciosum tall to very tall fernland	N	1	0	L4	602
30011	Phragmites australis very tall (closed) grassland	N	1	0	NA	1099
30012	Melaleuca quinquenervia / STRf midhigh to tall open forest to woodland	N	1	0	M3	401
30013	Archontophoenix cunninghamiana tall to very tall closed forest	N	1	0	M4	104
30014	Melaleuca quinquenervia / Archontophoenix tall closed forest	N	1	0	M4	104
30015	Melaleuca quinquenervia / STRf midhigh to tall woodland	N	1	0	M3	401
30016	Phragmites australis / Rhynchospora corymbosa tall to very tall grass/sedgeland	N	1	0	Y	701
30017	Casuarina glauca / Melaleuca quinquenervia low to midhigh (open) woodland	N	1	0	L3	402
30018	Avicennia marina low closed forest to woodland	N	1	0	L4	602
30019	Avicennia marina / Bruguiera / Excoecaria low to midhigh closed to open forest	N	1	0	L4	602
30020	Avicennia marina / Excoecaria low to midhigh open forest + Acrostichum speciosum tall to very tall (sparse) fernland	N	1	0	L3	602
30021	Avicennia marina / Bruguiera midhigh to tall closed forest to woodland	N	1	0	M4	602
30022	Avicennia marina / Aegiceras corniculatum midhigh woodland to open woodland	N	1	0	M3	602
30023	Avicennia marina midhigh closed to open forest	N	1	0	M4	602
30024	Avicennia marina / Casuarina glauca midhigh to tall open forest to woodland	N	1	0	M3	602
30025	Casuarina glauca / Excoecaria agallocha midhigh to tall (open) woodland	N	1	0	M3	601
30026	Melaleuca quinquenervia / Casuarina glauca midhigh to tall open forest + Acrostichum speciosum	N	1	0	M3	402
30027	Avicennia marina low open woodland + Sarcocornia / Suaeda / Sporobolus low to midhigh (sparse) grass/forbland (Saltmarsh)	N	1	0	G	603
30028	Avicennia marina dwarf to midhigh closed forest to open woodland + Acrostichum speciosum (very) tall fernland	N	1	0	L4	602
30029	Avicennia marina midhigh open forest + Aegiceras corniculatum (very) tall (open) shrubland	N	1	0	M3	602
30030	Avicennia marina midhigh open forest + Aegiceras corniculatum (extremely) tall (closed) shrubland	N	1	0	M3	602
30031	Avicennia marina midhigh to tall open woodland + Aegiceras corniculatum (extremely) tall closed shrubland	N	1	0	M2	602
30032	Avicennia marina +/- Casuarina glauca midhigh open forest to woodland + Aegiceras (very) tall closed shrubland	N	1	0	M3	602
30033	Casuarina glauca midhigh to tall woodland	S	1	0	M3	601
30034	Casuarina glauca low to midhigh woodland	N	1	0	L3	601
30035	Cupaniopsis anacardioides + subtropical RF low to midhigh woodland	N	1	0	L3	101
30036	Sarcocornia quinqueflora / Sporobolus virginicus (closed) grass/forbland (Saltmarsh)	N	1	0	G	603
30037	Avicennia marina midhigh open forest to woodland	N	1	0	M3	602
30038	Avicennia marina / Bruguiera midhigh to tall open forest to woodland + Aegiceras (very) tall closed to open shrubland	N	1	0	M3	602
30039	Avicennia marina midhigh to tall closed to open forest	N	1	0	M4	602
30040	Avicennia marina midhigh (open) woodland + Aegiceras (very) tall (open) shrubland	N	1	0	M3	602
30041	Avicennia marina midhigh to tall open forest + Aegiceras (extremely) tall closed shrubland	N	1	0	M3	602
30042	Avicennia marina / Bruguiera low to midhigh open forest + Aegiceras (very) tall shrubland	N	1	0	M3	602
30043	Avicennia marina / Casuarina glauca midhigh to tall (open) woodland	N	1	0	M3	602
30044	Avicennia marina midhigh to tall open forest to woodland + Sporobolus virginicus grassland	N	1	0	M3	602
30045	Casuarina glauca low to midhigh open woodland	N	1	0	M1	601
30046	Avicennia marina midhigh closed to open forest + Aegiceras (very) tall shrubland	N	1	0	M4	602
30047	Avicennia marina dwarf to low open woodland + Sporobolus virginicus grassland (Saltmarsh)	S	1	0	NA	1099
30048	Avicennia marina low to midhigh woodland + Aegiceras corniculatum tall shrubland	N	1	0	L3	602
30049	Avicennia marina midhigh open forest + Aegiceras (very) tall shrubland	N	1	0	M3	602
30050	Avicennia marina / Excoecaria midhigh (open) woodland + Aegiceras (very) tall shrubland	N	1	0	M3	602
30051	Casuarina glauca / Excoecaria / Avicennia marina low to midhigh open forest to woodland + Sporobolus virginicus / Suaeda australis midhigh grass/sedge/forbland	N	1	0	M2	601
30052	Casuarina glauca / Excoecaria low open woodland + Sporobolus virginicus / Suaeda australis grass/forbland	N	1	0	L2	601
30053	Eucalyptus tereticornis / Araucaria cunninghamiana / Casuarina glauca mid high to tall open forest to woodland + Myoporum acuminatum very to extremely tall shrubland	N	1	0	M3	304

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30054	Avicennia marina / Casuarina glauca / Excoecaria midhigh open woodland + Aegiceras (very) tall shrubland	N	1	0	M2	602
30055	Casuarina glauca / Excoecaria midhigh to tall open forest	N	1	0	M3	601
30056	Avicennia marina / Excoecaria / Callistemon salignus midhigh to tall open forest to woodland	N	1	0	M3	602
30057	Casuarina glauca midhigh woodland + mixed saltmarsh / wet meadow midhigh sedge/grass/forbland	N	1	0	M2	601
30058	Casuarina glauca / Excoecaria / Callistemon salignus low to midhigh woodland	N	1	0	M3	601
30059	Melaleuca quinquenervia midhigh to tall open forest to woodland	N	1	0	M2	401
30060	Avicennia marina / Aegiceras dwarf to low woodland to isolated plants	N	1	0	L3	602
30061	Melaleuca quinquenervia / Subtropical Rf tall (open) woodland with midhigh closed to open forest rainforest understorey	N	1	0	M3	401
30062	Araucarian / STRf tall (closed) forest	N	1	0	M3	104
30063	Casuarina glauca / Melaleuca quinquenervia / Excoecaria midhigh to tall open forest to open woodland	N	1	0	M2	402
30064	Melaleuca quinquenervia / Araucaria cunninghamiana mid high to tall open forest to woodland + Excoecaria agallocha / Myoporum acuminatum very to extremely tall shrubland	N	1	0	M3	104
30065	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall (open) woodland	N	1	0	M3	401
30066	Lophostemon confertus / Melaleuca quinquenervia open forest	N	1	0	M3	303
30067	Casuarina glauca / Excoecaria agallocha midhigh woodland	N	1	0	M3	601
30068	Eucalyptus tereticornis / Casuarina glauca / Melaleuca quinquenervia midhigh to tall open forest to woodland	N	1	0	M3	304
30069	Casuarina glauca / Melaleuca quinquenervia mid-high (open) forest	S	1	0	M3	402
30070	Casuarina glauca / Melaleuca quinquenervia / Eucalyptus tereticornis open forest - woodland	N	1	0	M3	402
30071	Eucalyptus tereticornis / Casuarina glauca tall open woodland	N	1	0	NA	1099
30072	Melaleuca quinquenervia / Archontophoenix (very) tall woodland	N	1	0	M3	104
30073	Melaleuca quinquenervia low to midhigh open forest regrowth.	N	1	0	L3	401
30074	Melaleuca quinquenervia midhigh to tall (open) woodland.	N	1	0	M3	401
30075	Archontophoenix cunninghamiana tall closed forest	N	1	0	M3	104
30076	Melaleuca quinquenervia midhigh to tall (open) woodland	N	1	0	M3	401
30077	Sporobolus virginicus grassland (saltmarsh)	N	1	0	G	603
30078	Eucalyptus tereticornis +/- Casuarina glauca midhigh to tall open woodland.	S	1	0	M2	304
30079	Casuarina glauca +/- rainforest spp. midhigh open forest to woodland	S	1	0	M3	601
30080	Casuarina glauca +/- rainforest spp. midhigh open forest to woodland	S	1	0	M3	601
30081	Casuarina glauca +/- rainforest spp. midhigh open forest to woodland	S	1	0	M3	601
30082	Casuarina glauca +/- rainforest spp. midhigh open forest to woodland	S	1	0	M3	601
30083	Casuarina glauca +/- rainforest spp. midhigh open forest to woodland	S	1	0	M3	601
30084	Casuarina glauca +/- rainforest spp. midhigh open forest to woodland	S	1	0	M3	601
30085	Lophostemon confertus midhigh to tall open forest to woodland	N	1	0	M3	303
30086	Avicennia marina / Casuarina glauca midhigh woodland	N	1	0	M3	602
30087	Avicennia marina / Casuarina glauca low to midhigh woodland + Aegiceras (very) tall shrubland	N	1	0	L3	602
30088	Axonopus / Stenotaphrum secundatum low to midhigh closed grassland	NA	99	0	NA	1099
30089	Avicennia marina midhigh to tall open forest + Sporobolus virginicus low to midhigh open grassland	N	1	0	M3	602
30090	Casuarina glauca midhigh to tall open forest to woodland	N	1	0	M3	601
30091	Avicennia marina low to midhigh open forest to woodland + Cyperus lucidus / Typha orientalis (very) tall open sedge/rushland	N	1	0	L3	602
30092	Melaleuca quinquenervia / Casuarina glauca midhigh open forest	N	1	0	M3	402
30093	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open forest to woodland	N	1	0	M3	401
30094	Sporobolus virginicus / Bacopa monniera low to midhigh grass/forbland	N	1	0	G	603
30095	Casuarina glauca / Avicennia marina low to midhigh open forest to woodland + Aegiceras tall shrubland	N	1	0	M3	601
30096	Ficus coronata low to midhigh woodland + Lantana camara tall closed shrubland	N	1	3	M2	1002
30097	Acacia melanoxylon midhigh open woodland	N	1	0	NA	1099
30098	Avicennia marina / Bruguiera low to midhigh open forest to woodland + Aegiceras (very) tall (closed) shrubland	N	1	0	L3	602
30099	Araucaria cunninghamii + regrowth rainforest midhigh to tall open woodland	N	1	0	NA	1099
30100	Typha orientalis / Urochloa mutica (extremely) tall grassland	N	1	0	NA	1099
30101	Sporobolus virginicus / Phragmites australis low to very tall grassland	N	1	0	NA	1099
30102	Melaleuca quinquenervia midhigh to tall closed forest to woodland	N	1	0	M4	401
30103	Avicennia marina / Rhizophora stylosa dwarf open woodland	N	1	0	L1	602
30104	Avicennia marina / Bruguiera / Aegiceras midhigh closed forest	N	1	0	L4	602
30105	Avicennia marina / Rhizophora stylosa low open forest to woodland + Aegiceras tall (sparse) shrubland	N	1	0	L3	602
30106	Rhizophora stylosa / Avicennia marina low open forest + Casuarina glauca low to midhigh open woodland	N	1	0	L3	602
30107	Avicennia marina / Rhizophora stylosa low open forest to woodland	N	1	0	L3	602
30108	Rhizophora stylosa / Avicennia marina low open forest	N	1	0	L3	602
30109	Avicennia marina / Rhizophora stylosa low forest	N	1	0	L3	602
30110	Casuarina glauca / Hibiscus tiliaceus midhigh open forest to woodland	N	1	0	M3	601
30111	Avicennia marina / Rhizophora stylosa low open forest to woodland	N	1	0	L3	602
30112	Casuarina glauca low to midhigh woodland	N	1	0	L3	601
30113	Avicennia marina / Bruguiera / Aegiceras low closed forest	N	1	0	L4	602
30114	Avicennia marina dwarf to low open woodland + Sporobolus virginicus low (open) grassland	N	1	0	L1	602
30115	Avicennia marina / Rhizophora stylosa low open woodland + Aegiceras (very) tall closed shrubland	N	1	0	L1	602
30116	Sporobolus virginicus low (open) grassland	N	1	0	G	603
30117	Avicennia marina / Bruguiera / Aegiceras low closed forest	N	1	0	L4	602
30118	Avicennia marina / Bruguiera low closed forest to open forest + Aegiceras (very) tall (sparse) shrubland	N	1	0	L4	602
30119	Casuarina glauca midhigh open forest to woodland (disturbed)	N	1	0	M3	601
30120	Avicennia marina / Rhizophora stylosa dwarf to low open woodland	N	1	0	L1	602
30121	Avicennia marina / Rhizophora stylosa / dwarf to low open woodland	N	1	0	L3	602
30122	Avicennia marina / Rhizophora stylosa dwarf to low open woodland	N	1	0	L1	602

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30123	Avicennia marina / Rhizophora stylosa low open woodland + Aegiceras (very) tall closed shrubland	N	1	0	L1	602
30124	Avicennia marina / Rhizophora stylosa low open forest	N	1	0	L3	602
30125	Avicennia marina / Rhizophora stylosa low open woodland + Aegiceras (very) tall closed shrubland	N	1	0	L1	602
30126	Avicennia marina / Rhizophora stylosa low open woodland + Aegiceras (very) tall closed shrubland	N	1	0	L1	602
30127	Avicennia marina / Rhizophora stylosa / Aegiceras dwarf to low open woodland	N	1	0	L3	602
30128	Avicennia marina / Rhizophora stylosa dwarf to low open woodland	N	1	0	L3	602
30129	Avicennia marina / Rhizophora stylosa low to midhigh open forest	N	1	0	L3	602
30130	Avicennia marina / Rhizophora stylosa low open forest	N	1	0	L3	602
30131	Bruguiera / Excoecaria low to midhigh woodland	N	1	0	L3	602
30132	Casuarina glauca / Littoral Rf midhigh open woodland	N	1	0	M2	601
30133	Avicennia marina / Rhizophora stylosa low closed forest	N	1	0	L4	602
30134	Avicennia marina / Bruguiera / Excoecaria midhigh to tall woodland + Aegiceras midhigh to tall shrubland	N	1	0	M3	602
30135	Avicennia marina / Excoecaria agallocha low open woodland + Aegiceras tall (open) shrubland	N	1	0	L1	602
30136	Casuarina glauca +/- Melaleuca quinquenervia midhigh open forest to woodland	N	1	0	M3	601
30137	Sporobolus virginicus low to midhigh closed grassland (Saltmarsh)	N	1	0	G	603
30138	Casuarina glauca midhigh woodland	N	1	0	M2	601
30139	Avicennia marina / Bruguiera / Excoecaria low to midhigh woodland to open woodland	N	1	0	L3	602
30140	Casuarina glauca / Excoecaria agallocha low to midhigh open woodland + Sporobolus virginicus low to midhigh grassland (Saltmarsh)	N	1	0	L2	601
30141	Avicennia marina / Bruguiera / Aegiceras low closed forest to midhigh (open) woodland	N	1	0	M3	602
30142	Casuarina glauca / Excoecaria agallocha low to midhigh woodland to open woodland	N	1	0	L3	601
30143	Casuarina glauca / Excoecaria midhigh open forest to woodland	N	1	0	M3	601
30144	Avicennia marina / Rhizophora stylosa low closed forest	N	1	0	L4	602
30145	Avicennia marina / Rhizophora stylosa / Bruguiera low closed forest to midhigh open woodland	N	1	0	L4	602
30146	Avicennia marina / Rhizophora stylosa low to midhigh open woodland + Aegiceras tall to very tall closed shrubland	N	1	0	L2	602
30147	Avicennia marina / Rhizophora stylosa low closed forest	N	1	0	L4	602
30148	Casuarina glauca low open forest to woodland	N	1	0	L3	601
30149	Avicennia marina / Rhizophora stylosa / Bruguiera gymnorhiza low open forest to open woodland	N	1	0	L2	602
30150	Avicennia marina / Bruguiera / Rhizophora stylosa low to midhigh open forest to woodland	N	1	0	M3	602
30151	Rhizophora stylosa / Avicennia marina dwarf open forest	N	1	0	L3	602
30152	Avicennia marina / Rhizophora stylosa low closed forest + Aegiceras (very) tall (open) shrubland	N	1	0	L4	602
30153	Avicennia marina / Bruguiera gymnorhiza low to midhigh open forest to woodland + Aegiceras tall shrubland	N	1	0	L3	602
30154	Casuarina glauca low to midhigh open woodland + Sporobolus virginicus / Baumea juncea open grass/sedgeland (Saltmarsh)	N	1	0	G	603
30155	Avicennia marina low woodland to open woodland + Aegiceras very tall shrubland	N	1	0	L3	602
30156	Casuarina glauca / Excoecaria agallocha low to midhigh woodland to open woodland + Sporobolus virginicus / Baumea juncea midhigh grass/sedgeland (Saltmarsh)	N	1	0	G	603
30157	Casuarina glauca / Hibiscus tiliaceus / Littoral rainforest midhigh woodland to open woodland	N	1	0	M2	601
30158	Bruguiera gymnorhiza low open woodland + Sporobolus virginicus low to midhigh (closed) grassland	N	1	0	L2	602
30159	Casuarina glauca / Hibiscus tiliaceus midhigh open woodland + Sporobolus virginicus / Baumea juncea midhigh to tall grass/sedgeland	N	1	0	M2	601
30160	Casuarina glauca / Baumea juncea midhigh open forest to open woodland	N	1	0	M3	601
30161	Casuarina glauca midhigh open forest to open woodland	N	1	0	M3	601
30162	Avicennia marina / Bruguiera / Excoecaria low closed forest to midhigh (open) woodland	N	1	0	L3	602
30163	Rhizophora stylosa / Avicennia marina low to midhigh open forest to open woodland + Aegiceras (very) tall (sparse) shrubland	N	1	0	L3	602
30164	Casuarina glauca / Excoecaria agallocha low to midhigh open woodland + Sporobolus virginicus / Baumea juncea open grass/sedgeland	N	1	0	L2	601
30165	Casuarina glauca / Banksia integrifolia midhigh to tall open forest to open woodland	N	1	0	M3	601
30166	Casuarina glauca / Excoecaria low to midhigh open woodland	N	1	0	L2	601
30167	Rhizophora stylosa / Avicennia marina low to midhigh open forest to open woodland + Aegiceras tall (sparse) shrubland	N	1	0	L3	602
30168	Casuarina glauca / Hibiscus tiliaceus / Excoecaria midhigh open forest to woodland	N	1	0	M3	601
30169	Casuarina glauca / Hibiscus tiliaceus midhigh open forest to woodland	N	1	0	M3	601
30170	Casuarina glauca / Excoecaria low to midhigh open woodland	N	1	0	L2	601
30171	Avicennia marina / Rhizophora stylosa low woodland to open woodland + Aegiceras low to tall shrubland	N	1	0	L3	602
30172	Casuarina glauca / Avicennia marina low to midhigh open forest to woodland	N	1	0	L3	601
30173	Eucalyptus tereticornis / Melaleuca quinquenervia midhigh to tall open forest to woodland.	N	1	0	M3	403
30174	Eucalyptus tereticornis / Melaleuca quinquenervia midhigh to tall open forest to woodland.	S	1	0	M3	403
30175	Casuarina glauca / Melaleuca quinquenervia +/- Eucalyptus tereticornis midhigh woodland to open woodland	N	1	0	NA	1099
30176	Eucalyptus pilularis tall open forest to woodland	N	1	0	M3	307
30177	Melaleuca quinquenervia (+ STRf) midhigh to tall open forest	N	1	0	M3	401
30178	Casuarina glauca / Excoecaria midhigh to tall (open) woodland	N	1	0	M3	601
30179	Casuarina glauca / Melaleuca quinquenervia / Excoecaria low isolated trees + mixed salt meadow (midhigh sedge/grass/forbland)	N	1	0	L1	402
30180	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open forest	N	1	0	M3	401
30181	Casuarina glauca / Avicennia marina dwarf to low (open) woodland	N	1	0	NA	1099
30182	grassland	S	1	0	G	902
30183	Casuarina glauca / Excoecaria low to midhigh open woodland	N	1	0	L2	601
30184	Eucalyptus tereticornis midhigh to tall open forest	N	1	0	M3	304
30185	Melaleuca quinquenervia / Casuarina glauca +/- Eucalyptus robusta midhigh (open) woodland	N	1	0	M3	402

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30186	Melaleuca quinquenervia +/- Lophostemon suaveolens / Baumea spp. low closed forest to woodland	N	1	0	L4	401
30187	Melaleuca quinquenervia midhigh open forest to woodland	N	1	3	M3	401
30188	Mixed native midhigh to tall grassland, sedgeland with scattered swamp sclerophyll low regrowth trees	N	1	0	G	902
30189	Eucalyptus tereticornis midhigh to tall open forest to open woodland	N	1	0	M3	304
30190	Melaleuca quinquenervia midhigh open forest to woodland	N	1	0	L3	401
30191	Melaleuca quinquenervia midhigh (open) woodland	N	1	0	M3	401
30192	Melaleuca quinquenervia +/- Eucalyptus robusta midhigh open forest to woodland	N	1	0	M3	401
30193	Phragmites australis / Bacopa monniera / Lepironia articulata (very) tall sedge/grass/forbland	N	1	0	Y	701
30194	Melaleuca quinquenervia +/- Casuarina glauca low to midhigh (open) woodland	N	1	0	L3	401
30195	Melaleuca quinquenervia / Casuarina glauca midhigh open woodland + mixed saltmarsh / wet meadow midhigh to tall (sparse) open sedge/grass/rushland	N	1	0	L2	402
30196	Melaleuca quinquenervia low open woodland and isolated clumps + Zoysia macrantha / Fimbristylis ferruginea / Triglochin striata isolated clumps	N	1	0	NA	1099
30197	Melaleuca quinquenervia midhigh open forest to woodland	N	1	0	M3	401
30198	Melaleuca quinquenervia +/- Lophostemon spp., Eucalyptus robusta midhigh to tall open forest to woodland	N	1	0	M3	401
30199	Eucalyptus tereticornis / Melaleuca quinquenervia midhigh to tall woodland to open woodland.	N	1	0	M3	403
30200	Phragmites australis / Typha orientalis very tall (closed) grass/rushland	N	1	0	NA	903
30200	Phragmites australis / Typha orientalis very tall (closed) grass/rushland	N	1	0	Y	701
30200	Phragmites australis / Typha orientalis very tall (closed) grass/rushland	N	99	0	NA	1099
30201	Melaleuca quinquenervia +/- Casuarina glauca midhigh open forest to open woodland	N	1	0	M3	401
30202	Melaleuca quinquenervia / Casuarina glauca midhigh to tall open forest + Acrostichum speciosum very tall fernland	N	1	0	M3	402
30203	Melaleuca quinquenervia / Archontophoenix tall woodland +midhigh open forest	N	1	0	M3	104
30204	Avicennia marina midhigh to tall closed to open forest	N	1	0	M4	602
30205	Mixed floodplain regrowth midhigh to tall (open) forest	D	1	3	M3	1002
30206	Eucalyptus tereticornis +/- Casuarina glauca midhigh to tall woodland	N	1	0	M3	304
30207	Casuarina glauca dwarf to low woodland + Phragmites / Sporobolus very tall (open) grassland	N	1	0	L2	601
30208	Avicennia marina +/- Excoecaria, Casuarina glauca dwarf to low (open) woodland + Acrostichum / Sarcocornia / Sesuvium low to tall (sparse) fernland / chenopod shrubland / herbland	N	1	0	L2	602
30209	Avicennia marina low (open) woodland + Aegiceras tall closed to open shrubland	N	1	0	L3	602
30210	Casuarina glauca / Excoecaria low to midhigh (open) woodland	N	1	0	L3	601
30211	Avicennia marina low to midhigh open woodland to isolated plants + Aegiceras midhigh to tall closed to open shrubland	N	1	0	M1	602
30212	Casuarina glauca dwarf to low woodland + Sporobolus / Fimbristylis ferruginea / Sarcocornia low to midhigh grassland / sedgeland / chenopod herbland	N	1	0	L2	601
30213	Avicennia marina midhigh to tall woodland + Aegiceras tall to extremely tall (open) shrubland	N	1	0	M3	602
30214	Sporobolus virginicus/ Fimbristylis ferruginea/ Suaeda / Eriochloa procera low to tall grassland / sedgeland / chenopod herbland	N	1	0	G	603
30215	Avicennia marina / Casuarina glauca dwarf to midhigh woodland + Aegiceras low to tall (open) shrubland	N	1	0	L2	602
30216	Avicennia marina / Bruguiera / Excoecaria low closed forest to midhigh (open) woodland	N	1	0	M1	602
30217	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall open forest + mid dense to sparse Casuarina glauca / Cinnanomum camphora mid stratum	N	1	0	M3	601
30218	Melaleuca quinquenervia +/- Casuarina glauca low to mid high open woodland + Digitaria didactyla tall closed grassland	N	1	0	ND	1099
30218	Melaleuca quinquenervia +/- Casuarina glauca low to mid high open woodland + Digitaria didactyla tall closed grassland	N	1	0	L1	401
30219	Nymphaea capensis low open forbland to isolated forbs	N	1	0	NA	903
30220	Nymphaea capensis low open to sparse forbland.	N	1	0	NA	903
30221	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland	N	1	0	M3	402
30222	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + Paspalum wettsteinii tall (closed) grassland	N	1	0	M3	402
30223	Digitaria didactyla tall grassland	N	1	0	G	902
30224	Melaleuca quinquenervia +/- Casuarina glauca mid high to tall open forest to woodland	S	1	0	M3	401
30225	Melaleuca quinquenervia +/- Casuarina glauca mid high open forest	N	1	0	M3	401
30226	Nymphaea capensis / Typha orientalis / Schoenoplectus littoralis (very) tall open to sparse rushland / sedgeland / forbland	N	1	0	NA	903
30227	Melaleuca quinquenervia +/- Casuarina glauca mid high open forest + Baumea articulata / Enydra fluitans (very) tall sedgeland / forbland	N	1	0	M3	401
30228	Eucalyptus robusta / Eucalyptus tereticornis / Melaleuca quinquenervia mid high to tall open woodland + Cynodon dactylon / Digitaria ciliaris (very) tall (closed) grassland	S	1	0	M2	305
30229	Casuarina glauca mid high (open) woodland	N	1	0	M3	601
30230	Melaleuca quinquenervia +/- Eucalyptus robusta / Eucalyptus intermedia mid high to tall forest	S	1	0	M3	401
30231	Melaleuca quinquenervia mid high open forest + Paspalum conjugatum / Cynodon dactylon / Stephania japonica tall (open) grassland / forbland	N	1	0	L3	401
30232	Casuarina glauca +/- Melaleuca quinquenervia mid high open forest to woodland + Setaria sphacelata / Panicum maximum (very) tall (closed) grassland	N	1	0	M3	601
30233	Casuarina glauca / Melaleuca quinquenervia low to mid high open forest to woodland + Phragmites australis (very) tall (closed) grassland	N	1	0	M3	402
30234	Lophostemon confertus / Eucalyptus intermedia mid high to tall open forest to woodland + Entolasia marginata / Hypolepis muelleri (very) tall (sparse) woodland	S	1	3	M3	303
30235	Casuarina glauca mid high open woodland + Phragmites australis very tall closed grassland	N	1	0	NA	1099

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30236	Casuarina glauca +/- Cinnamomum camphora mid high open forest to woodland + Setaria sphacelata (very) tall (closed) grassland	S	1	0	M3	601
30237	Casuarina glauca +/- Lophostemon confertus / rainforest species mid high open forest to woodland	S	1	0	M3	601
30238	Casuarina glauca mid high (open) woodland + Setaria sphacelata very tall closed grassland	N	1	0	NA	1099
30239	Eucalyptus tereticornis / Casuarina glauca mid high to tall open forest to woodland	S	1	0	M3	304
30240	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30241	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30241	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	3	L3	401
30241	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	903
30241	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	903
30241	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	2	0	M4	104
30241	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes		2	0	M4	104
30243	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30244	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
30245	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
30246	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
30247	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
30248	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30249	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30250	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30251	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30252	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30253	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30254	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	1	0	NA	903
30255	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	99	0	NA	903
30256	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	1	0	NA	903
30257	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30258	Outside study area. Estuarine waters	NA	99	0	NA	903
30259	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
30260	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
30261	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
40001	Littoral rainforest - midhigh closed forest to woodland	N	1	0	M4	101
40002	Baumea juncea / Juncus kraussii / Sporobolus low to tall (open) sedgeland / rushland / grassland	N	1	0	Y	701
40003	Avicennia marina / Rhizophora stylosa dwarf to low open forest to woodland + Aegiceras midhigh to tall sparse shrubland	N	1	0	L3	602
40004	Juncus kraussii / Baumea juncea / Acrostichum tall rushland / sedgeland / fernland	N	1	0	Y	701
40005	Sporobolus virginicus low open to sparse grassland	N	1	0	G	603
40006	Banksia integrifolia midhigh open forest to open woodland	N	1	3	M3	310
40007	Stenotaphrum secundatum / Digitaria didactyla low closed to open grassland	N	1	0	G	902
40008	Banksia integrifolia + littoral rainforest - midhigh open forest to open woodland	N	1	3	M3	101
40009	Littoral rainforest - midhigh open forest to open woodland	N	1	0	M3	101
40010	Casuarina equisetifolia / Banksia integrifolia low to midhigh open woodland + Chrysanthemoides monillifera midhigh to tall closed to sparse shrubland	N	1	3	L2	1008
40011	Casuarina glauca / Hibiscus tiliaceus low to midhigh open forest to woodland + Littoral Rf	N	1	3	M3	601
40012	Casuarina glauca low to midhigh (open) woodland + Littoral Rf	N	1	0	L3	601
40013	Banksia integrifolia + Littoral Rf - low to midhigh open forest to open woodland	N	1	0	L3	310
40014	Avicennia marina / Casuarina glauca low to midhigh open forest to open woodland	N	1	0	L3	602
40015	Low to tall sparse grassland to isolated clumps	N	1	0	G	902
40016	Casuarina glauca low to midhigh open forest to open woodland + Chrysanthemoides monillifera tall to very tall (sparse) shrubland	N	1	3	L2	601

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40017	Casuarina equisetifolia low to midhigh open forest to isolated trees + Chrysanthemoides monillifera midhigh to very tall closed shrubland to isolated shrubs	N	1	3	L3	1008
40018	Casuarina glauca low to midhigh open forest to open woodland	N	1	0	M2	601
40019	Casuarina glauca midhigh open forest to woodland	N	1	0	M3	601
40020	Casuarina glauca midhigh to tall open forest to open woodland + Eriochloa procera / Digitaria didactyla low to tall (sparse) grassland	N	1	0	M2	601
40021	Eriochloa procera / Digitaria didactyla low to tall grassland	N	1	0	G	902
40022	Avicennia marina / Aegiceras corniculatum dwarf to low open forest to woodland	N	1	0	L3	602
40023	Casuarina glauca / Excoecaria agallocha low to midhigh open forest to woodland + (very) sparse mid stratum of Excoecaria agallocha	N	1	0	M3	601
40024	Aegiceras corniculatum midhigh to very tall (closed) shrubland	N	1	0	L4	602
40025	Casuarina glauca midhigh to tall open woodland + (mid) dense mid stratum of Excoecaria agallocha / Bruguiera gymnorrhiza	N	1	0	M2	601
40026	Sporobolus virginicus low to midhigh (open) grassland	N	1	0	G	603
40027	Casuarina glauca mid high to tall open forest to woodland + (very) sparse mid stratum of Excoecaria agallocha	N	1	0	M3	601
40028	Mid high Littoral RF	NA	99	0	NA	1099
40028	Mid high Littoral RF	N	1	0	M4	101
40029	Casuarina glauca midhigh to tall (open) woodland + (very) sparse mid stratum of Excoecaria agallocha	N	1	0	M2	601
40029	Casuarina glauca midhigh to tall (open) woodland + (very) sparse mid stratum of Excoecaria agallocha	NA	99	0	NA	1099
40030	Casuarina glauca / Littoral Rf low to midhigh open woodland to scattered trees + Digitaria didactyla low to midhigh grassland	N	1	0	L2	601
40030	Casuarina glauca / Littoral Rf low to midhigh open woodland to scattered trees + Digitaria didactyla low to midhigh grassland	NA	99	0	NA	1099
40031	Cyperus lucidus / Fimbristylis ferruginea / Ischaemum australe / Bacopa monnieri tall closed sedgeland / grassland / grassland	N	1	0	Y	701
40032	Casuarina glauca low to mid high open woodland + very sparse mid stratum of Littoral Rf species	N	1	0	NA	1099
40033	Casuarina glauca dwarf to low open woodland + Cladium procerum / Baumea juncea / Baumea rubiginosa / Juncus polyanthemus / Juncus kraussii / Cyclosorus interruptus (very) tall closed sedgeland / fernland	N	1	0	Y	701
40034	Melaleuca quinquenervia / Casuarina glauca midhigh open forest to woodland + sparse mid stratum of Glochidion sumatranum / Macaranga tanarius	N	1	0	M3	402
40035	Mid high (closed) Littoral Rf	N	1	0	M4	101
40036	Lophostemon confertus / Eucalyptus intermedia low to midhigh open mallee forest to open mallee woodland + Leptospermum polygalifolia / Monotoca elliptica (very) tall (sparse) shrubland	N	1	0	L2	303
40037	Lophostemon suaveolens + / - Melaleuca quinquenervia / Lophostemon confertus low (open) mallee woodland	N	1	0	L3	309
40038	Leucopogon ericoides / Aotus ericoides tall closed to sparse shrubland	N	1	0	S4	501
40039	Casuarina glauca low open forest to open woodland	N	1	0	L3	601
40040	Lophostemon confertus / Eucalyptus intermedia low (open) mallee woodland + Leucopogon ericoides midhigh to tall closed to open shrubland	N	1	0	L3	303
40041	Casuarina glauca / Excoecaria midhigh to tall open forest to woodland	N	1	0	M3	601
40042	Avicennia marina / Bruguiera / Excoecaria midhigh (open) woodland	N	1	0	M1	602
40043	Casuarina glauca / Excoecaria midhigh woodland	N	1	0	M2	601
40044	Avicennia marina / Bruguiera / Rhizophora stylosa low closed forest to midhigh open woodland	N	1	0	L4	602
40045	Avicennia midhigh open forest + Aegiceras (very) tall shrubland	N	1	0	M3	602
40046	Avicennia midhigh open forest + Aegiceras (very) tall closed to open shrubland	N	1	0	M3	602
40047	Avicennia low open forest	N	1	0	L3	602
40048	Avicennia low open forest	N	1	0	L3	602
40049	Casuarina glauca midhigh to tall open forest to woodland + mid dense to very sparse mid stratum of Cupaniopsis anacardioides	N	1	0	M3	601
40050	Casuarina glauca midhigh to tall open forest to woodland + mid dense to very sparse mid stratum of Casuarina glauca / Cupaniopsis anacardioides	N	1	0	NA	1099
40051	Acacia melanoxylon / Commersonia bartramia / Glochidion ferdinandii / Macaranga tanarius midhigh to tall woodland	N	1	3	M3	311
40051	Acacia melanoxylon / Commersonia bartramia / Glochidion ferdinandii / Macaranga tanarius midhigh to tall woodland	N	1	0	NA	1099
40052	Melaleuca quinquenervia / Archontophoenix cunninghamiana tall to very tall closed forest	N	1	0	M4	104
40053	Casuarina glauca mid high to tall open forest to woodland + mid dense to very sparse mid stratum of Littoral Rf	N	1	0	M3	601
40054	Casuarina glauca midhigh to tall open forest to open woodland + (very) sparse mid stratum of Excoecaria agallocha / Bruguiera gymnorrhiza	N	1	0	M2	601
40055	Casuarina glauca +/- Excoecaria agallocha midhigh open forest to woodland	N	1	0	M3	601
40056	Avicennia marina +/- Bruguiera gymnorrhiza / Rhizophora stylosa midhigh open forest to woodland + closed to open mid stratum of Aegiceras corniculatum / Bruguiera gymnorrhiza	N	1	0	M3	602
40057	Avicennia marina midhigh closed forest + (open) mid stratum of Aegiceras corniculatum	N	1	0	L4	602
40058	Avicennia marina / Excoecaria agallocha / Bruguiera gymnorrhiza midhigh closed to open forest	N	1	0	M4	602
40059	Casuarina glauca / Littoral Rf midhigh woodland	N	1	0	M2	601
40060	Avicennia marina +/- Casuarina glauca midhigh closed to open forest	N	1	0	L4	602
40061	Avicennia marina / Rhizophora stylosa low closed forest + Aegiceras tall (closed) shrubland	N	1	0	L4	602
40062	Avicennia marina / Excoecaria / Bruguiera midhigh open forest	N	1	0	L3	602
40063	Avicennia marina / Bruguiera / Excoecaria midhigh woodland	N	1	0	M2	602
40064	Avicennia marina / Bruguiera low to midhigh open forest + Aegiceras midhigh to tall (open) shrubland	N	1	0	L3	602
40065	Littoral Rf midhigh closed to open forest	N	1	0	L4	101
40066	Casuarina glauca / Littoral Rf low to midhigh open woodland + mixed low closed vineland	N	1	0	M1	601

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40067	Casuarina glauca / Excoecaria tall woodland to open woodland	N	1	0	M3	601
40068	Avicennia marina / Bruguiera / Excoecaria low to midhigh open forest + Aegiceras midhigh to very tall shrubland	N	1	0	M3	602
40069	Casuarina glauca / Excoecaria midhigh woodland to open woodland	N	1	0	M1	601
40070	Acacia melanoxylon midhigh open forest to woodland	N	1	3	M3	311
40071	Melaleuca quinquenervia midhigh to tall forest to woodland	S	1	0	M3	401
40072	Melaleuca quinquenervia midhigh to tall forest to woodland	S	1	0	M3	401
40073	Casuarina glauca / Acacia melanoxylon low (to midhigh) open forest to open woodland	N	1	0	M2	601
40074	Melaleuca quinquenervia / Archontophoenix cunninghamiana midhigh to tall open forest to woodland	N	1	0	M3	104
40075	Melaleuca quinquenervia / Archontophoenix cunninghamiana (very) tall closed palm forest	N	1	0	M4	104
40076	Melaleuca quinquenervia +/- Casuarina glauca tall open forest to woodland	N	1	0	M3	401
40077	Fimbristylis ferruginea / Sporobolus virginicus low to midhigh open to sparse grassland / sedgeland (saltmarsh)	N	1	0	Y	701
40078	Acacia melanoxylon / Casuarina glauca / Acronychia littoralis low to midhigh open forest to (open) woodland	N	1	0	L3	601
40079	Casuarina glauca / Avicennia marina low to midhigh open woodland + Sporobolus virginicus / Zoysia macrantha low (open) grassland	N	1	0	L2	601
40080	Casuarina glauca low to midhigh open woodland - highly disturbed regrowth	S	1	0	M1	601
40081	Avicennia marina / Bruguiera / Excoecaria low to midhigh woodland + Aegiceras tall closed to open shrubland	N	1	0	L3	602
40082	Casuarina glauca / Littoral Rf midhigh to tall open forest to woodland	N	1	0	M3	601
40083	Littoral rainforest midhigh to tall open forest to woodland	N	1	0	M3	101
40084	Avicennia marina / Bruguiera / Excoecaria low to midhigh open forest to open woodland + Aegiceras midhigh to very tall closed to open shrubland	N	1	0	M3	602
40085	Littoral Rf low open forest to woodland	N	1	0	L3	101
40086	Avicennia marina +/- Hibiscus tiliaceus low open forest to woodland + Aegiceras tall (sparse) shrubland	N	1	0	L3	602
40087	Avicennia marina +/- Hibiscus tiliaceus dwarf to low open forest to woodland + Aegiceras low (sparse) shrubland	N	1	0	L3	602
40088	Macaranga tanarius very to extremely tall (open) shrubland	N	1	3	L3	1002
40089	Avicennia marina +/- Hibiscus tiliaceus low open forest to woodland + Aegiceras tall shrubland	N	1	0	L3	602
40090	Littoral Rf midhigh to tall closed forest to woodland	N	1	0	M4	101
40091	Melaleuca quinquenervia +/- Lophostemon confertus / L. suaveolens / Casuarina glauca mid high to tall open forest to isoated clumps.	NA	99	0	NA	1099
40092	Sporobolus virginicus low (open) grassland (Saltmarsh)	N	1	0	G	603
40093	Casuarina glauca / Littoral Rf midhigh open forest to woodland	N	1	0	L3	601
40094	Avicennia marina / Bruguiera / Rhizophora midhigh open forest + Aegiceras midhigh to tall (open) shrubland	N	1	0	L3	602
40095	Sporobolus virginicus low open grassland (Saltmarsh)	N	1	0	G	603
40096	Avicennia marina / Casuarina glauca / Bruguiera midhigh closed to open forest + Aegiceras midhigh to very tall shrubland	N	1	0	L4	602
40097	Littoral Rf midhigh to tall closed to open forest	N	1	0	M4	101
40098	Avicennia marina / Bruguiera / Excoecaria open forest to open woodland	N	1	0	M3	602
40099	Casuarina glauca / Excoecaria midhigh to tall (open) woodland + Aegiceras (very) tall (open) shrubland	N	1	0	M3	601
40100	Melaleuca quinquenervia +/- Casuarina glauca / Lophostemon confertus tall (open) woodland + closed to open mis stratum of rainfores	N	1	0	M3	401
40101	Casuarina glauca midhigh to tall open forest to woodland	N	1	0	M3	601
40102	Littoral rainforest +/- Lophostemon confertus, Melaleuca quinquenervia midhigh to tall closed to open forest	N	1	0	M4	101
40103	Lophostemon confertus / Acacia melanoxylon midhigh to tall open forest to woodland	N	1	0	M3	303
40104	Eucalyptus tereticornis midhigh to tall woodland to open woodland	N	1	0	M3	304
40105	Juncus kraussii / Sporobolus virginicus / Baumea juncea low to midhigh grassland / sedgeland (Saltmarsh)	N	1	0	Y	701
40106	Casuarina glauca low open forest to tall woodland + Baumea juncea / Sporobolus virginicus closed sedge/grassland	N	1	0	M2	601
40107	Casuarina glauca midhigh to tall (open) woodland	N	1	0	M3	601
40108	Casuarina glauca midhigh (open) woodland	N	1	0	M2	601
40109	Juncus kraussii / Sporobolus virginicus / Baumea juncea low to midhigh grassland / sedgeland (Saltmarsh)	N	1	0	Y	701
40110	Avicennia marina / Rhizophora stylosa low open forest + Aegiceras midhigh to tall (sparse) shrubland	N	1	0	L3	602
40111	Sporobolus virginicus low grassland (Saltmarsh)	N	1	0	G	603
40112	Eucalyptus tereticornis / E. intermedia / Lophostemon suaveolens / Melaleuca quinquenervia midhigh to tall open forest to woodland	N	1	0	M3	304
40113	Eucalyptus robusta / Eucalyptus intermedia midhigh (open) woodland	N	1	0	M3	305
40114	Melaleuca quinquenervia +/- Eucalyptus robusta midhigh (closed) forest to woodland	N	1	0	M3	401
40115	Eucalyptus robusta / Melaleuca quinquenervia midhigh to tall (open) woodland	N	1	0	M3	403
40116	Melaleuca quinquenervia +/- Eucalyptus robusta, Lophostemon suaveolens tall woodland	N	1	0	M3	401
40117	Eucalyptus pilularis tall open forest to (open) woodland	S	1	0	M3	307
40118	Eucalyptus intermedia / Eucalyptus robusta / Melaleuca quinquenervia low to midhigh open forest	N	1	0	NA	1099
40119	Melaleuca quinquenervia / Lophostemon suaveolens +/- Eucalyptus robusta midhigh woodland with Ichaemum / Themeda / Gahnia clarkei (very) tall sedge/grassland.	N	1	0	NA	1099
40120	Casuarina glauca / Callistemon salignus +/- Melaleuca quinquenervia / Eucalyptus robusta low woodland	N	1	0	NA	1099
40121	Melaleuca quinquenervia / Eucalyptus pilularis tall (open) woodland	N	1	0	M3	401
40122	Melaleuca quinquenervia +/- Eucalyptus tereticornis, Eucalyptus robusta midhigh open forest to woodland	N	1	0	M3	401
40123	Melaleuca quinquenervia lowopen forest to midhigh open woodland with Blechnum indicum very tall sedge/fermland	N	1	0	M3	401
40124	Melaleuca quinquenervia dwarf openforest to open woodland with Phragmites australis / Cladium procerum / Blechnum indicum very tall (closed) sedge/fermland	N	1	0	L3	401
40125	Melaleuca quinquenervia midhigh to tall open forest to woodland	N	1	0	M3	401

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40126	Melaleuca quinquenervia +/- Eucalyptus robusta, Lophostemon suaveolens midhigh to tall open forest to woodland	N	1	0	M3	401
40127	Eucalyptus pilularis midhigh to tall (open) woodland	N	99	0	NA	1099
40127	Eucalyptus pilularis midhigh to tall (open) woodland	N	1	0	M3	307
40128	Melaleuca quinquenervia +/- Eucalyptus tereticornis, Eucalyptus pilularis midhigh open forest to open woodland	N	1	0	M2	401
40129	Casuarina glauca / Excoecaria / Bruguiera midhigh open forest to open woodland	N	1	0	L3	601
40130	Casuarina glauca / Excoecaria / Aegiceras midhigh to tall (open) woodland	N	1	0	M3	601
40131		0	NA	99	0	NA
40132	Casuarina glauca +/- Excoecaria agallocha midhigh woodland + sparse mid stratum of Casuarina glauca / Excoecaria agallocha / Parsonsia straminea / Cupaniopsis anacardioides	N	1	0	L2	601
40133	Avicennia marina +/- Casuarina glauca low to midhigh woodland + mid dense to sparse mid stratum of Aegiceras corniculatum	NA	1	0	L3	602
40134	Casuarina glauca midhigh (open) woodland + Cyperus lucidus / Paspalum conjugatum (very) tall closed sedgeland / grassland	NA	99	0	NA	1099
40134	Casuarina glauca midhigh (open) woodland + Cyperus lucidus / Paspalum conjugatum (very) tall closed sedgeland / grassland	N	1	0	M3	601
40135	Casuarina glauca / Avicennia marina / Excoecaria agallocha / Bruguiera gymnorhiza midhigh to tall open forest + sparse mid stratum of Excoecaria agallocha / Bruguiera gymnorhiza	NA	99	0	NA	1099
40135	Casuarina glauca / Avicennia marina / Excoecaria agallocha / Bruguiera gymnorhiza midhigh to tall open forest + sparse mid stratum of Excoecaria agallocha / Bruguiera gymnorhiza	N	1	0	M3	601
40136	Casuarina glauca +/- Littoral Rf species midhigh to tall open forest to woodland + mid dense to very sparse mid stratum of Excoecaria agallocha / Ipomoea cairica	NA	99	0	NA	1099
40136	Casuarina glauca +/- Littoral Rf species midhigh to tall open forest to woodland + mid dense to very sparse mid stratum of Excoecaria agallocha / Ipomoea cairica	N	1	0	M3	601
40137	Casuarina glauca midhigh open forest to woodland + (very) sparse mid stratum of Excoecaria agallocha	NA	99	0	NA	1099
40137	Casuarina glauca midhigh open forest to woodland + (very) sparse mid stratum of Excoecaria agallocha	N	1	0	M3	601
40138	Casuarina glauca low to midhigh (open) woodland + (very) sparse mid stratum of Melaleuca quinquenervia / Casuarina glauca / Banksia integrifolia	NA	99	0	NA	1099
40138	Casuarina glauca low to midhigh (open) woodland + (very) sparse mid stratum of Melaleuca quinquenervia / Casuarina glauca / Banksia integrifolia	N	1	0	NA	1099
40139	Casuarina glauca midhigh open forest to woodland + Cyperus lucidus / Eleocharis species / Paspalum conjugatum / Enydra fluctuans (very) tall (closed) sedgeland / grassland / forbland	N	1	0	M3	601
40139	Casuarina glauca midhigh open forest to woodland + Cyperus lucidus / Eleocharis species / Paspalum conjugatum / Enydra fluctuans (very) tall (closed) sedgeland / grassland / forbland	NA	99	0	NA	1099
40140	Melaleuca quinquenervia / Casuarina glauca midhigh open forest to woodland + Eleocharis species / Baumea juncea / Cyclosorus interruptus / Enydra fluctuans tall (sparse) sedgeland / fernland / forbland	NA	99	0	M3	402
40140	Melaleuca quinquenervia / Casuarina glauca midhigh open forest to woodland + Eleocharis species / Baumea juncea / Cyclosorus interruptus / Enydra fluctuans tall (sparse) sedgeland / fernland / forbland	NA	99	0	NA	1099
40141	Casuarina glauca midhigh (open) woodland + (very) sparse mid stratum of Excoecaria agallocha / Casuarina glauca	N	1	0	M2	601
40142	Avicennia marina +/- Bruguiera gymnorhiza low closed forest	N	1	0	L4	602
40143	Casuarina glauca midhigh to tall open forest to woodland + mid dense to sparse mid stratum of Excoecaria agallocha / Ipomoea cairica	N	1	0	M3	601
40144	Casuarina glauca midhigh open forest to woodland + Baumea juncea tall sedgeland	N	1	0	M3	601
40145	Casuarina glauca +/- Excoecaria agallocha midhigh open forest to woodland + mid dense to sparse mid stratum of Excoecaria agallocha / Baccharis halimifolia	N	1	0	M3	601
40146	Casuarina glauca low open woodland + Baumea juncea / Digitaria didactyla tall closed sedgeland / grassland	N	1	0	L2	601
40147	Juncus kraussii / Sporobolus virginicus (very) tall (open) sedgeland / grassland	N	1	0	Y	701
40148	Sporobolus virginicus low (open) grassland	N	1	0	G	603
40149	Sporobolus virginicus low (sparse) grassland	N	1	0	G	603
40150	Hibiscus tiliaceus / Macaranga tanarius tall to extremely tall shrubland	N	1	3	L3	1002
40151	Hibiscus tiliaceus +/- Avicennia marina, Excoecaria, Bruguiera low to midhigh closed forest to woodland	N	1	0	L4	602
40152	Avicennia marina / Bruguiera / Excoecaria dwarf to low open forest to woodland + Aegiceras (very) tall (sparse) shrubland	N	1	0	L3	602
40153	Sporobolus virginicus low (open) grassland	N	1	0	G	603
40154	Avicennia marina dwarf to low open forest to woodland + Aegiceras low to tall shrubland	N	1	0	L3	602
40155	Hibiscus tiliaceus tall to very tall (open) shrubland	N	1	3	L3	1002
40156	Banksia integrifolia / Acacia sophorae tall to very tall (open) shrubland	N	1	0	L3	310
40157	Acrostichum tall (open) fernland	N	1	0	F	702
40158	Sporobolus virginicus / Juncus kraussii low to tall grassland / rushland	N	1	0	G	603
40159	Casuarina glauca / Hibiscus tiliaceus / Excoecaria agallocha midhigh woodland	N	1	0	M3	601
40160	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	ND	3	3	L3	601
40160	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	N	2	3	L3	401
40160	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	S	3	3	L3	402
40160	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	S	2	3	M2	401
40160	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099

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40162	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
40163	Outside study area. Estuarine waters	NA	1	0	NA	903
40164	Outside study area. Estuarine waters	NA	1	0	NA	903
40165	Outside study area. Estuarine waters	NA	1	0	NA	903
40166	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
40167	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	1	0	NA	903
50001	Avicennia marina / Bruguiera / Aegiceras midhigh (open) woodland	N	1	0	M1	602
50002	Avicennia marina midhigh to tall closed forest	N	1	0	M4	602
50003	Avicennia marina / Aegiceras midhigh closed forest to woodland	N	1	0	M3	602
50004	Casuarina glauca low (to midhigh) woodland with Phragmites australis very tall closed grassland	N	1	0	NA	1099
50005	Casuarina glauca / Excoecaria agallocha midhigh to tall (open) woodland	N	1	0	M3	601
50006	Casuarina glauca midhigh (open) woodland with Phragmites australis / Crinum pedunculatum very tall grass/forbland	N	1	0	NA	1099
50007	Casuarina glauca +/- Avicennia marina midhigh to tall (open) woodland	N	1	0	M3	601
50008	Avicennia marina / Bruguiera / Aegiceras midhigh closed forest	N	1	0	M4	602
50009	Casuarina glauca midhigh to tall open forest to open woodland + Littoral rainforest	N	1	0	M3	601
50010	Avicennia marina +/- Hibiscus tiliaceus / Casuarina glauca midhigh closed forest to woodland	N	1	0	M3	602
50011	Phragmites australis +/- Sporobolus virginicus / Juncus kraussii tall to very tall closed grassland / rushland	N	1	0	Y	701
50012	Sporobolus virginicus / Phragmites low to tall closed grassland	N	1	0	G	603
50013	Casuarina glauca / Excoecaria agallocha low to midhigh open forest to (open) woodland with littoral rainforest	N	1	0	M3	601
50014	Avicennia marina / Bruguiera / Aegiceras low to midhigh closed forest to woodland	N	1	0	M3	602
50015	Avicennia marina / Aegiceras low to midhigh closed forest	N	1	0	L4	602
50016	Avicennia marina / Aegiceras midhigh closed forest	N	1	0	M4	602
50017	Avicennia marina midhigh open forest to open woodland + Bruguiera / Aegiceras tall to extremely tall closed to open shrubland	N	1	0	M2	602
50018	Casuarina glauca / Excoecaria / Flagellaria midhigh (open) woodland + Excoecaria / Flagellaria tall to very tall closed shrubland	N	1	0	M3	601
50019	Littoral rainforest - midhigh open forest	N	1	0	M3	101
50020	Waterhousia floribunda / Archontophoenix cunninghamiana (very) tall (closed) palm forest.	N	1	0	M4	104
50021	Casuarina glauca / Excoecaria / Bruguiera midhigh to tall open forest to (open) woodland	N	1	0	M3	601
50022	Casuarina glauca midhigh to tall open forest to woodland + Sporobolus virginicus low to midhigh (open) grassland	N	1	0	M3	601
50023	Avicennia marina +/- Bruguiera low to midhigh open forest to open woodland + Aegiceras midhigh to tall closed to open shrubland	N	1	0	L3	602
50024	Melaleuca quinquenervia tall open forest to woodland	N	1	0	M3	401
50025	Sporobolus virginicus / Juncus kraussii low to tall grass/rushland	N	1	0	G	603
50026	Avicennia marina midhigh open forest + Aegiceras midhigh to tall closed to open shrubland	N	1	0	L3	602
50027	Avicennia marina midhigh open woodland + Aegiceras / Flagellaria / Hibiscus tiliaceus tall to very tall (open) shrubland	N	1	0	M1	602
50028	Littoral rainforest - midhigh woodland	N	1	0	M3	101
50029	Avicennia marina midhigh closed forest to woodland + Aegiceras corniculatum midhigh to very tall shrubland	N	1	0	L4	602
50030	Melaleuca quinquenervia midhigh open forest to open woodland	N	1	0	M3	401
50031	Sporobolus virginicus low to midhigh closed grassland	N	1	0	NA	1099
50032	Casuarina glauca / Avicennia marina midhigh open forest to open woodland with Aegiceras (very) tall (sparse) shrubland	S	1	0	L3	602
50033	Melaleuca quinquenervia midhigh open forest to open woodland	S	1	0	M3	401
50034	Casuarina glauca / Melaleuca quinquenervia midhigh to tall woodland	N	1	0	M3	402
50035	Avicennia marina midhigh open forest to woodland with Aegiceras (very) tall (closed) shrubland	N	1	0	M3	602
50036	Avicennia marina midhigh open forest + Aegiceras (very) tall closed to open shrubland	N	1	0	M3	602
50037	Avicennia marina / Bruguiera / Rhizophora / Excoecaria low to midhigh (open) woodland + Aegiceras (very) tall (closed) shrubland	N	1	0	L3	602
50038	Casuarina glauca / Excoecaria agallocha midhigh (open) woodland	N	1	0	M3	601
50039	Casuarina glauca / Excoecaria agallocha midhigh (open) woodland	N	1	0	M3	601
50040	Casuarina glauca / Hibiscus tiliaceus low to midhigh (open) woodland	N	1	0	M1	601
50041	Casuarina glauca / Excoecaria / Bruguiera midhigh woodland	N	1	0	M3	601
50042	Casuarina glauca / Excoecaria / Bruguiera midhigh woodland	N	1	0	M3	601
50043	Aegiceras corniculatum vary tall closed shrubland	N	1	0	L4	602
50044	Sporobolus virginicus low to midhigh closed grassland	N	1	0	G	603
50045	Sporobolus virginicus low to midhigh closed grassland	N	1	0	G	603
50046	Avicennia marina / Casuarina glauca low to midhigh closed forest to woodland + Aegiceras midhigh to tall (open) shrubland	N	1	0	L4	602
50047	Casuarina glauca midhigh open woodland with closed exotic very tall grassland	N	1	0	M2	601
50048	Avicennia marina / Aegiceras +/- Bruguiera / Excoecaria / Casuarina glauca	N	1	0	L3	602
50049	Casuarina glauca midhigh (open) woodland	N	1	0	M1	601
50050	Casuarina glauca low to midhigh (open) woodland +/- littoral rainforest	N	1	0	M1	601
50051	Hibiscus tiliaceus / Cupaniopsis anacardioides low to midhigh open woodland (regrowth littoral rainforest)	N	1	0	L1	101
50052	Casuarina glauca midhigh open woodland to isolated trees with Phragmites australis / Fimbristylis ferruginea / Suaeda australis (very) tall (open) grass/sedgeland	N	1	0	NA	1099
50053	Avicennia marina / Hibiscus tiliaceus midhigh open forest to woodland + Littoral rainforest on landward margin	N	1	0	M3	602
50054	Casuarina glauca +/- Excoecaria, Hibiscus tiliaceus midhigh open forest to woodland	N	1	0	M3	601

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50055	Avicennia marina / Hibiscus tiliaceus / Aegiceras low to midhigh open forest to woodland + band of Littoral Rf on landward edge	N	1	0	M4	602
50056	Avicennia marina low to midhigh open forest to woodland + Aegiceras midhigh to very tall (sparse) shrubland	N	1	0	L3	602
50057	Avicennia marina / Bruguiera gymnorrhiza low to mid high open woodland + Aegiceras corniculatum mid high to very tall closed to sparse shrubland	N	1	0	L2	602
50058	Eriochloa procera / Fimbristylis ferruginea / Suaeda australis midhigh to tall closed to open grassland / sedgeland / chenopod shrubland (saltmarsh)	N	1	0	G	603
50059	Avicennia marina mid high open forest to open woodland + Littoral Rf	N	1	0	M3	602
50060	Avicennia marina / Casuarina glauca midhigh open woodland + Aegiceras / Excoecaria tall to very tall shrubland + Littoral rainforest on small rise	N	1	0	M1	602
50061	Casuarina glauca / Avicennia marina dwarf to low open woodland + Phragmites australis / Eriochloa procera / Fimbristylis ferruginea (very) tall closed to open grassland / sedgeland	N	1	0	L2	601
50062	Casuarina glauca / Avicennia marina / Excoecaria low to midhigh (open) woodland + Aegiceras / Excoecaria midhigh to very tall shrubland	N	1	0	L3	601
50063	Fimbristylis ferruginea / Eriochloa procera / Phragmites australis mid high to very tall sedgeland / grassland	N	1	0	Y	701
50064	Avicennia marina / Casuarina glauca midhigh open forest to woodland	N	1	0	M3	602
50065	Casuarina glauca / Avicennia marina / Hibiscus tiliaceus low to midhigh open forest to open woodland + margin of Littoral Rf on landward edge	N	1	0	L3	702
50066	Avicennia marina midhigh open forest to woodland with Aegiceras (extremely) tall open shrubland	N	1	0	M3	602
50067	Casuarina glauca / Avicennia marina / Hibiscus tiliaceus midhigh to low to midhigh (closed) forest with emergent Casuarina to 16 m	N	1	0	M2	601
50068	Avicennia marina / Aegiceras low to midhigh open forest to woodland + narrow fringe of Casuarina glauca / Littoral Rf	N	1	0	L3	602
50069	Melaleuca quinquenervia midhigh to tall open forest to woodland	N	1	0	M3	401
50070	Casuarina glauca midhigh to tall woodland	NA	99	0	NA	1099
50071	Casuarina glauca / Hibiscus tiliaceus low to midhigh (open) woodland with tall closed to sparse exotic grassland	N	1	0	L2	601
50072	Casuarina glauca midhigh to tall (open) woodland with littoral rainforest understorey and exotic tall (open) grassland	N	1	0	M3	601
50073	Avicennia marina +/- Excoecaria / Bruguiera midhigh open forest	N	1	0	M3	602
50074	Casuarina glauca / Avicennia marina low to midhigh open forest with Aegiceras very tall (closed) shrubland	N	1	0	M3	601
50075	Avicennia marina low to midhigh closed forest with Aegiceras tall shrubland	N	1	0	L4	602
50076	Casuarina glauca / Hibiscus tiliaceus low to midhigh (open) woodland	N	1	0	M1	601
50077	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
50078	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
50079	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
50080	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
50081	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
50082	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
50083	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
50084	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
60001	Casuarina glauca / Hibiscus tiliaceus low to midhigh (open) woodland	N	1	0	M1	601
60002	Casuarina glauca +/- littoral rainforest midhigh openforest to woodland	S	1	0	M3	601
60003	Avicennia marina / Bruguiera gymnorrhiza midhigh woodland with Aegiceras very tall (closed) shrubland	N	1	0	M3	602
60005	Melaleuca quinquenervia low to midhigh open forest to open woodland	N	1	0	NA	1099
60005	Melaleuca quinquenervia low to midhigh open forest to open woodland	N	1	0	L3	401
60006	Melaleuca quinquenervia +/- Lophostemon suaveolens midhigh open forest to open woodland	NA	1	0	NA	1099
60007	Allocasuarina littoralis +/- Melaleuca quinquenervia / Lophostemon confertus low to mid high open forest to woodland	N	1	0	M3	312
60007	Allocasuarina littoralis +/- Melaleuca quinquenervia / Lophostemon confertus low to mid high open forest to woodland	NA	99	0	NA	1099
60007	Allocasuarina littoralis +/- Melaleuca quinquenervia / Lophostemon confertus low to mid high open forest to woodland	N	1	0	NA	1099
60008	Melaleuca quinquenervia +/- Eucalyptus intermedia / Lophostemon confertus low to midhigh (open) mallee woodland	N	1	0	L3	401
60009	Lophostemon confertus / Eucalyptus intermedia +/- Allocasuarina littoralis low to midhigh open mallee forest to open mallee woodland	NA	99	0	L2	303
60009	Lophostemon confertus / Eucalyptus intermedia +/- Allocasuarina littoralis low to midhigh open mallee forest to open mallee woodland	NA	99	0	NA	1099
60010	Leucopogon ericoides / Banksia oblongifolia midhigh to tall (closed) shrubland	N	1	0	S4	501
60011	Casuarina glauca low open forest to woodland	N	1	0	L3	601
60012	Leucopogon ericoides low to tall open to sparse shrubland	N	1	0	S2	501
60013	Leucopogon ericoides / Aotus ericoides / Dillwynia retorta midhigh to tall (closed) shrubland	N	1	0	S4	501

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60014	Lophostemon confertus / Banksia integrifolia low mallee open woodland with exotic (closed) grass and shrubland	N	1	0	NA	1099
60015	Banksia integrifolia / Casuarina equisetifolia low to midhigh open forest to open woodland	N	1	3	M3	1008
60016	Casuarina glauca +/- littoral rainforest midhigh to tall open forest to (open) woodland	S	1	0	M3	601
60017	Lophostemon confertus tall forest to woodland	N	1	0	M3	303
60018	Eucalyptus tereticornis +/- Lophostemon suaveolens midhigh to tall (open) woodland	N	1	0	M2	304
60019	Eucalyptus tereticornis / Eucalyptus intermedia midhigh to tall open forest to woodland	N	1	0	M3	304
60020	Lophostemon confertus / Lophostemon suaveolens midhigh open forest to woodland	N	1	0	M3	303
60021	Casuarina glauca +/- Melaleuca quinquenervia midhigh to tall open forest to open woodland with exotic grassland	N	1	0	M3	702
60022	Lophostemon confertus tall open forest	NA	99	0	NA	1099
60022	Lophostemon confertus tall open forest	N	1	0	M3	303
60023	Casuarina glauca / Melaleuca quinquenervia tall open forest to open woodland	NA	99	0	NA	1099
60023	Casuarina glauca / Melaleuca quinquenervia tall open forest to open woodland	S	1	0	M3	402
60024	Lophostemon suaveolens / Melaleuca quinquenervia low to midhigh open forest to open woodland	NA	99	0	NA	1099
60024	Lophostemon suaveolens / Melaleuca quinquenervia low to midhigh open forest to open woodland	N	1	3	M3	309
60025	Casuarina glauca +/- Eucalyptus tereticornis, Melaleuca quinquenervia midhigh open woodland with Chrysanthemoides monilifera tall exotic shrubland	N	1	3	M2	601
60025	Casuarina glauca +/- Eucalyptus tereticornis, Melaleuca quinquenervia midhigh open woodland with Chrysanthemoides monilifera tall exotic shrubland	NA	99	0	NA	1099
60026	Lophostemon confertus +/- Lophostemon suaveolens, Melaleuca quinquenervia midhigh to tall open forest to open woodland	S	1	3	M3	303
60027	Eucalyptus tereticornis +/- Lophostemon suaveolens, Lophostemon confertus midhigh to tall open woodland	S	1	0	M2	304
60028	Casuarina glauca +/- Lophostemon suaveolens, Eucalyptus robusta low to midhigh open forest to isolated clumps of trees	S	1	3	M2	601
60028	Casuarina glauca +/- Lophostemon suaveolens, Eucalyptus robusta low to midhigh open forest to isolated clumps of trees	NA	1	0	NA	1099
60028	Casuarina glauca +/- Lophostemon suaveolens, Eucalyptus robusta low to midhigh open forest to isolated clumps of trees	S	1	3	M3	601
60028	Casuarina glauca +/- Lophostemon suaveolens, Eucalyptus robusta low to midhigh open forest to isolated clumps of trees	S	1	0	M3	601
60029	Casuarina glauca +/- Lophostemon suaveolens low to midhigh open forest to open woodland	S	1	3	L3	601
60030	Casuarina glauca / Melaleuca quinquenervia / Banksia integrifolia low clumps of trees with tall native and exotic grass/sedgeland	NA	1	0	NA	1099
60030	Casuarina glauca / Melaleuca quinquenervia / Banksia integrifolia low clumps of trees with tall native and exotic grass/sedgeland	N	2	3	L2	402
60030	Casuarina glauca / Melaleuca quinquenervia / Banksia integrifolia low clumps of trees with tall native and exotic grass/sedgeland	S	1	3	L3	601
60030	Casuarina glauca / Melaleuca quinquenervia / Banksia integrifolia low clumps of trees with tall native and exotic grass/sedgeland	N	2	3	L2	601
60030	Casuarina glauca / Melaleuca quinquenervia / Banksia integrifolia low clumps of trees with tall native and exotic grass/sedgeland	NA	99	0	NA	1099
60031	Casuarina equisetifolia low to midhigh open forest to open woodland	N	1	3	L3	1008
60032	Casuarina glauca / Melaleuca quinquenervia +/- Lophostemon suaveolens, Eucalyptus robusta tall open forest to open woodland	S	1	0	M3	402
60033	Casuarina glauca / Melaleuca quinquenervia midhigh to tall woodland	N	1	0	M3	402
60034	Melaleuca quinquenervia / Casuarina glauca midhigh to tall open forest to woodland	N	1	0	M3	402
60035	Casuarina glauca midhigh (open) woodland	N	1	0	M3	601
60036	Casuarina glauca / Glochidion sumatranum midhigh to tall (open) woodland	N	1	0	NA	1099
60037	Melaleuca quinquenervia +/- Casuarina glauca midhigh open forest to open woodland	N	1	2	L3	401
60038	Ficus spp./ Cinnamomum camphora (very) tall open forest	S	1	2	M4	102
60039	Melaleuca quinquenervia / Casuarina glauca tall open forest	S	1	3	M3	402
60040	Casuarina glauca / Melaleuca quinquenervia midhigh to tall woodland to isolated clumps of trees with Typha orientalis / Blechnum indicum (very) tall (closed) grass/fermland	N	1	2	M3	402
60041	Glochidion sumatranum / Ficus spp. tall open forest to open woodland	N	1	2	M3	1002
60042	Melaleuca quinquenervia +/- Casuarina glauca midhigh open forest to open woodland	N	1	2	M3	401
60043	Melaleuca quinquenervia midhigh isolated clumps of trees with mixed native and exotic tall closed grass/sedgeland	N	1	0	NA	1099
60044	Melaleuca quinquenervia (very) tall open forest with open rainforest midstorey and tall (sparse) fern/grassland	N	1	1	M3	401
60045	Cinnamomum camphora tall open forest to woodland	D	1	3	M3	1004
60046	Melaleuca quinquenervia / Ficus spp. midhigh to tall open forest to (open) woodland	N	1	2	M3	401
60047	Melaleuca quinquenervia low to midhigh isolated (clumps of) trees with Blechnum indicum tall closed fermland	N	1	3	F	702
60048	Acaia melanoxylon / Glochidion spp. midhigh to tall open forest to open woodland	N	1	3	L3	311
60048	Acaia melanoxylon / Glochidion spp. midhigh to tall open forest to open woodland	N	1	3	M3	101
60049	Melaleuca quinquenervia isolated midhigh clumps of trees with Baeckea stenophylla / Banksia robur (very) tall heathland and tall closed sedge/fermland.	N	1	3	F	702
60050	Banksia integrifolia / Lophostemon confertus low to midhigh isolated trees with Leptospermum polygalifolium / Banksia robur / Xanthorrhoea macronema low to tall (open) heathland	NA	1	0	NA	1099
60051	Acacia melanoxylon midhigh to tall open forest to open woodland with Lantana tall shrubland and (closed) fern/sedgeland	N	1	2	L3	311
60052	Elaeocarpus obovatus / Commersonia bartramia midhigh open forest to open woodland	N	1	3	L2	101
60053	Casuarina glauca midhigh isolated clumps of trees with midhigh to tall (closed) grass/fern/sedgeland	N	1	0	NA	1099

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60054	Leersia hexandra / Phragmites australis (very) tall closed grassland	N	1	3	G	902
60055	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
60056	Avicennia marina dwarf to low (open) woodland + Sporobolus virginicus low grassland	N	1	0	L3	602
60057	Casuarina glauca / Melaleuca quinquenervia mid high open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	M3	402
60058	Casuarina equisetifolia / Leptospermum laevigatum / Acacia sophorae / Banksia integrifolia tall to very tall (sparse) shrubland	S	1	3	L2	1008
60059	Avicennia marina +/- Bruguiera gymnorhiza dwarf open forest to woodland + Sporobolus virginicus low open to sparse grassland	N	1	0	L3	602
60060	Casuarina equisetifolia / Leptospermum laevigatum tall to very tall (sparse) shrubland	N	1	3	L2	1008
60061	Avicennia marina dwarf to low open woodland + Juncus kraussii / Sporobolus virginicus low to tall (closed) sedgeland / grassland	N	1	0	L1	602
60062	Avicennia marina +/- Casuarina glauca dwarf to low open forest to woodland + Juncus kraussii / Baumea juncea / Sporobolus virginicus / Suaeda australis low to tall (sparse) sedgeland / grassland / forbland	N	1	0	L3	602
60063	Baumea juncea / Juncus kraussii / Phragmites australis / Sporobolus virginicus (very) tall (sparse) sedgeland / grassland	N	1	0	Y	701
60064	Juncus kraussii / Sporobolus virginicus low tall closed to open sedgeland / grassland	N	1	0	Y	701
60065	Melaleuca quinquenervia low to midhigh open forest to woodland + (very) sparse mid stratum of Melaleuca quinquenervia	N	1	0	L3	401
60066	Melaleuca quinquenervia / Casuarina glauca +/- Banksia integrifolia midhigh open forest to woodland + (very) sparse mid stratum of Banksia integrifolia / Cupaniopsis anacardioides / Acronychia imperforata / Chrysanthemum monilifera	N	1	0	M3	402
60067	Casuarina equisetifolia / Leptospermum laevigatum tall to very tall (sparse) shrubland	N	1	3	L2	1008
60067	Casuarina equisetifolia / Leptospermum laevigatum tall to very tall (sparse) shrubland	NA	99	0	NA	1099
60068	Casuarina glauca / Melaleuca quinquenervia midhigh open forest to woodland + Baumea juncea / Juncus kraussii tall closed to open sedgeland	N	1	0	M3	402
60069	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
60070	Macaranga tanarius / Banksia integrifolia midhigh (closed) forest - regrowth littoral rainforest	S	1	3	M4	101
60071	Macaranga tanarius / Banksia integrifolia midhigh (closed) forest - regrowth littoral rainforest	S	1	3	M4	101
60072	Avicennia marina low open forest to open woodland	N	1	0	L3	602
60073	Casuarina glauca / Banksia integrifolia low to midhigh isolated clumps of trees (parkland)	N	1	0	NA	1099
60074	Macaranga tanarius/ Acacia melanoxylon / Banksia integrifolia midhigh open woodland	N	1	3	M1	1003
60075	Acacia melanoxylon / Banksia integrifolia midhigh open forest to woodland with littoral rainforest understorey	N	1	0	L3	310
60076	Lophostemon confertus / subtropical rainforest midhigh to tall closed forest to woodland	N	1	0	M4	303
60077	Banksia integrifolia / Glochidion spp. midhigh open forest to open woodland with littoral rainforest elements	N	1	0	M3	310
60078	Melaleuca quinquenervia midhigh to tall open forest with rainforest understorey	N	1	0	M3	401
60079	Glochidion ferdinandii / Lophostemon confertus / Melaleuca quinquenervia midhigh to tall open forest to woodland with rainforest understorey	N	1	3	M3	1002
60080	Melaleuca quinquenervia +/- Eucalyptus robusta tall open forest with Blechnum spp./ Carex appressa / Baumea rubiginosa (closed) sedge/ferland	N	1	0	M3	401
60081	Acacia melanoxylon / Glochidion ferdinandii midhigh to tall (open) woodland with rainforest understorey	N	1	0	M3	311
60082	Melaleuca quinquenervia +/- Eucalyptus robusta tall open forest with Blechnum spp./ Carex appressa / Baumea rubiginosa (closed) sedge/ferland	N	1	0	M3	401
60083	Melaleuca quinquenervia / Casuarina glauca midhigh open forest to open woodland + midstrum of Littoral Rf	N	1	0	M3	402
60084	Avicennia marina +/- Bruguiera gymnorhiza dwarf to low closed forest to open woodland	N	1	0	L4	602
60085	Juncus kraussii midhigh (closed) rushland	N	1	0	Y	701
60086	Avicennia marina / Casuarina glauca low open woodland to isolated trees + Juncus kraussii / Sporobolus virginicus / Baumea juncea low to tall rushland / grassland / sedgeland	N	1	0	L1	602
60087	Casuarina glauca low to midhigh open woodland with Juncus kraussii / Sporobolus virginicus midhigh to tall open grass/rushland	N	1	0	M1	601
60088	Avicennia marina / Casuarina glauca low to midhigh open woodland with Juncus kraussii / Sporobolus virginicus / Baumea juncea closed to sparse gass/rushland	N	1	0	L2	602
60089	Avicennia marina / Casuarina glauca low to midhigh open forest to woodland	N	1	0	L3	602
60090	Juncus kraussii / Acrostichum speciosum (very) tall (sparse) rushland /ferlandl	N	1	0	Y	701
60091	Casuarina glauca +/- Melaleuca quinquenervia midhigh to tall open forest	N	1	3	M4	601
60092	Melaleuca quinquenervia midhigh to tall open forest with rainforest understorey	S	1	0	M3	401
60093	Melaleuca quinquenervia +/- Casuarina glauca midhigh open forest to woodland	N	1	0	M3	401
60094	Casuarina glauca midhigh open forest to woodland	N	1	0	M3	601
60095	Casuarina glauca / Melaleuca quinquenervia midhigh open woodland	N	1	0	M1	402
60096	Avicennia marina +/- Bruguiera / Rhizophora dwarf to low open forest	N	1	0	L3	602
60097	Juncus kraussii / Sporobolus virginicus low to tall rushland / grassland	N	1	0	Y	701
60098	Avicennia marina +/- Bruguiera / Rhizophora dwarf to low open forest to woodland	N	1	0	L3	602
60099	Littoral Rf - low to midhigh open woodland + (very) tall (sparse) shrubland	N	1	0	L2	101
60100	Juncus kraussii / Sporobolus virginicus low to tall (open) rushland / grassland	N	1	0	Y	701
60101	Juncus kraussii / Sporobolus virginicus low to tall closed to sparse rushland / grassland	N	1	0	Y	701
60102	Casuarina glauca +/- Juncus kraussii midhigh open woodland to isolated trees	N	1	0	M2	601
60103	Baumea juncea / Juncus kraussii / Sporobolus virginicus low to tall (closed) sedgeland / rushland / grassland	N	1	0	Y	701
60104	Casuarina glauca +/- Melaleuca quinquenervia midhigh open woodland + Baumea juncea / Juncus kraussii tall (open) sedgeland / rushland	N	1	0	M2	601
60105	Avicennia marina low closed forest	N	1	0	L4	602
60106	Casuarina glauca +/- Melaleuca quinquenervia midhigh open forest to isolated clumps + Phragmites australis / Sporobolus virginicus / Juncus kraussii low to very tall closed grassland / rushland	N	1	0	M3	402

CAL_POLYID	CAL_DESC	CAMP CODE	FIELD CODE	COND CODE	STRUCT CODE	VEG CODE
60107	Avicennia marina low closed forest	N	1	0	L4	602
60108	Casuarina glauca / Melaleuca quinquenervia midhigh open forest to open woodland + Juncus kraussii midhigh closed to open rushland	N	1	0	L3	402
60109	Melaleuca quinquenervia / Banksia integrifolia / Allocasuarina littoralis midhigh open forest to woodland	N	1	0	L3	401
60110	Avicennia marina midhigh open forest	N	1	0	L3	602
60111	Casuarina glauca low open woodland + Juncus kraussii tall sedgeland	N	1	0	L2	601
60112	Juncus kraussii tall (closed) sedgeland	N	1	0	Y	701
60113	Casuarina glauca midhigh woodland + Baumea juncea tall closed sedgeland	N	1	0	L3	601
60114	Banksia integrifolia low to midhigh (open) woodland + Digitaria didactyla low closed grassland	NA	99	0	NA	1099
60114	Banksia integrifolia low to midhigh (open) woodland + Digitaria didactyla low closed grassland	N	1	0	NA	1099
60114	Banksia integrifolia low to midhigh (open) woodland + Digitaria didactyla low closed grassland	N	1	0	L3	310
60115	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
60116	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
60118	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
60119	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	ND	99	3	M2	601
60119	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
60120	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	99	0	NA	903
60121	Outside study area. Estuarine waters	NA	1	0	NA	903
60122	Outside study area. Estuarine waters	NA	1	0	NA	903
60123	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
60124	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
60125	Casuarina glauca / Avicennia marina dwarf to low open forest + Juncus kraussii / Baumea juncea / Sporobolus virginicus tall closed to open sedgeland grassland	N	1	0	L3	601
60126	Acacia saligna low to mid high open forest to woodland + mid dense to sparse mid stratum of Chrysanthemum monilifera / Lantana camara	N	1	3	L3	1008
60127	Acacia saligna dwarf to low open woodland	N	1	3	M1	1008
60128	Littoral Rf + sclerophyll species mid high open forest to woodland	S	1	0	M3	101
60129	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest to woodland + (very) sparse mid stratum of Cupaniopsis anacardioides	N	1	0	M3	402
60130	Casuarina glauca mid high open forest to open woodland + Acrostichum speciosum / Phragmites australis / Juncus kraussii (very) tall closed to open fernland / grassland / sedgeland	N	1	0	M3	601
70001	Melaleuca quinquenervia midhigh woodland	S	1	0	M2	401
70002	Lepironia articulata / Setaria sphacelata / Paspalum urvillei very tall sedge/grassland	N	1	0	NA	1099
70002	Lepironia articulata / Setaria sphacelata / Paspalum urvillei very tall sedge/grassland	N	1	0	Y	701
70002	Lepironia articulata / Setaria sphacelata / Paspalum urvillei very tall sedge/grassland	N	3	0	Y	701
70003	Lepironia articulata very tall closed sedgeland	N	1	0	Y	701
70003	Lepironia articulata very tall closed sedgeland	N	3	0	Y	701
70003	Lepironia articulata very tall closed sedgeland	NA	99	0	NA	1099
70004	Casuarina glauca low to midhigh woodland	N	1	0	NA	1099
70005	Melaleuca quinquenervia midhigh to tall open forest	N	1	0	M3	401
70006	Lepironia articulata very tall closed sedgeland	N	1	0	Y	701
70007	Eleocharis equisetina tall open sedgeland	N	1	0	Y	701
70008	Lepironia articulata very tall closed to open sedgeland	N	3	0	Y	701
70009	Lepironia articulata very tall closed to open sedgeland	N	3	0	Y	701
70010	Lepironia articulata very tall closed to open sedgeland	N	3	0	Y	701
70011	Lepironia articulata very tall closed to open sedgeland	N	1	0	Y	701
70012	Lepironia articulata very tall closed to open sedgeland	N	1	0	Y	701
70013	Ischaemum australe / Lepironia articulata mixed tall (closed) grass/sedgeland	N	1	0	Y	701
70013	Ischaemum australe / Lepironia articulata mixed tall (closed) grass/sedgeland	NA	99	0	NA	1099
70014	Blechnum indicum / Lepironia articulata (very) tall (open) fernland / sedgeland	N	1	0	F	702
70015	Melaleuca quinquenervia midhigh open forest to (open) woodland with Lepironia articulata / Blechnum indicum (very) tall sedgeland / fernland	N	1	0	M3	401
70016	Melaleuca quinquenervia midhigh open forest to woodland with Lepironia articulata / Cyperus lucidus / Blechnum indicum (very) tall sedgeland	N	1	0	M3	401
70017	Melaleuca quinquenervia midhigh open forest to woodland with Lepironia articulata / Cyperus lucidus / Blechnum indicum (very) tall sedgeland	N	1	0	M3	401
70018	Melaleuca quinquenervia midhigh to tall open forest with disturbed open mid and ground storey	S	1	0	M3	401
70019	Lepironia articulata / Blechnum indicum very tall closed to open sedgeland	N	1	0	Y	701
70020	Melaleuca quinquenervia tall open forest to woodland with mixed rainforest midstorey and groundcover.	S	1	0	M3	401
70021	Callistemon salignus midhigh woodland with Paspalum conjugatum tall grassland	N	1	0	M2	401
70022	Melaleuca quinquenervia midhigh to tall open forest to woodland with Hypolepis muelleri midhigh to tall fernland	S	1	3	M3	401
70023	Melaleuca quinquenervia low open forest to woodland with isolated clumps of midhigh trees and Ischaemum australe / Paspalum scrobiculatum midhigh sparse grassland	N	1	0	L3	401
70024	Melaleuca quinquenervia midhigh open forest with Paspalum conjugatum / P. wettsteinii tall (open) grassland	N	1	3	M3	401

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70025	Melaleuca quinquenervia midhigh open forest to woodland	N	1	0	M3	401
70026	Lepironia articulata very tall closed sedgeland	N	1	0	NA	1099
70027	Melaleuca quinquenervia low to midhigh open woodland to isolated trees with Blechnum indicum / Lepironia articulata / Rhynchospora corymbosa tall sedgeland / fernland	S	1	0	NA	1099
70028	Casuarina glauca midhigh (open) woodland	N	1	0	M1	601
70029	Melaleuca quinquenervia midhigh open forest to woodland with Rhynchospora corymbosa (very) tall closed to open sedgeland	S	1	0	M3	401
70030	Melaleuca quinquenervia midhigh open forest to open woodland	S	1	0	M2	401
70031	Melaleuca quinquenervia / Acacia melanoxylon midhigh open woodland	S	1	0	M1	401
70032	Melaleuca quinquenervia midhigh to tall open forest to open woodland with (very) tall Phragmites australis / Leersia hexandra / Blechnum indicum / Rhynchospora corymbosa open grassland / fernland.	N	1	0	M3	401
70033	Melaleuca quinquenervia (open) woodland with Rhynchospora corymbosa / Blechnum indicum / Leersia hexandra (very) tall (open) grassland / sedgeland / fernland.	N	1	0	M2	401
70034	Melaleuca quinquenervia tall open forest to open woodland with Glochidion spp. woodland understorey and Hypolepis muelleri tall (open) fernland.	S	1	0	M3	401
70035	Acacia melanoxylon / Cinnamomum camphora midhigh open forest to woodland with Hypolepis muelleri open (sparse) fernland.	C	1	0	L3	311
70036	Melaleuca quinquenervia tall open forest to open woodland with Glochidion spp. woodland understorey and Hypolepis muelleri tall (open) fernland.	S	1	0	M3	401
70037	Pinus elliotii open woodland or scattered trees with Pteridium esculentum tall closed to open fernland and midhigh sparse heath	N	1	0	L1	1006
70038	Melaleuca quinquenervia midhigh to tall open forest to woodland with Blechnum indicum open fernland	N	1	0	M3	401
70039	Melaleuca quinquenervia / Cinnamomum camphora midhigh forest to woodland	C	1	3	M4	401
70040	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
70041	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
70042	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
70043	Floodplain or area of marine sandy soil within study area supporting plantation forest	N	1	0	M3	1006
70044	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
70045	Floodplain or area of marine sandy soil within study area supporting plantation forest	N	1	0	M3	1006
70046	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
70047	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
70048	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
70050	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	1	0	NA	903
70051	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	1	0	NA	903
70052	Land outside study area consisting of bedrock soils	NA	99	0	NA	1099
70053	Land outside study area consisting of bedrock soils	NA	1	0	NA	1099
70054	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	N	3	0	Y	701
70055	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	N	3	0	Y	701
70056	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	99	0	NA	903
80001	Avicennia marina dwarf to low open woodland to isolated clumps + Acrostichum speciosum / Juncus kraussii / Sporobolus virginicus low to very tall fernland / rushland / grassland	N	1	0	L1	602
80002	Melaleuca quinquenervia / Banksia integrifolia midhigh closed forest to open woodland + midstratum of Littoral Rf	N	1	0	M3	401
80003	Leptospermum laevigatum / Casuarina equisetifolia midhigh to extremely tall sparse shrubland + low to midhigh (sparse) grassland	N	1	3	L1	1008
80004	Melaleuca quinquenervia midhigh to tall open forest to woodland + Imperata cylindrica / Pteridium esculentum tall grassland / fernland	N	1	0	M3	401
80005	Casuarina glauca low to midhigh (open) woodland + Phragmites australis / Baumea juncea / Ischaemum australe (very) tall (closed) grassland / sedgeland	N	1	0	M1	601
80006	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
80007	Melaleuca quinquenervia mid high to tall open woodland + dense to sparse mid stratum of Leptospermum polygalifolia / Dodonaea triquetra	N	1	0	M2	401
80008	Casuarina glauca / Melaleuca quinquenervia midhigh open woodland + Phragmites australis / Sporobolus virginicus / Baumea juncea (very) tall (closed) grassland / sedgeland	N	1	0	M1	402
80009	Acacia melanoxylon / Eucalyptus intermedia / Allocasuarina littoralis mid high to tall open woodland + (mid) dense mid stratum of Rf species	N	1	0	M2	301
80010	Eucalyptus intermedia / Banksia integrifolia / Lophostemon confertus low to midhigh (open) woodland + sparse mid stratum of Dodonaea triquetra	N	1	0	M1	301
80011	Eucalyptus intermedia low (open) woodland + (mid) dense ground stratum of Imperata cylindrica / Themeda australis / Lomandra longifolia / Leucopogon leptospermoides / Leucopogon lanceolatus	N	1	0	L2	301
80012	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
80013	Melaleuca quinquenervia +/- Casuarina glauca midhigh (open) woodland + Baumea juncea tall (closed) sedgeland	N	1	0	M1	401

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80014	Casuarina glauca / Melaleuca quinquenervia mid high (open) woodland + Phragmites australis / Sporobolus virginicus / Juncus kraussii / Baumea juncea (very) tall (closed) grassland / sedgeland	N	1	0	Y	701
80015	Allocasuarina littoralis +/- Eucalyptus intermedia mid high (open) woodland + (very) sparse mid stratum of Endiandra sieberi / Lophostemon confertus	N	1	0	M2	312
80016	Eucalyptus intermedia / Lophostemon confertus / Banksia integrifolia mid high open forest to woodland + mid dense to sparse mid stratum of Monotoca elliptica / Dodonea triquetra	N	1	0	L3	301
80017	Avicennia marina dwarf to low (open) woodland + (very) tall Phragmites australis closed to open grassland	N	1	0	L1	602
80018	Casuarina glauca / Melaleuca quinquenervia midhigh open forest to woodland + Phragmites australis / Ischaemum australe / Baumea juncea (very) tall closed to open grassland / sedgeland	S	1	0	M3	402
80019	Avicennia marina dwarf to low (open) woodland + (very) tall Phragmites australis closed to open grassland	N	1	0	L3	602
80020	Lophostemon suaveolens +/- Casuarina glauca / Melaleuca quinquenervia midhigh (open) woodland + Imperata cylindrica / Themeda australis / Pteridium esculentum tall (closed) grassland / fernland	N	1	0	L2	309
80021	Leptospermum laevigatum / Casuarina equisetifolia / Banksia integrifolia / Melaleuca quinquenervia midhigh to extremely tall sparse shrubland + low to tall closed to open grassland / fernland	NA	99	0	NA	1099
80021	Leptospermum laevigatum / Casuarina equisetifolia / Banksia integrifolia / Melaleuca quinquenervia midhigh to extremely tall sparse shrubland + low to tall closed to open grassland / fernland	N	1	3	L1	1008
80022	Melaleuca quinquenervia mid high closed to open forest + Imperata cylindrica / Schoenus brevifolius / Baumea juncea tall (closed) grassland / sedgeland	N	1	0	M4	401
80023	Melaleuca quinquenervia mid high open forest to woodland + Ischaemum australe / Blechnum indicum tall (closed) grassland / fernland	N	1	0	M3	401
80024	Melaleuca quinquenervia +/- Eucalyptus tereticornis / Eucalyptus intermedia / Lophostemon suaveolens midhigh open forest to woodland + Pteridium esculentum / Imperata cylindrica / Themeda australis tall (open) fernland grassland	N	1	0	M3	401
80025	Lophostemon suaveolens +/- Melaleuca quinquenervia low open forest to woodland + Schoenus brevifolius tall closed to open sedgeland	N	1	0	L3	309
80026	Melaleuca quinquenervia +/- Eucalyptus tereticornis midhigh to tall open forest to woodland + mid dense to very sparse mid stratum of Melaleuca quinquenervia / Lophostemon suaveolens	N	1	0	M3	401
80027	Melaleuca quinquenervia mid high open woodland to isolated plants + closed to open mid stratum of Melaleuca quinquenervia / Lophostemon suaveolens	N	1	0	M2	401
80028	Avicennia marina dwarf to low open woodland + Phragmites australis / Acrostichum speciosum (very) tall open to sparse grassland	N	1	0	L1	602
80029	Melaleuca quinquenervia +/- Banksia integrifolia / Lophostemon suaveolens low open woodland + Lomandra longifolia / Pteridium esculentum / Eragrostis species mid high to tall (sparse) rushland / fernland / grassland	N	1	3	L1	1008
80030	Leptospermum trinervium / Leptospermum laevigatum tall sparse shrubland	N	1	3	L2	1008
80031	Eucalyptus intermedia / Banksia integrifolia +/- Lophostemon suaveolens low to mid high open forest to woodland + mid dense to sparse mid stratum of Monotoca elliptica / Dodonea triquetra	N	1	0	M3	301
80032	Allocasuarina littoralis midhigh open forest + Pteridium esculentum / Lomandra longifolia tall open fernland / rushland	N	1	0	M3	312
80033	Melaleuca quinquenervia mid high (open) woodland + mid dense to sparse mid stratum of Melaleuca quinquenervia / Lophostemon suaveolens	N	1	0	M2	401
80034	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open forest to woodland + Phragmites australis / Imperata cylindrica (very) tall (closed) grassland	N	1	0	M3	401
80035	Melaleuca quinquenervia mid high open woodland + dense to mid dense mid stratum of Melaleuca quinquenervia	N	1	0	M2	401
80036	Melaleuca quinquenervia +/- Casuarina glauca mid high to tall open forest + Phragmites australis (very) tall closed to open grassland	N	1	0	M3	401
80037	Leptospermum laevigatum / Casuarina equisetifolia midhigh to extremely tall sparse shrubland + low to midhigh (sparse) grassland	N	1	3	L1	1008
80038	Leptospermum laevigatum / Casuarina equisetifolia midhigh to extremely tall sparse shrubland + low to midhigh (sparse) grassland	N	1	3	L1	1008
80039	Littoral Rf - midhigh closed forest to woodland	N	1	0	M3	101
80040	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open forest + Blechnum indicum / Hypolepis muelleri / Lygodium scandens / Restio tetraphyllus / Gahnia clarkei / Entolasia marginata tall (closed) fernland / sedgeland / grassland	N	1	0	M3	401
80041	Leptospermum laevigatum / Casuarina equisetifolia midhigh to extremely tall sparse shrubland + low to midhigh (sparse) grassland	N	1	3	L1	1008
80042	Casuarina equisetifolia / Leptospermum laevigatum tall to very tall (sparse) shrubland	N	1	3	L2	1008
80043	Eucalyptus intermedia / Banksia integrifolia +/- Lophostemon confertus / Banksia aemula dwarf to low open forest	N	1	0	L3	301
80044	Melaleuca quinquenervia +/- Eucalyptus intermedia midhigh (open) woodland	N	1	0	NA	1099
80045	Melaleuca quinquenervia +/- Lophostemon suaveolens / Archontophoenix cunninghamiana midhigh to tall open forest to woodland	N	1	0	M3	401
80046	Melaleuca quinquenervia low to midhigh (open) woodland + Baumea rubiginosa tall (closed) sedgeland	N	1	0	M2	401
80047	Banksia aemula +/- Leptospermum species / Lophostemon confertus very to extremely tall (open) shrubland	N	1	0	L3	501
80048	Melaleuca quinquenervia +/- Lophostemon suaveolens / Littoral Rf	N	1	0	M3	401
80049	Eucalyptus intermedia / Lophostemon suaveolens +/- Allocasuarina littoralis	N	1	0	M3	301
80050	Allocasuarina littoralis +/- Eucalyptus intermedia / Banksia aemula midhigh open forest	N	1	0	M3	312
80051	Leptospermum polygalifolia / L. whitei +/- Banksia aemula very tall shrubland	N	1	0	L3	502
80052	Banksia aemula / Leptospermum whitei tall to very tall (closed) shrubland	N	1	0	L4	501
80053	Melaleuca quinquenervia low open forest to woodland	N	1	0	L3	401
80054	Xanthorrhoea (very) tall shrubland	N	1	0	S3	502
80055	Leptospermum liversidgei / Banksia oblongifolia / Baekea stenophylla tall (closed) shrubland	N	1	0	L4	502

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80056	Melaleuca quinquenervia low to midhigh open forest to open woodland	N	1	0	M2	401
80057	Banksia aemula / Leptospermum polygalifolia +/- Eucalyptus intermedia very tall (open) shrubland	N	1	0	L3	501
80058	Eucalyptus intermedia / Banksia aemula / B. integrifolia low open forest to open woodland	N	1	0	L3	301
80059	Eucalyptus robusta / Melaleuca quinquenervia midhigh open woodland to isolated trees + Leptospermum polygalifolia / L. whitei / L. liversidgei extremely tall (closed) shrubland	N	1	0	M2	403
80060	Casuarina glauca / Hibiscus tiliaceus / Littoral Rf dwarf closed forest	N	1	0	L4	101
80061	Littoral RF - Dwarf to low closed forest to woodland	N	1	0	L4	101
80062	Banksia integrifolia +/- Casuarina equisetifolia / Cupaniopsis anacardioides low to mid high open forest to open woodland	N	1	0	L3	310
80063	Imperata cylindrica / Pteridium esculentum mid high to tall (open) grassland / fernland	N	1	0	G	902
80064	Banksia aemula +/- Eucalyptus intermedia / Allocasuarina littoralis mid high to very tall (sparse) shrubland	N	1	0	L2	501
80065	Eucalyptus intermedia +/- Lophostemon suaveolens / Melaleuca quinquenervia low (open) woodland + Themeda australis / Banksia oblongifolia mid high (open) grassland / shrubland	N	1	0	L3	301
80066	Banksia oblongifolia mid high (open) shrubland	N	1	0	Z	501
80067	#N/A	NA	99	0	NA	1099
80068	Melaleuca quinquenervia mid high open forest to woodland + Gahnia sieberiana (very) tall (open) sedgeland	N	1	0	L3	401
80069	Leptospermum liversidgei +/- Melaleuca quinquenervia / Leptospermum polygalifolia very tall closed shrubland	N	1	0	L4	502
80070	Melaleuca quinquenervia / Leptospermum polygalifolia low closed forest to woodland	N	1	0	L4	401
80071	Melaleuca quinquenervia low to mid high open woodland + Lepironia articulata / Leersia hexandra (very) tall closed to open sedgeland / grassland	N	1	0	L2	401
80072	Eucalyptus intermedia +/- Allocasuarina littoralis / Lophostemon suaveolens low to mid high woodland	N	1	0	L3	301
80073	Allocasuarina littoralis +/- Eucalyptus intermedia low to mid high closed forest	N	1	0	L4	312
80074	Melaleuca quinquenervia +/- Eucalyptus robusta mid high to tall open forest to woodland	N	1	0	M3	401
80075	Melaleuca quinquenervia low to mid high open woodland + Blechnum indicum / Leersia hexandra tall (closed) fernland / grassland	N	1	0	L2	401
80076	Eucalyptus robusta +/- Melaleuca quinquenervia / Eucalyptus intermedia mid high to tall open forest to woodland	S	1	0	M3	305
80077	Melaleuca quinquenervia low to mid high open woodland to isolated trees + Nymphaea capensis / Triglochin procera open to sparse forbland	N	3	0	NA	703
80077	Melaleuca quinquenervia low to mid high open woodland to isolated trees + Nymphaea capensis / Triglochin procera open to sparse forbland	N	1	0	L2	401
80078	Lophostemon suaveolens +/- Eucalyptus intermedia / Melaleuca quinquenervia mid high to tall woodland + Baumea rubiginosa / Baumea juncea / Ischaemum australe tall (closed) sedgeland / grassland	N	1	0	M3	309
80079	Melaleuca quinquenervia / Eucalyptus robusta midhigh open forest to woodland	N	1	0	M3	403
80080	Eucalyptus robusta / Eucalyptus tereticornis midhigh open woodland with Ischaemum austale (very) tall open grassland	N	1	0	NA	1099
80081	Melaleuca quinquenervia +/- Casuarina glauca, Lophostemon suaveolens midhigh open forest to woodland with Ischaemum australe / Baumea juncea (very) tall open to sparse grassland / sedgeland	N	1	0	L3	401
80082	Ischaemum australe mid high to tall open grassland	N	1	0	G	902
80083	Melaleuca quinquenervia +/- Lophostemon suaveolens, Casuarina glauca midhigh to tall (open) woodland with Ischaemum australe / Imperata cylindrica tall (open) grassland	N	1	0	M3	401
80084	Melaleuca quinquenervia +/- Lophostemon suaveolens / Casuarina glauca midhigh to tall open forest to open woodland + Blechnum indicum / Baumea rubiginosa / Ischaemum australe (very) tall (open) fernland / sedgeland / grassland	N	1	0	M3	401
80085	Lophostemon confertus / Melaleuca quinquenervia / Eucalyptus intermedia tall open forest + Rf midstratum	N	1	0	M3	303
80086	Acacia melanoxylon / Melaleuca quinquenervia low to midhigh open woodland + Ischaemum australe / Hypolepis muelleri	S	1	0	M2	401
80087	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open forest + Baumea rubiginosa / Leersia hexandra / Blechnum indicum (very) tall (closed) sedgeland / grassland / fernland	N	1	0	M3	401
80088	Lophostemon confertus / Melaleuca quinquenervia / Eucalyptus intermedia midhigh to tall open forest to woodland + Rf mid stratum	N	1	0	M3	303
80089	Melaleuca quinquenervia +/- Lophostemon suaveolens / Casuarina glauca midhigh to tall open forest to open woodland + Blechnum indicum / Baumea rubiginosa / Ischaemum australe (very) tall (open) fernland / sedgeland / grassland	N	1	0	M3	401
80090	Melaleuca quinquenervia / Eucalyptus pilularis / Lophostemon suaveolens midhigh to tall open woodland + Ischaemum australe tall (open) grassland	N	1	0	M3	403
80091	Eucalyptus intermedia midhigh to tall (open) woodland	N	1	0	M3	301
80092	Melaleuca quinquenervia / Eucalyptus pilularis / Lophostemon suaveolens midhigh to tall open woodland + Ischaemum australe tall (open) grassland	N	1	0	M3	403
80093	Lophostemon suaveolens / Casuarina glauca +/- Melaleuca quinquenervia midhigh to tall woodland + Ischaemum australe / Blechnum indicum / Imperata cylindrica tall to very tall grassland / fernland	N	1	0	M2	309
80094	Melaleuca quinquenervia +/- Casuarina glauca midhigh woodland to isolated clumps + Blechnum indicum / Baumea rubiginosa tall to very tall (closed) fernland / sedgeland	N	1	0	M2	401
80095	Melaleuca quinquenervia +/- Casuarina glauca midhigh open woodland + Urochloa mutica / Paspalum conjugatum (very) tall closed to open grassland	N	1	0	M2	401
80096	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open forest to woodland + Baumea rubiginosa / Lepironia articulata / Blechnum indicum / Phragmites australis tall to very tall closed to sparse sedgeland/ fernland / grassland	N	1	0	M3	401
80097	Casuarina glauca midhigh to tall open forest to woodland	N	1	0	M3	601
80098	Lophostemon suaveolens / Melaleuca quinquenervia / Casuarina glauca +/- Eucalyptus tereticornis midhigh to tall open forest to woodland	N	1	0	M3	309
80099	Cladium procerum / Schoenoplectus litoralis (very) tall clumps of sedges	N	1	0	Y	701

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80100	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open forest	N	1	0	M3	401
80101	Melaleuca quinquenervia / Archontophoenix cunninghamiana tall closed forest (Palm rainforest)	N	1	0	M4	104
80102	Melaleuca quinquenervia / Glochidion midhigh open woodland	N	1	0	M2	401
80103	Melaleuca quinquenervia +/- Archontophoenix cunninghamiana midhigh to tall (open) woodland + Archontophoenix cunninghamiana mid dense midstratum	N	1	0	M3	401
80104	Melaleuca quinquenervia +/- Lophostemon confertus / Planchonella laurifolia tall sparse to very sparse emergents over Rf - midhigh closed forest to woodland	N	1	0	M2	401
80105	Lepironia articulata tall closed sedgeland	N	1	0	Y	701
80106	Phragmites australis / Typha orientalis / Lepironia articulata very tall open to sparse sedge/grass/rushland	N	1	0	NA	903
80107	Eucalyptus pilularis tall open forest to woodland with Themeda australis / Imperata cylindrica / Pteridium esculentum tall closed grassland / fernland	N	1	0	M3	307
80108	Eucalyptus robusta / Melaleuca quinquenervia midhigh to tall open forest to open woodland	N	1	0	M3	403
80109	Eucalyptus signata / Banksia aemula midhigh to tall open forest	N	1	0	M3	306
80110	Leucopogon spp / Pteridium esculentum low open heath (Mowed dry heath)	N	1	3	Z	1001
80111	Melaleuca quinquenervia / Eucalyptus robusta midhigh to tall open forest to woodland with mixed very tall sparse to open fernland / sedgeland	N	1	0	M3	403
80112	Eucalyptus robusta +/- Eucalyptus gummifera midhigh open forest to woodland with Leptospermum spp. / Acacia maidenii very tall closed shrubland	N	1	0	L3	305
80113	Leptospermum liversidgei +/- Banksia robur, Leptospermum spp. tall closed heathland	N	1	0	M1	502
80114	Eucalyptus robusta +/- Eucalyptus signata midhigh open mallee forest to open mallee woodland with Baeckea stenophylla / Leptospermum spp. very tall (closed) heathland	N	1	0	L3	305
80115	Melaleuca quinquenervia midhigh to tall open forest to woodland + Blechnum indicum / Baumea rubiginosa / Ischaemum australe (very) tall (closed) fernland / sedgeland / grassland	N	1	0	M3	401
80116	Leptospermum spp / Callistemon pachyphyllus low closed to open heathland (Mowed wet heath)	N	1	3	Z	1001
80117	Leucopogon spp / Pteridium esculentum low open heath (Mowed dry heath)	N	1	3	M1	1001
80118	Eucalyptus signata / Lophostemon confertus / Eucalyptus resinifera midhigh to tall open forest to woodland	N	1	0	M3	306
80119	Leucopogon spp / Pteridium esculentum low open heath (Mowed dry heath)	N	1	3	M1	1001
80120	Melaleuca quinquenervia +/- Lophostemon suaveolens midhigh open forest to woodland	N	1	0	M3	401
80121	Melaleuca quinquenervia +/- Lophostemon suaveolens midhigh open forest to woodland	N	1	0	M3	401
80122	Eucalyptus robusta / Eucalyptus resinifera / Melaleuca quinquenervia tall open forest to woodland	N	1	0	M3	305
80123	Lophostemon confertus / Eucalyptus spp / Ficus macrophylla (very) tall open forest to woodland with Archontophoenix cunninghamiana tall closed palm forest	S	1	0	M3	104
80124	Eucalyptus signata / Eucalyptus gummifera midhigh open woodland with Leptospermum whitei / Leptospermum polygalifolia tall closed heathland	N	1	0	M2	306
80125	Melaleuca quinquenervia midhigh (open) woodland + Xanthorrhoea fulva / Baumea rubiginosa tall closed to open sedge heathland	N	1	0	Z	502
80126	Leptospermum liversidgei / Leptospermum whitei / Xanthorrhoea fulva tall (open) heathland	N	1	0	Z	502
80127	Eucalyptus signata / Lophostemon confertus midhigh (open) woodland with Baeckea stenophylla / Leptospermum polygalifolia / L. whitei (extremely) tall (open) shrubland	N	1	0	M3	306
80128	Melaleuca quinquenervia / Archontophoenix cunninghamiana midhigh to tall closed palm forest	S	1	0	M4	104
80129	Eucalyptus signata / Banksia aemula low to midhigh (open) woodland with Leptospermum polygalifolia / L. whitei tall closed shrubland	N	1	0	L3	306
80130	Leucopogon spp / Pteridium esculentum low open heath (Mowed dry heath)	N	1	3	M1	1001
80131	Leucopogon spp / Pteridium esculentum low open heath (Mowed dry heath)	N	1	3	Z	1001
80132	Leucopogon spp / Pteridium esculentum low open heath (Mowed dry heath)	N	1	3	M1	1001
80133	Leucopogon spp / Pteridium esculentum low open heath (Mowed dry heath)	N	1	3	M1	1001
80134	Leptospermum liversidgei / Aotus ericoides / Gahnia clarkei / Lepyrodia muelleri tall closed heathland	N	1	3	Z	502
80135	Leucopogon spp / Pteridium esculentum low open heath (Mowed dry heath)	N	1	3	M1	1001
80136	Pinus elliotii midhigh to tall open forest with Leptospermum spp. (extremely) tall (sparse) shrubland	N	1	0	S1	1006
80137	Pinus elliotii midhigh to tall open forest with Leptospermum spp. (extremely) tall (sparse) shrubland	N	1	0	M3	1006
80138	Pinus elliotii midhigh to tall open forest with Leptospermum spp. (extremely) tall (sparse) shrubland	N	1	0	M3	1006
80139	Pinus elliotii midhigh to tall open forest with Leptospermum spp. (extremely) tall (sparse) shrubland	N	1	0	M3	1006
80140	Pinus elliotii midhigh to tall open forest with Leptospermum spp. (extremely) tall (sparse) shrubland	N	1	0	M3	1006
80141	Pinus elliotii midhigh to tall open forest with Leptospermum spp. (extremely) tall (sparse) shrubland	N	1	0	M3	1006
80142	Leptospermum spp / Callistemon pachyphyllus low closed to open heathland (Mowed wet heath)	N	1	3	Z	1001
80144	Allocasuarina littoralis / Leptospermum polygalifolia / Monotoca elliptica low closed forest	N	1	0	NA	1099
80145	Melaleuca quinquenervia / Lophostemon suaveolens midhigh to tall open woodland with Lepironia articulata / Baumea rubiginosa (very) tall (sparse) sedgeland	N	1	0	M2	403
80146	Pinus elliotii midhigh (tall) closed to open forest	N	1	0	M4	1006
80147	Pinus elliotii midhigh (open) woodland	S	1	0	M2	1006
80148	Melaleuca quinquenervia tall open forest	N	1	3	M3	401
80149	Lepironia articulata very tall closed sedgeland	N	1	0	Y	701
80150	Melaleuca quinquenervia midhigh to tall (open) woodland or low closed forest to (open) woodland with Lepironia articulata / Blechnum indicum (very) tall closed to sparse sedge/fernland	N	1	0	M3	401
80151	Pinus elliotii / Melaleuca quinquenervia low open forest to open woodland	S	1	0	NA	1099
80152	Lepironia articulata very tall closed sedgeland	N	1	0	Y	701
80153	Lepironia articulata / Baumea rubiginosa / Phragmites australis very tall (closed) sedge/grassland	N	1	0	Y	701
80154	Leptospermum polygalifolia / L. juniperinum / Banksia robur (very) tall closed to open heathland	N	1	0	Z	502
80155	Melaleuca quinquenervia midhigh open forest to woodland with mixed native and exotic low to tall grass/sedgeland	N	1	0	M3	401
80156	Melaleuca quinquenervia midhigh open forest to woodland with Lepironia articulata / Baumea rubiginosa / Blechnum indicum / Hypolepis muelleri midhigh to very tall (closed) sedge/fernland	N	1	0	M3	401

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80157	Banksia robur / Leptospermum juniperinum (very) tall closed to open heathland with (very) tall fernland or isolated clumps of ferns.	N	1	0	Z	502
80158	Eucalyptus robusta / Lophostemon suaveolens low to midhigh open forest to open woodland with Banksia robur (very) tall wet (open) heathland	N	1	0	L2	305
80159	Lophostemon confertus / Eucalyptus intermedia midhigh open woodland with Banksia aemula / Leptospermum spp. (very) tall (sparse) heathland	N	1	0	M2	303
80160	Melaleuca quinquenervia tall open forest to woodland with Lepironia articulata / Phragmites australis (very) tall (open) grass/sedgeland	N	1	0	M3	401
80161	Melaleuca quinquenervia low open forest to midhigh isolated clumps of trees with Lepironia articulata and native and exotic grasses (very) tall (closed) sedge/grassland	N	1	0	L3	401
80162	Melaleuca quinquenervia tall open forest to woodland with Lepironia articulata / Phragmites australis (very) tall (open) grass/sedgeland	N	1	0	M3	401
80163	Allocasuarina littoralis / Duboisia myoporoides low open woodland with midhigh (sparse) heathland	N	1	0	NA	1099
80164	Eucalyptus robusta +/- Melaleuca quinquenervia midhigh (open) woodland with Leptospermum polygalifolia / Oxylobium robustum / Elaeocarpus reticulatus low, mid-dense to very sparse understorey	N	1	0	M3	305
80165	Eucalyptus robusta low open woodland to isolated trees + Leptospermum polygalifolia / L. liversidgei / Banksia robur (very) tall closed to open shrubland	N	1	0	L1	305
80166	Eucalyptus robusta low (open) woodland + Leptospermum whitei / L. polygalifolia / Banksia robur tall (open) shrubland	N	1	0	L3	305
80167	Lophostemon suaveolens +/- Eucalyptus intermedia low to midhigh open forest to woodland	N	1	0	M2	309
80168	Lophostemon suaveolens +/- Melaleuca quinquenervia / Eucalyptus intermedia midhigh to tall open forest to open woodland + Leptospermum polygalifolia / Banksia robur (very) tall (sparse) shrubland	N	1	0	M3	309
80169	Lophostemon suaveolens +/- Melaleuca quinquenervia / Eucalyptus intermedia midhigh to tall open forest to open woodland + Leptospermum polygalifolia / Banksia robur (very) tall (sparse) shrubland	N	1	0	M3	309
80170	Lophostemon suaveolens +/- Melaleuca quinquenervia / Eucalyptus intermedia midhigh to tall open forest to open woodland + Leptospermum polygalifolia / Banksia robur (very) tall (sparse) shrubland	N	1	0	M3	309
80171	Lophostemon suaveolens +/- Melaleuca quinquenervia / Eucalyptus intermedia midhigh to tall open forest to open woodland + Leptospermum polygalifolia / Banksia robur (very) tall (sparse) shrubland	N	1	0	M3	309
80172	Lophostemon suaveolens +/- Melaleuca quinquenervia / Eucalyptus intermedia midhigh to tall open forest to open woodland + Leptospermum polygalifolia / Banksia robur (very) tall (sparse) shrubland	N	1	0	M3	309
80173	Lophostemon suaveolens +/- Melaleuca quinquenervia / Eucalyptus intermedia midhigh to tall open forest to open woodland + Leptospermum polygalifolia / Banksia robur (very) tall (sparse) shrubland	N	1	0	M3	309
80174	Pinus elliotii midhigh to tall open forest with Leptospermum trinervium +/- Banksia aemula (very) tall heathland and regrowth sclerophyll forest spp.	N	1	0	M3	1006
80175	Melaleuca quinquenervia midhigh to tall open forest to woodland + Baumea rubiginosa tall sedgeland	N	1	0	M3	401
80176	Lophostemon suaveolens +/- Melaleuca quinquenervia / Eucalyptus intermedia midhigh to tall open forest to open woodland	N	1	0	M3	309
80177	Melaleuca quinquenervia +/- Casuarina glauca midhigh to tall open forest + Baumea juncea tall closed sedgeland	N	1	0	M3	401
80178	Casuarina glauca / Melaleuca quinquenervia midhigh to tall open forest + Baumea juncea / Juncus kraussii / Acrostichum speciosum (very) tall sparse sedgeland / rushland / fernland	N	1	0	M3	402
80179	Lophostemon suaveolens / Melaleuca quinquenervia midhigh open woodland + Imperata cylindrica / Restio tetraphyllus tall grassland / sedgeland	N	1	0	M2	309
80180	Melaleuca quinquenervia midhigh to tall open forest to open woodland + Baumea rubiginosa, Ischaemum australe / Blechnum indicum tall closed to sparse sedgeland / grassland / fernland	N	1	0	M3	401
80181	Casuarina glauca / Melaleuca quinquenervia midhigh open forest to open woodland + Phragmites australis / Baumea juncea / Acrostichum speciosum (very) tall closed to sparse grassland / sedgeland / fernland	S	1	0	M2	402
80182	Melaleuca quinquenervia midhigh to tall open woodland + Imperata cylindrica / Ischaemum australe tall closed to sparse grassland	N	1	0	M2	401
80183	Eucalyptus robusta +/- Lophostemon suaveolens / Melaleuca quinquenervia midhigh to tall open forest to open woodland + Leptospermum whitei / L. polygalifolia (very) tall (sparse) shrubland	N	1	0	M3	305
80184	Melaleuca quinquenervia +/- Casuarina glauca / Lophostemon suaveolens midhigh open forest to open woodland (disturbed)	N	1	0	M2	401
80185	Casuarina glauca +/- Melaleuca quinquenervia midhigh open woodland to isolated clumps + Juncus kraussii / Phragmites australis (very) tall (closed) sedgeland / grassland	N	1	0	Y	701
80186	Melaleuca quinquenervia / Casuarina glauca midhigh open forest to woodland + Chrysanthemoides monilifera tall to very tall shrubland	N	1	0	M3	402
80187	Casuarina glauca / Melaleuca quinquenervia low to midhigh open woodland to isolated clumps + Baumea juncea / Schoenus brevifolius / Juncus kraussii tall (sparse) sedgeland / rushland	N	1	0	M1	401
80188	Melaleuca quinquenervia +/- Casuarina glauca / Lophostemon suaveolens midhigh open forest to open woodland + Leptospermum polygalifolia (very) tall closed to sparse shrubland	N	1	0	M3	401
80189	Melaleuca quinquenervia +/- Casuarina glauca / Eucalyptus robusta midhigh to tall open forest to woodland	N	1	0	M3	401
80190	Melaleuca quinquenervia / Lophostemon confertus midhigh open forest to woodland with Leptospermum spp. / Baeckea stenophylla very tall (sparse) heathland	N	1	0	L3	403
80191	Acacia melanoxylon / Glochidion sumatranum midhigh open woodland with low open forest regrowth of rainforest and heath species with lantana.	N	1	0	M2	311
80192	Casuarina glauca +/- Melaleuca quinquenervia midhigh (open) woodland + Juncus kraussii / Baumea juncea / Schoenoplectus litoralis, Phragmites australis (very) tall open rushland / sedgeland / grassland	N	1	0	M3	601
80193	Casuarina glauca +/- Melaleuca quinquenervia (open) woodland	N	1	0	M1	601
80194	Avicennia marina +/- Casuarina glauca low open forest to open woodland	N	1	0	L3	602
80195	Melaleuca quinquenervia / Eucalyptus signata / Eucalyptus robusta midhigh to tall open forest to (open) woodland	N	1	0	M3	403

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80196	Melaleuca quinquenervia midhigh to tall open woodland with low closed forest to open woodland midstorey	N	1	0	M2	401
80197	Melaleuca quinquenervia / Melicope elleryana midhigh to tall open forest with tall (closed) fernland	N	1	0	M3	401
80198	Eucalyptus signata +/- Eucalyptus intermedia / Lophostemon confertus midhigh open forest to open woodland + Banksia aemula / Leptospermum species (very) tall closed to sparse shrubland	N	1	0	M3	306
80199	Melaleuca quinquenervia / Eucalyptus robusta tall open forest with mixed (very) tall fernland	N	1	0	M3	403
80200	Pinus species mid high to tall open forest to open woodland + Melaleuca quinquenervia / Lophostemon suaveolens mid high to very tall sparse shrubland	N	1	0	M2	1006
80201	Pinus species mid high to tall open forest to open woodland + Leptospermum whitei / L. polygalifolia / Baeckea stenophylla tall to very tall closed to sparse shrubland	N	1	0	M2	1006
80202	Pinus elliotii mid high to tall open forest to open woodland + Leptospermum whitei / L. polygalifolia / Baeckea stenophylla tall to very tall closed to sparse shrubland	N	1	0	M2	1006
80203	Pinus elliotii mid high to tall open forest to open woodland + Leptospermum whitei / L. polygalifolia / Baeckea stenophylla tall to very tall closed to sparse shrubland	N	1	0	M2	1006
80204	Pinus elliotii mid high to tall open forest to open woodland + Leptospermum whitei / L. polygalifolia / Baeckea stenophylla tall to very tall closed to sparse shrubland	N	1	0	M2	1006
80205	Pinus species +/- Eucalyptus signata / E. robusta midhigh isolated plants + Lomandra longifolia / Themeda australis / Pteridium esculentum low to midhigh rushland / grassland / fernland	N	1	0	M1	1006
80206	Pinus elliotii mid high to tall open forest to open woodland + Leptospermum whitei / L. polygalifolia / Baeckea stenophylla tall to very tall closed to sparse shrubland	N	1	0	M2	1006
80207	Pinus elliotii mid high to tall open forest to open woodland + Leptospermum whitei / L. polygalifolia / Baeckea stenophylla tall to very tall closed to sparse shrubland	N	1	0	M2	1006
80208	Pinus elliotii mid high to tall open forest to open woodland + Leptospermum whitei / L. polygalifolia / Baeckea stenophylla tall to very tall closed to sparse shrubland	N	1	0	M2	1006
80209	Melaleuca quinquenervia / Eucalyptus robusta midhigh open forest to woodland with Leptospermum whitei / L. polygalifolia / Elaeocarpus reticulatus (very) tall (sparse) shrubland.	N	1	0	M3	403
80210	Typha orientalis / Lepironia articulata / Blechnum indicum very tall closed sedge/rush/fernland	N	1	0	Y	701
80211	Phragmites australis / Typha orientalis very tall closed grass/rushland	N	1	3	Y	701
80212	Melaleuca quinquenervia midhigh woodland to isolated trees with Leptospermum polygalifolia / L. juniperinum (very) tall closed to sparse heathland	S	1	0	Z	501
80213	Lophostemon suaveolens low isolated (clumps of) trees with Leptospermum liversidgei / L. juniperinum tall open heathland and Restio tetraphyllus / Entolasia stricta tall closed sedge/grassland	N	1	0	Y	701
80214	Melaleuca quinquenervia low woodland to isolated trees with Lepironia articulata / Baumea rubiginosa / Blechnum indicum (very) tall closed sedge/fernland	N	1	0	Y	701
80215	Melaleuca quinquenervia +/- Eucalyptus robusta midhigh to tall open forest to open woodland	S	1	0	M3	401
80216	Melaleuca quinquenervia +/- Eucalyptus robusta midhigh to tall open forest to open woodland	S	1	0	M3	401
80217	Melaleuca quinquenervia +/- Eucalyptus robusta midhigh to tall open forest to open woodland	S	1	0	M3	401
80218	Melaleuca quinquenervia low to midhigh open woodland with Lepironia articulata very tall closed sedgeland	N	1	0	L1	401
80219	Melaleuca quinquenervia +/- Lophostemon suaveolens midhigh open forest to open woodland with Blechnum indicum / Baumea rubiginosa (very) tall closed sedge/fernland	N	1	0	M2	401
80220	Melaleuca quinquenervia / Leptospermum liversidgei low to midhigh closed forest to woodland with Lepironia articulata / Baumea rubiginosa / Blechnum indicum (very) tall (closed) sedge/fernland	N	1	0	M1	401
80221	Leptospermum juniperinum / Banksia robur / Lepironia articulata / Blechnum indicum tall closed sedge/heathland with isolated low to midhigh trees of Pinus elliotii and swamp sclerophyll species	N	1	3	Z	502
80222	Melaleuca quinquenervia low woodland to isolated trees with Lepironia articulata / Baumea rubiginosa / Blechnum indicum (very) tall closed sedge/fernland	N	1	0	Y	701
80223	Melaleuca quinquenervia midhigh (open) woodland and low open forest with Lepironia articulata / Ischaemum australe / Imperata cylindrica (very) tall (closed) sedge/grassland	N	1	0	L3	401
80224	Lepironia articulata / Typha sp. very tall closed sedge/rushland with isolated (clumps of) trees of Melaleuca quinquenervia and Pinus elliotii	N	1	0	Y	701
80225	Melaleuca quinquenervia low woodland to isolated trees with Lepironia articulata / Baumea rubiginosa / Blechnum indicum (very) tall closed sedge/fernland	N	1	0	Y	701
80226	Pinus elliotii midhigh to tall closed forest to woodland with Elaeocarpus reticulatus / Leptospermum spp. (very) tall shrubland and Restio tetraphyllus / Pteridium esculentum / Gahnia clarkei (very) tall (open) sedge/fernland	N	1	0	M4	1006
80227	Lophostemon suaveolens / Melaleuca quinquenervia low open woodland to isolated clumps of trees with Lepironia articulata / Blechnum indicum (very) tall closed sedge/fernland	N	1	0	Y	701
80228	Pinus elliotii low to midhigh open woodland with Banksia aemula / Leptospermum trinervium (very) tall (open) heathland	N	1	0	M1	1006
80229	Leptospermum liversidgei (very) tall (sparse) heathland with Eucalyptus robusta as isolated (clumps of) trees	N	1	0	M1	502
80230	Lepironia articulata / Blechnum indicum very tall closed sedge/fernland	N	1	0	Y	701
80231	Setaria / Urochloa / Axonopus midhigh to very tall grassland with Melaleuca quinquenervia isolated (clumps of) low trees	N	1	0	G	902
80232	Leptospermum polygalifolia / L. juniperinum (very) tall (open) heathland with Lepironia articulata / Blechnum indicum (very) tall closed sedge/fernland	N	1	0	Z	502
80233	Leesia hexandra / Blechnum indicum (very) tall closed fern/grassland	N	1	0	G	902
80234	Leptospermum whitei / L. polygalifolia / Baeckea stenophylla / Phebalium squameum very tall (sparse) shrubland	NA	99	0	NA	1099
80234	Leptospermum whitei / L. polygalifolia / Baeckea stenophylla / Phebalium squameum very tall (sparse) shrubland	N	1	3	L2	502
80235	Pinus elliotii midhigh open forest to open woodland with tall to very tall sparse heath regrowth and mixed midhigh to tall exotic grassland and native sedge/fernland	N	1	0	M2	1006

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80236	Leptospermum whitei / L. polygalifolia / Baeckea stenophylla / Phebalium squameum very to extremely tall closed to open shrubland	N	1	3	M3	502
80237	Eucalyptus robusta / Melaleuca quinquenervia / Pinus elliotii low to midhigh open woodland to isolated trees with tall open heath	S	1	0	NA	1099
80238	Leptospermum whitei / Lepyrodia interrupta / Xanthorrhoea fulva (very) tall (sparse) heathland and low to midhigh (closed) heathland	N	1	0	NA	1099
80239	Melaleuca quinquenervia low to midhigh open forest to open woodland with Leptospermum liversidgei / Banksia robur (very) tall heathland and Baumea rubiginosa tall closed sedgeland	N	1	0	L3	401
80240	Melaleuca quinquenervia low to midhigh open forest to woodland with Gahnia clarkei / Blechnum indicum (very) tall (sparse) sedge/fernland	N	1	0	L3	401
80241	Acacia ulicifolia / Caustis recurvata dwarf open to sparse heathland	N	1	3	Z	1001
80242	Eucalyptus signata midhigh to tall open forest to woodland	N	1	0	M3	306
80243	Melaleuca quinquenervia midhigh (open) woodland with Blechnum indicum / Persicaria strigosum midhigh to tall closed fernland	S	1	0	M2	401
80244	Eucalyptus intermedia +/- Melaleuca quinquenervia mid high to tall open forest + Pteridium esculentum (very) tall (closed) fernland	N	1	0	M3	301
80245	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80246	Floodplain or area of marine sandy soil within study area supporting plantation forest	N	1	0	M3	1006
80247	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80248	Floodplain or area of marine sandy soil within study area supporting plantation forest	N	1	0	M3	1006
80249	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80250	Floodplain or area of marine sandy soil within study area supporting plantation forest	N	1	0	M3	1006
80251	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80252	Floodplain or area of marine sandy soil within study area supporting plantation forest	N	1	0	M3	1006
80253	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80254	Floodplain or area of marine sandy soil within study area supporting plantation forest	N	1	0	M3	1006
80255	Outside study area. Estuarine waters	NA	1	0	NA	903
80256	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80257	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80258	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	1	0	NA	903
80259	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80260	Land outside study area consisting of bedrock soils	NA	3	0	M3	201
80260	Land outside study area consisting of bedrock soils	NA	2	0	NA	1099
80261	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
80262	Leptospermum laevigatum +/- Banksia integrifolia (very) tall open to sparse shrubland	N	1	0	NA	1099
80263	Melaleuca quinquenervia mid high to tall open woodland + (very) sparse mid stratum of Banksia integrifolia / Acacia sophorae / Leptospermum polygalifolia	N	1	0	M2	401
80264	Littoral Rf + sclerophyll species mid high open forest to woodland	N	1	0	M3	101
80265	Allocasuarina littoralis / Eucalyptus intermedia / Banksia integrifolia / Acacia aulacocarpa mid high to tall closed to open forest + mid dense to sparse mid stratum of Dodonaea triquetra / Acronychia imperforata	N	1	0	M4	301
80266	Casuarina glauca / Melaleuca quinquenervia mid high open forest to woodland + Schoenus brevifolius / Baumea juncea / Ischaemum australe tall closed sedgeland / grassland	N	1	0	M3	402
80267	Melaleuca quinquenervia / Lophostemon suaveolens mid high to tall (open) woodland + Pteridium esculentum / Imperata cylindrica (very) tall (closed) fernland / grassland	N	1	0	M2	403
80268	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall open forest to woodland Baumea juncea / Juncus kraussii / Acrostichum speciosum / Phragmites australis (very) tall closed to open sedgeland / fernland / grassland	N	1	0	M3	601
80269	Melaleuca quinquenervia / Eucalyptus tereticornis +/- Eucalyptus patentinervis mid high to tall open forest to woodland + Schoenus brevifolius / Ischaemum australe / Imperata cylindrica / Ottochloa gracillima low to tall (closed) sedgeland / grassland	N	1	0	M3	403
80270	Melaleuca quinquenervia +/- Casuarina glauca mid high open forest + Schoenus brevifolius / Baumea juncea tall (closed) sedgeland	N	1	0	L3	401
80271	Lophostemon suaveolens low to mid high closed to open forest + Ischaemum australe / Imperata cylindrica / Schoenus brevifolius / Pultenea villosa tall (open) grassland / sedgeland / forland	N	1	0	L4	309
80272	Melaleuca quinquenervia +/- Casuarina glauca mid high open forest to open woodland + Blechnum indicum / Hypolepis muelleri / Schoenus brevifolius tall (closed) fernland / sedgeland	N	1	0	L3	401
80273	Avicennia marina dwarf to low open woodland + Phragmites australis (very) tall (open) grassland	N	1	0	L1	602
80274	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest + Juncus kraussii / Baumea juncea / Phragmites australis (very) tall open sedgeland / grassland	N	1	0	M3	402
80275	Melaleuca quinquenervia +/- Lophostemon suaveolens low to mid high open forest + Schoenus brevifolius tall closed to open sedgeland	N	1	0	L3	401
80276	Melaleuca quinquenervia mid high to tall open forest to woodland + Ischaemum australe / Phragmites australis / Baumea juncea (tall) (closed) grassland / sedgeland	N	1	0	M3	401

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80277	Lophostemon suaveolens mid high open forest + Pteridium esculentum / Blechnum indicum / Ischaemum australe / Imperata cylindrica tall (open) fernland / grassland	N	1	0	M3	309
80278	Melaleuca quinquenervia +/- Acacia melanoxylon / Lophostemon suaveolens mid high open forest + Restio tetraphyllus / Pteridium esculentum tall (closed) sedgeland / fernland	N	1	0	M3	401
80279	Melaleuca quinquenervia mid high to tall (open) woodland + mid dense to sparse mid stratum of Melaleuca quinquenervia / Lophostemon suaveolens	N	1	0	M3	401
80280	Melaleuca quinquenervia mid high to tall open forest to woodland + mid dense to sparse mid stratum of Melaleuca quinquenervia / Banksia robur	N	1	0	M3	401
80281	Melaleuca quinquenervia mid high to tall open forest to woodland + Schoenus brevifolius tall (closed) sedgeland	N	1	0	M3	401
100001	Lophostemon confertus +/- Eucalyptus pilularis / Eucalyptus microcorys (very) tall open forest to woodland + mid dense to sparse mid stratum of rainforest species	N	1	0	M3	303
100002	Archontophoenix cunninghamiana (very) tall closed to open forest + mid dense to sparse mid stratum of Archontophoenix cunninghamiana	N	1	0	M4	104
100003	Lophostemon confertus +/- Eucalyptus pilularis / Eucalyptus microcorys (very) tall open forest to woodland + mid dense to sparse mid stratum of rainforest species	N	1	0	M3	303
100004	Melaleuca quinquenervia / Archontophoenix cunninghamiana (very) tall closed to open forest + (mid) dense mid stratum of Archontophoenix cunninghamiana	N	1	0	M4	104
100005	Melaleuca quinquenervia mid high to tall (open) woodland + Baumea rubiginosa / Leersia hexandra very tall closed sedgeland / grassland	N	1	0	M3	401
100006	Melaleuca quinquenervia mid high open woodland + Baumea rubiginosa very tall closed sedgeland	N	1	0	M2	401
100007	Melaleuca quinquenervia mid high to tall closed to open forest + Baumea rubiginosa very tall closed sedgeland	N	1	0	M4	401
100008	Melaleuca quinquenervia mid high open woodland to isolated trees + Schoenus brevifolius / Baumea rubiginosa / Ischaemum australe tall closed sedgeland / grassland	N	1	0	M2	401
100009	Melaleuca quinquenervia / Lophostemon suaveolens / Eucalyptus intermedia mid high to tall (open) woodland + mid dense to sparse midstratum of Melaleuca quinquenervia / Lophostemon suaveolens / Allocasuarina littoralis / Leptospermum polygalifolia	N	1	0	M2	403
100010	Melaleuca quinquenervia low open woodland + Baumea articulata / Baumea rubiginosa / Schoenus brevifolius (very) tall closed sedgeland	N	1	0	M2	401
100011	Melaleuca quinquenervia mid high open woodland to isolated trees + mid stratum of mid dense to sparse Melaleuca quinquenervia	N	1	0	M2	401
100012	Melaleuca quinquenervia dwarf open woodland + Lepyrodia interrupta / Conospermum taxifolium (very) tall open to sparse sedgeland / forbland	N	1	0	L2	401
100013	Melaleuca quinquenervia mid high to tall woodland + Schoenus brevifolius tall closed sedgeland	N	1	0	M3	401
100014	Melaleuca quinquenervia mid high to tall open woodland + Banksia robur / Melaleuca quinquenervia / Leptospermum polygalifolia (very) tall open to sparse shrubland	N	1	0	M2	401
100015	Melaleuca quinquenervia +/- Lophostemon suaveolens mid high open woodland to isolated trees + Banksia robur / Melaleuca quinquenervia / Leptospermum polygalifolia	N	1	0	M2	401
100016	Melaleuca quinquenervia / Lophostemon suaveolens / Eucalyptus intermedia mid high to tall (open) woodland + sparse mid stratum of Lophostemon suaveolens / Melaleuca quinquenervia	N	1	0	M2	403
100017	Melaleuca quinquenervia mid high to tall open forest to woodland + Baumea rubiginosa tall closed sedgeland	N	1	0	M3	401
100018	Melaleuca quinquenervia low to mid high open woodland + mid stratum of mid dense to sparse Melaleuca quinquenervia open forest to open woodland + Baumea rubiginosa very tall closed sedgeland	N	1	0	L2	401
100019	Eucalyptus pilularis / Melaleuca quinquenervia mid high to tall open forest + mid stratum of mid dense to sparse Leptospermum polygalifolia / Lophostemon suaveolens / Livistona australis	N	1	0	M3	307
100020	Melaleuca quinquenervia +/- rainforest species mid high to tall open forest + mid dense to sparse mid stratum of rainforest species	N	1	0	M3	401
100021	Melaleuca quinquenervia mid high to tall open forest to woodland + Baumea rubiginosa (very) tall closed sedgeland	N	1	0	M3	401
100022	Melaleuca quinquenervia tall open forest + mid dense to sparse mid stratum of Archontophoenix cunninghamiana / Melicope elleryana	N	1	0	M3	401
100023	Melaleuca quinquenervia / Archontophoenix cunninghamiana (very) tall closed to open forest + mid dense to sparse mid stratum of Archontophoenix cunninghamiana	N	1	0	M4	104
100024	Melaleuca quinquenervia +/- Lophostemon confertus/ Eucalyptus robusta tall open forest	N	1	0	M3	401
100025	Melaleuca quinquenervia mid high to tall closed to open forest + sparse to very sparse mid stratum of Lantana camara / Senna pendula / Baccharis halimifolia	N	1	3	M3	401
100026	Melaleuca quinquenervia +/- Lophostemon confertus / Acacia melanoxylon mid high to tall open forest to woodland	S	1	0	M3	401
100027	Melaleuca quinquenervia / Glochidion sumatranum / Callistemon salignis / Acacia melanoxylon mid high to tall woodland + mid dense to sparse mid stratum of Lantana camara / Senna pendula	S	1	3	M2	401
100028	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100029	Melaleuca quinquenervia / Glochidion sumatranum / Acacia melanoxylon mid high to tall open forest to woodland + Entolasia marginata / Oplismenus aemulus / Carex maculata mid high to tall (open) grassland / sedgeland	N	1	0	M3	401
100030	Melaleuca quinquenervia / Archontophoenix cunninghamiana (very) tall (closed) forest + mid dense to sparse mid stratum of Archontophoenix cunninghamiana	N	1	0	M4	104
100031	Melaleuca quinquenervia mid high to tall (open) woodland + Crinum pedunculatum / Phragmites australis / Blechnum indicum / Hypolepis muelleri (very) tall closed forbland / grassland / fernland	N	1	0	NA	1099
100032	Melaleuca quinquenervia mid high to tall open forest + Baumea rubiginosa tall closed sedgeland	N	1	0	M3	401
100033	Melaleuca quinquenervia +/- Lophostemon suaveolens / Livistona australis mid high to tall woodland + mid dense to sparse mid stratum of Lophostemon suaveolens / Glochidion sumatranum	N	1	0	M2	401

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100034	Melaleuca quinquenervia / Lophostemon suaveolens mid high to tall open forest to woodland + mid dense to sparse mid stratum of Leptospermum polygalifolia / Lophostemon suaveolens	N	1	0	M3	403
100035	Melaleuca quinquenervia / Glochidion ferdinandi mid high closed to open forest + (very) sparse mid stratum of rainforest species	S	1	0	M4	401
100036	Melaleuca quinquenervia + rainforest species mid high to tall open forest to woodland + mid dense to sparse mid stratum of rainforest species	N	1	0	M3	401
100037	Melaleuca quinquenervia / Glochidion ferdinandii mid high (open) woodland + Typha orientalis / Eleocharis species / Setaria sphacelata / Ageratina adenantha / Hypolepis muelleri (very) tall closed sedgeland / grassland / forland / fernland	S	1	0	NA	1099
100038	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100039	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100040	Melaleuca quinquenervia mid high to tall open forest to woodland + Schoenoplectus mucronatus / Carex appressa / Typha orientalis / Hypolepis muelleri (very) tall (closed) sedgeland / fernland	N	1	0	M3	401
100041	Melaleuca quinquenervia mid high to tall closed to open forest + Baumea rubiginosa / Blechnum indicum / Leersia hexandra very tall closed sedgeland / fernland / grassland	N	1	0	M4	401
100042	Melaleuca quinquenervia +/- Lophostemon suaveolens mid high woodland + Banksia robur (very) tall (open) shrubland	N	1	0	M2	401
100043	Melaleuca quinquenervia / Allocasuarina littoralis (very) tall (open) shrubland	N	1	0	L3	401
100044	Acacia sophorae / Homoranthus virgatus / Conospermum taxifolium mid high to tall (sparse) shrubland	N	1	3	S2	1008
100045	Schoenus brevifolius / Leptocarpus tenax / Lepyrodia interrupta mid high to tall (open) sedgeland / rushland	N	1	0	Y	701
100046	Banksia aemula / Homoranthus virgatus / Leucopogon parviflorus mid high to tall (open) shrubland	N	1	0	S3	501
100047	Melaleuca quinquenervia low to mid high open forest to woodland	N	1	0	L3	401
100048	Melaleuca quinquenervia disturbed mid high sparse shrubland to isolated shrubs	N	1	0	NA	1099
100049	Leptospermum laevigatum (very) tall (open) shrubland	N	1	3	L3	1008
100050	Melaleuca quinquenervia low to mid high open forest	N	1	0	L3	401
100051	Allocasuarina littoralis / Leptospermum laevigatum / Banksia integrifolia very tall (open) shrubland	N	1	0	L3	501
100052	Rhynchelytrum repens / Digitaria ciliaris mid high to tall sparse grassland to isolated grasses	N	1	0	G	902
100053	Allocasuarina littoralis (very) tall (open) shrubland	N	1	0	L3	312
100054	Melaleuca quinquenervia very tall (open) shrubland + Caustis recurvata / Themeda australis / Restio pallens / Schoenus brevifolius tall (open) sedgeland / grassland	N	1	0	L3	401
100055	Allocasuarina littoralis / Banksia aemula / Melaleuca quinquenervia (very) tall (open) shrubland	N	1	0	L3	501
100056	Melaleuca quinquenervia / Eucalyptus intermedia / Lophostemon suaveolens mid high open forest to woodland	N	1	0	M3	403
100057	Allocasuarina littoralis (very) tall (open) shrubland + Schoenus brevifolius / Themeda australis mid high to tall closed to open sedgeland / grassland	N	1	0	L3	312
100058	Schoenus brevifolius / Ischaemum australe / Restio pallens (very) tall (closed) sedgeland / grassland	N	1	0	G	902
100059	Melaleuca quinquenervia +/- Lophostemon suaveolens mid high to tall (open) woodland + Ischaemum australe / Themeda australis / Baumea juncea (very) tall grassland / sedgeland	N	1	0	M3	401
100060	Aristida warburgii / Schoenus brevifolius / Ischaemum australis tall (closed) grassland / sedgeland	N	1	0	G	902
100061	Melaleuca quinquenervia (very) tall (open) shrubland + Schoenus brevifolius tall (closed) sedgeland	N	1	0	L3	401
100062	Banksia aemula / Banksia obongifolia / Homoranthus virgatus / Persoonia virgata tall (closed) shrubland	N	1	0	L4	501
100063	Melaleuca quinquenervia low open forest to woodland	N	1	0	L3	401
100064	Melaleuca quinquenervia low to mid high open forest to woodland + Ischaemum australe / Panicum simile / Schoenus brevifolius / Baumea rubiginosa tall closed to open grassland/sedgeland	N	1	0	L3	401
100065	Melaleuca quinquenervia mid high to tall open forest to woodland + Ischaemum australe / Panicum simile / Entolasia marginata tall closed to open grassland	N	1	0	M3	401
100066	Leptospermum laevigatum (very) tall (open) shrubland	N	1	3	L3	1008
100067	Leptospermum laevigatum (very) tall (open) shrubland + mid high (open) shrubland	N	1	3	L3	1008
100068	Acacia sophorae / Chrysanthemum monilifera closed to open tall shrubland	N	1	3	S3	1008
100069	Low to very tall (open) native grassland	N	1	0	G	902
100070	Eucalyptus intermedia / Banksia aemula low (open) woodland + closed to open mid high shrubland	N	1	0	L3	301
100071	Allocasuarina littoralis / Leptospermum laevigatum low to mid high (open) woodland	N	1	3	L3	1008
100072	Melaleuca quinquenervia low to mid high (open) woodland	N	1	0	L3	401
100073	Melaleuca quinquenervia low to mid high open forest to woodland + Schoenus brevifolius / Hemarthria uncinata tall closed to open sedgeland / grassland	N	1	0	L3	401
100074	Lophostemon suaveolens / Banksia integrifolia (very) tall open shrubland	N	1	0	L1	309
100075	Acacia sophorae / Eragrostis spartinoides (open) shrubland / grassland	N	1	3	S3	1008
100076	Acacia sophorae (very) tall (open) shrubland	N	1	3	L2	1008
100077	Leptospermum laevigatum (very) tall (open) shrubland	N	1	3	L3	1008
100078	Acacia sophorae sparse (very) tall shrubland + mid high to very tall (open) grassland / fernland	N	1	3	S2	1008
100079	Banksia integrifolia low (open) woodland + littoral rainforest	N	1	0	L3	310
100080	Melaleuca quinquenervia low open woodland + Themeda australis / Imperata cylindrica / Aristida acuta tall (open) grassland	N	1	0	L2	401
100081	Eucalyptus intermedia / Eucalyptus robusta / Banksia integrifolia (very) tall open shrubland + Chrysanthemum monilifera / Melinus minutiflora / Imperata cylindrica / Pteridium esculentum (very) tall (closed) grassland / fernland	N	1	0	L1	301
100082	Melaleuca quinquenervia low open woodland + Gahnia sieberiana / Lepyrodia interrupta / Leptospermum liversidgei very tall closed sedgeland / tall closed shrubland	N	1	0	L2	401
100083	Melaleuca quinquenervia mid high open forest to woodland + Gahnia sieberiana / Schoenus brevifolius / Restio tetraphyllus (very) tall closed to open sedgeland	N	1	0	M3	401
100084	Eucalyptus robusta mid high open forest + Restio tetraphyllus (very) tall (closed) rushland	N	1	0	M3	305

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100085	Melaleuca quinquenervia +/- Eucalyptus intermedia mid high open forest to woodland + Acronychia imperforata / Elaeocarpos reticulatus (very) tall open to sparse shrubland	N	1	0	M3	401
100086	Gleichenia dicarpa / Gahnia sieberiana tall (open) fernland / sedgeland	N	1	0	F	702
100087	Melaleuca quinquenervia mid high open forest to woodland + Gahnia sieberiana (very) tall (open) sedgeland	N	1	0	M3	401
100088	Melaleuca quinquenervia +/- Eucalyptus robusta mid high open forest to woodland + Gahnia sieberiana / Restio tetraphyllus / Lepyrodia interrupta very tall (closed) sedgeland / rushland	N	1	0	M3	401
100089	Homoranthus virgatus / Leptospermum polygalifolium / Aotus ericoides / Baeckea stenophylla tall (closed) shrubland	N	1	0	S4	501
100090	Melaleuca quinquenervia very tall open to sparse shrubland + Lepyrodia interrupta / Schoenus brevifolius / Homoranthus virgatus / Epacris pulchella / Baeckea stenomera tall open sedgeland / mid high open shrubland	N	1	0	L2	401
100091	Melaleuca quinquenervia low to mid high (open) woodland + Caustis recurvata / Schoenus brevifolius / Gahnia sieberiana / Baeckea stenomera / Homoranthus virgatus tall closed to sparse sedgeland / mid high closed to sparse shrubland	N	1	0	L2	401
100092	Melaleuca quinquenervia low to mid high open forest to woodland + Schoenus brevifolius / Caustis recurvata / Eragrostis species (tall) (sparse) sedgeland / grassland	N	1	0	L3	401
100093	Melaleuca quinquenervia low (open) woodland + Digitaria didactyla / Aristida acuta / Themeda australis / Leucopogon ericoides / Homoranthus virgatus tall closed to open grassland / mid high closed to open shrubland	N	1	0	L2	401
100094	Melaleuca quinquenervia low to mid high open forest to woodland + Panicum simile / Schoenus brevifolius (very) tall grassland / sedgeland	N	1	0	L3	401
100095	Melaleuca quinquenervia mid high to tall open forest + Gahnia clarkei / Hypolepis muelleri / Panicum simile / Paspalum wettsteinii tall closed to open sedgeland / grassland / fernland	N	1	0	M3	401
100096	Melaleuca quinquenervia +/- Eucalyptus robusta / Lophostemon suaveolens mid high open forest to woodland + Themeda australis tall (closed) grassland	N	1	0	M3	401
100097	Melaleuca quinquenervia / Eucalyptus robusta mid high (open) woodland + Pultenea villosa (very) tall (open) shrubland	N	1	0	L3	403
100098	Melaleuca quinquenervia / Eucalyptus robusta mid high to tall open forest to woodland + Elaeocarpos reticulatus very tall (sparse) shrubland	N	1	0	M3	403
100099	Sprengelia sprengelioides / Baeckea stenomera / Leptospermum juniperinum / Lepyrodia interrupta / Leptocarpus tenax mid high (closed) shrubland / tall (closed) rushland	N	1	0	S4	502
100100	Melaleuca quinquenervia +/- Eucalyptus robusta mid high open forest to woodland + Ischaemum australe / Restio tetraphyllus / Gahnia clarkei very tall (closed) grassland / rushland / sedgeland	N	1	0	M3	401
100101	Banksia aemula / Leucopogon ericoides / Homoranthus virgatus / Leucopogon leptospermoides / Phyllota phyllicoides tall closed to open shrubland	N	1	0	S3	501
100102	Eucalyptus robusta low to mid high (open) woodland + Pultenea villosa / Leptospermum whitei (very) tall (open) shrubland	N	1	0	M1	305
100103	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100104	Eucalyptus robusta / Melaleuca quinquenervia / Baeckea stenomera (very) tall open shrubland + Ischaemum australe / Axonopus communis / Gahnia clarkei / Restio tetraphyllus mid high (closed) grassland / (very) tall (closed) sedgeland / rushland	N	1	0	L3	403
100105	Eucalyptus robusta mid high to tall (open) woodland + Leptospermum whitei (very) tall open shrubland	N	1	0	M3	305
100106	Eucalyptus intermedia / Lophostemon confertus mid high to tall open forest to woodland + Dodonaea triquetra / Austromyrtus dulcis / Pteridium esculentum / Restio tetraphyllus mid high to tall shrubland / (very) tall fernland / rushland	N	1	0	M3	302
100107	Melaleuca quinquenervia mid high to tall open forest + Gahnia clarkei / Ischaemum australe (very) tall (closed) sedgeland / grassland	N	1	0	M3	401
100108	Eucalyptus intermedia / Lophostemon confertus mid high to tall open forest to woodland + Dodonaea triquetra / Austromyrtus dulcis / Pteridium esculentum mid high to tall shrubland / tall to very tall fernland	N	1	0	M3	302
100109	Melaleuca quinquenervia mid high open forest + Leptospermum polygalifolium (very) tall (sparse) shrubland	N	1	0	M3	401
100110	Melaleuca quinquenervia dwarf to mid high open woodland to isolated trees + Phragmites australis / Setaria sphacelata (very) tall grassland	N	1	0	NA	1099
100111	Juncus kraussii tall (closed) sedgeland	N	1	0	Y	701
100112	Sporobolus virginicus / Zoysia macrantha / Juncus kraussii / Baumea juncea (very) tall closed grassland / rushland / sedgeland	N	1	0	NA	1099
100113	Outside study area. Estuarine waters	NA	1	0	NA	903
100114	Baumea juncea / Ischaemum australe / Sporobolus virginicus / Zoysia macrantha mid high to tall (closed) sedgeland / grassland	N	1	0	G	902
100115	Melaleuca quinquenervia (open) woodland + Baumea juncea / Ischaemum australe (very) tall closed sedgeland / grassland	N	1	0	M2	401
100116	Melaleuca quinquenervia mid high to tall woodland + Baumea rubiginosa / Phragmites australis / Hemarthria uncinata (very) tall closed sedgeland / grassland	N	1	0	M3	401
100117	Casuarina glauca low to mid high woodland + Sporobolus virginicus / Paspalum vaginatum (closed) grassland	N	1	0	L3	601
100118	Avicennia marina dwarf to low (open) woodland	N	1	0	L3	602
100119	Casuarina glauca low to mid high open forest to woodland + Juncus kraussii / Cynanchum carnosum (closed) tall rushland / forland	N	1	0	L3	601
100120	Juncus kraussii / Cyperus laevigatus / Sporobolus virginicus / Avicennia marina tall (open) rushland / sedgeland / grassland / mid high (open) shrubland	N	1	0	Y	602
100121	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
100122	Acacia sophorae mid high to tall (open) shrubland	N	1	3	L2	1008
100123	Juncus kraussii / Sporobolus virginicus tall (closed) rushland / grassland	N	1	0	Y	701

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100124	Avicennia marina dwarf to low open forest to woodland + Aegiceras corniculatum / Avicennia marina mid high (sparse) shrubland	N	1	0	L3	602
100125	Melaleuca quinquenervia +/- Eucalyptus intermedia / Casuarina glauca mid high woodland + Imperata cylindrica / Digitaria didactyla / Pteridium esculentum (very) tall (closed) grassland / fernland	N	1	0	M3	401
100126	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
100127	Eucalyptus tereticornis +/- Eucalyptus intermedia / Lophostemon suaveolens mid high to tall woodland + Pteridium esculentum / Imperata cylindrica (very) tall (closed) fernland / grassland	N	1	0	M3	304
100128	Avicennia marina +/- Casuarina glauca dwarf to mid high open forest to woodland	N	1	0	L3	602
100129	Eucalyptus intermedia / Lophostemon suaveolens +/- Syzygium oleosum mid high to tall open forest to woodland + Dodonea triquetra / Restio tetraphyllus / Pteridium esculentum mid high to tall (closed) shrubland / shrubland / fernland	N	1	0	M3	301
100130	Melaleuca quinquenervia +/- Casuarina glauca mid high to tall open forest to woodland + Banksia integrifolia / Monotoca scoparia (very) tall (sparse) shrubland	N	1	0	M3	401
100131	Melaleuca quinquenervia +/- Casuarina glauca mid high open forest + Acronychia imperforata / Cupaniopsis anacardioides (very) tall open to sparse shrubland	N	1	0	M3	401
100132	Eucalyptus pilularis / Lophostemon suaveolens +/- Eucalyptus intermedia mid high to tall open forest to woodland + (very) sparse midstratum of Allocasuarina littoralis / Eucalyptus intermedia / Lophostemon suaveolens	N	1	0	M3	307
100133	Eucalyptus robusta / Lophostemon suaveolens / Melaleuca quinquenervia +/- Eucalyptus intermedia mid high to tall open forest to woodland + Austromyrtus dulcis / Pultenea villosa mid high to tall shrubland	N	1	0	M3	305
100134	Eucalyptus robusta mid high to tall (open) woodland + Lophostemon confertus / Leptospermum whitei / Leptospermum polygalifolium very to extremely tall shrubland	N	1	0	M3	305
100135	Eucalyptus robusta +/- Eucalyptus intermedia mid high to tall open forest to woodland + Restio tetraphyllus (very) tall (closed) rushland	N	1	0	M3	305
100136	Melaleuca quinquenervia / Eucalyptus robusta mid high to tall open forest + Gahnia clarkei / Hypolepis muelleri (very) tall sedgeland / fernland	N	1	0	M3	403
100137	Eucalyptus robusta / Lophostemon suaveolens +/- Eucalyptus intermedia mid high to tall open forest + Calochlaena dubia / Pteridium esculentum / Sticherus lobatus (very) tall fernland	N	1	0	M3	305
100138	Melaleuca quinquenervia mid high open forest + Sticherus lobatus / Blechnum indicum / Ischaemum australe (very) tall (open) fernland / grassland	N	1	0	L3	401
100139	Melaleuca quinquenervia / Eucalyptus robusta mid high to tall open forest + Gahnia clarkei / Paspalum orbiculare (very) tall sedgeland / grassland	N	1	0	M3	403
100140	Eucalyptus robusta +/- Melaleuca quinquenervia / Lophostemon suaveolens mid high to tall woodland + Lophostemon suaveolens very to extremely tall (open) shrubland	N	1	0	M3	305
100141	Melaleuca quinquenervia mid high to tall open forest + Ischaemum australe (very) tall (open) grassland / sedgeland	N	1	0	M3	401
100142	Eucalyptus robusta / Lophostemon suaveolens mid high (open) woodland + Hypolepis muelleri / Setaria sphacelata (very) tall (closed) fernland / grassland	N	1	0	M3	305
100143	Melaleuca quinquenervia mid high to tall open forest + Restio tetraphyllus (very) tall (closed) rushland	N	1	0	M3	401
100144	Lophostemon suaveolens / Eucalyptus robusta mid high to tall open forest to woodland + Lophostemon suaveolens very to extremely tall (open) shrubland	N	1	0	M3	309
100145	Eucalyptus robusta / Acacia melanoxylon mid high to tall open forest to woodland Gahnia clarkei / Restio tetraphyllus / Hypolepis muelleri (very) tall sedgeland / rushland / fernland	N	1	0	M3	305
100146	Melaleuca quinquenervia mid high to tall open forest + Gahnia clarkei / Lepironia articulata / Ischaemum australe (very) tall sedgeland / grassland	N	1	0	M3	401
100147	Eucalyptus microcorys / Eucalyptus robusta +/- Melaleuca quinquenervia mid high to tall open forest to woodland + (open) mid stratum of Lophostemon suaveolens / Melaleuca quinquenervia	N	1	0	M3	308
100148	Melaleuca quinquenervia +/- Lophostemon suaveolens mid high open forest to woodland + Ischaemum australe / Sacciolepis indica / Themeda australis tall (closed) grassland	N	1	0	M3	401
100149	Casuarina glauca / Melaleuca quinquenervia / Lophostemon suaveolens low to mid high open woodland + Imperata cylindrica / Eragrostis species (very) tall (closed) grassland	N	1	0	M1	402
100150	Eucalyptus pilularis +/- Eucalyptus intermedia mid high to tall open forest to woodland + Imperata cylindrica / Pteridium esculentum / Calochlaena dubia (very) tall grassland / fernland	N	1	0	M3	307
100151	Lophostemon suaveolens +/- Eucalyptus intermedia / mid high open forest + Pteridium esculentum / Imperata cylindrica / Ischaemum australe / Lomandra longifolia (very) tall fernland / grassland / rushland	N	1	0	M3	309
100152	Eucalyptus microcorys / Eucalyptus pilularis mid high to tall open forest to woodland + Pteridium esculentum / Calochlaena dubia (very) tall (closed) fernland	N	1	0	M3	308
100153	Eucalyptus robusta mid high (open) woodland + Lophostemon suaveolens (very) tall shrubland	N	1	0	M3	305
100154	Melaleuca quinquenervia mid high to tall open forest to woodland + Entolasia marginata / Ottochloa gracilis / Baumea juncea mid high to tall grassland / sedgeland	N	1	0	M3	401
100155	Lophostemon confertus / Eucalyptus robusta / Eucalyptus intermedia mid high to tall open forest + Restio tetraphyllus (very) tall rushland	N	1	0	M3	303
100156	Eucalyptus robusta mid high to tall open woodland + Lophostemon suaveolens very to extremely tall (open) shrubland	N	1	0	M2	305
100157	Melaleuca quinquenervia +/- Eucalyptus robusta mid high open forest to woodland + Elaeocarpus reticulatus / Leptospermum polygalifolium very to extremely tall (open) shrubland	N	1	0	M3	401
100158	Casuarina glauca low to mid high (open) woodland + Setaria sphacelata (very) tall closed grassland	NA	4	0	NA	1099
100158	Casuarina glauca low to mid high (open) woodland + Setaria sphacelata (very) tall closed grassland	S	1	0	L3	601
100159	Casuarina glauca mid high to tall open forest + open to sparse mid stratum of Lantana camara and rainforest species	S	1	0	M3	601
100160	Eucalyptus robusta / Lophostemon suaveolens mid high open forest to woodland + Entolasia stricta / Imperata cylindrica / Ottochloa gracillima / Pteridium esculentum tall (closed) grassland / fernland	S	1	0	M3	305

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100161	Casuarina glauca / Melaleuca quinquenervia / Lophostemon suaveolens / Eucalyptus robusta mid high to tall open forest to woodland + mid stratum of Cinnamomum camphora / Lantana camara and rainforest species	S	1	0	M3	402
100162	Melaleuca quinquenervia mid high to tall open forest + Entolasia stricta mid high to tall (sparse) grassland	N	1	0	M3	401
100163	Casuarina glauca mid high to tall open forest to woodland + Oplismenus aemulus / Ottochloa gracillima / Viola hederacea mid high (closed) grassland / forbland	N	1	0	M3	601
100164	Melaleuca quinquenervia +/- Eucalyptus robusta / Casuarina glauca mid high to tall open forest to woodland	N	1	0	M3	401
100165	Avicennia marina low closed to open forest + Acrostichum speciosum / Bacopa monnieri / Juncus kraussii / Echinochloa crus-galli low to tall fernland / forbland / sedgeland / grassland	N	1	0	L4	602
100166	Casuarina glauca mid high open woodland + mid stratum of Baccharis halimifolia / Melaleuca quinquenervia / Avicennia marina + Acrostichum speciosum / Phragmites australis / Juncus kraussii very tall (open) fernland / grassland / rushland	N	1	0	M2	601
100167	Lophostemon suaveolens mid high open forest to woodland + Ischaemum australe / Axonopus affinis / Ottochloa gracillima mid high to tall grassland	N	1	0	M3	309
100168	Casuarina glauca +/- Melaleuca quinquenervia mid high woodland + Entolasia stricta / Ottochloa gracilis mid high grassland	N	1	0	M3	601
100169	Lophostemon suaveolens +/- Eucalyptus intermedia mid high to tall open forest + Pteridium esculentum / Entolasia stricta / Imperata cylindrica (very) tall fernland / grassland	N	1	0	M3	309
100170	Lophostemon confertus / Tristaniopsis laurina mid high to tall closed to open forest + mid stratum of rainforest	S	1	0	M4	303
100171	Eucalyptus microcorys +/- Eucalyptus intermedia / Casuarina glauca mid high to tall open woodland + Imperata cylindrica mid high to tall closed grassland	S	1	0	M2	308
100172	Melaleuca quinquenervia +/- Casuarina glauca mid high to tall open forest + Ischaemum australe mid high to tall closed grassland	N	1	0	M3	401
100173	Casuarina glauca / Eucalyptus robusta mid high to tall open woodland + Axonopus communis / Setaria sphacelata / Ischaemum australe mid high to very tall closed grassland	N	1	0	NA	1099
100174	Casuarina glauca mid high open forest to woodland + Setaria sphacelata / Imperata cylindrica / Axonopus communis / Digitaria didactyla low to tall closed grassland	N	1	0	M3	601
100175	Casuarina glauca +/- Melaleuca quinquenervia / Lophostemon suaveolens mid high open forest to woodland + Entolasia marginata / Entolasia stricta / Setaria sphacelata / Viola hederacea mid high to tall grassland / forbland	S	1	0	M3	601
100176	Axonopus communis / Digitaria didactyla mid high to very tall (closed) grassland + brackish drain with Schoenoplectus validus very tall mid dense sedgeland along edges	N	1	0	NA	1099
100177	Lophostemon suaveolens / Eucalyptus robusta mid high to tall open forest to woodland + Panicum simile, Entolasia marginata / Imperata cylindrica / Ischaemum australe mid high to tall closed grassland	N	1	0	M3	309
100178	Casuarina glauca +/- Melaleuca quinquenervia mid high open forest to woodland + Eriochloa procera / Digitaria didactyla / Bacopa monnieri low to tall (open) grassland / forbland	N	1	0	M3	601
100179	Casuarina glauca mid high open forest to woodland + Hypolepis muelleri / Entolasia marginata / Eleocharis species / Viola hederacea / Enydra fluctuans (very) tall (open) fernland / grassland / sedgeland / forbland	N	1	0	M3	601
100180	Casuarina glauca +/- Lophostemon suaveolens mid high to tall open forest to woodland + Entolasia marginata / Paspalum westeini / Axonopus communis / Hypolepis muelleri / Ageratina riparia tall grassland / fernland / forbland	S	1	0	M3	601
100181	Melaleuca quinquenervia mid high to tall open forest + mid stratum of Lantana camara and rainforest	S	1	3	M3	401
100182	Eucalyptus robusta / Lophostemon suaveolens mid high open forest to woodland + Entolasia stricta / Ottochloa gracillima / Ischaemum australe tall (open) grassland	S	1	0	M3	305
100183	Melaleuca quinquenervia / Eucalyptus robusta / Lophostemon suaveolens mid high to tall open forest + Ischaemum australe / Axonopus communis (very) tall (closed) grassland	N	1	0	M3	403
100184	Lophostemon suaveolens +/- Casuarina glauca mid high open forest + Imperata cylindrica / Entolasia marginata mid high to tall (open) grassland	N	1	0	M3	309
100185	Casuarina glauca +/- Lophostemon suaveolens mid high woodland + Banksia robur tall (open) shrubland	N	1	0	M3	601
100186	Casuarina glauca mid high open woodland + Axonopus communis / Setaria sphacelata / Silene gallica mid high to tall closed grassland / forbland	N	1	0	NA	1099
100187	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall open forest to woodland + Hypolepis muelleri / Paspalum conjugatum, Silene gallica / Viola hederacea mid high to tall fernland / grassland / forbland	S	1	0	M3	601
100188	Casuarina glauca +/- Melaleuca quinquenervia mid high (open) woodland + Setaria sphacelata / Axonopus communis / Paspalum wetsteini / Entolasia marginata mid high to very tall closed grassland	N	1	0	NA	1099
100189	Casuarina glauca +/- Melaleuca quinquenervia mid high open forest to woodland + Paspalum wetsteini / Silene gallica mid high to tall closed grassland / forbland	N	1	0	M3	601
100190	Casuarina glauca +/- Melaleuca quinquenervia mid high open forest to woodland + Paspalum wetsteini / Axonopus communis mid high to tall closed grassland	N	1	0	M3	601
100191	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall open forest to woodland + Entolasia marginata / Paspalum wetsteini mid high to tall (closed) grassland	S	1	0	M3	601
100192	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + mid dense to sparse mid stratum of Lantana camara	N	1	3	M3	402
100193	Melaleuca quinquenervia mid high open woodland + Baumea juncea / Fimbristylis nutans / Ischaemum australis / Sacciolepis indica (very) tall (closed) sedgeland / grassland	N	1	0	Y	701
100194	Melaleuca quinquenervia +/- Eucalyptus intermedia / Lophostemon suaveolens mid high (open) woodland + Imperata cylindrica / Pteridium esculentum (very) tall (closed) grassland / fernland	N	1	0	M2	401
100195	Juncus kraussii / Sporobolus virginicus (very) tall (closed) rushland / grassland	N	1	0	Y	701
100196	Melaleuca quinquenervia +/- Eucalyptus tereticornis mid high to tall open forest + Melicope elleryana extremely to very tall (open) shrubland	N	1	0	M3	401
100197	Melaleuca quinquenervia +/- Eucalyptus intermedia / Lophostemon suaveolens mid high to tall woodland + open to sparse mid stratum of Melaleuca quinquenervia / Eucalyptus intermedia	N	1	0	M3	401

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100198	Melaleuca quinquenervia mid high to tall open forest to woodland + Baumea rubiginosa (very) tall closed sedgeland	N	1	0	M3	401
100199	Melaleuca quinquenervia mid high open forest + Themeda australis / Ischaemum australe (very) tall closed grassland	N	1	0	M3	401
100200	Melaleuca quinquenervia mid high to tall open forest to woodland + Rhodomyrtus psidioides very to extremely tall (open) shrubland	N	1	0	M3	401
100201	Melaleuca quinquenervia mid high open woodland + Ischaemum australe / Themeda australis / Schoenus brevifolius / Banksia oblongifolia tall (closed) grassland / sedgeland mid high to tall open shrubland	N	1	0	M2	401
100203	Melaleuca quinquenervia +/- Casuarina glauca mid high to tall open forest to woodland + Imperata cylindrica / Ischaemum australe (very) tall grassland	N	1	0	M3	401
100204	Avicennia marina dwarf to low open forest to open woodland + Avicennia marina / Aegiceras corniculatum mid high to tall closed to sparse shrubland	N	1	0	L3	602
100205	Avicennia marina / Casuarina glauca dwarf to low open woodland to isolated trees + Sporobolus virginicus / Juncus kraussii mid high to very tall open grassland / sedgeland to isolated grasses / sedges	N	1	0	NA	1099
100206	Juncus kraussii / Baumea juncea / Sporobolus virginicus / Sarcocornia quinqueflora mid high to very tall (sparse) sedgeland / grassland / forbland	N	1	0	Y	603
100207	Melaleuca quinquenervia +/- Casuarina glauca low to mid high (open) woodland + (very) sparse ground stratum of Juncus kraussii / Avicennia marina	N	1	0	L3	401
100208	Avicennia marina dwarf to low closed forest to woodland + (very) sparse ground stratum of Avicennia marina / Aegiceras corniculatum	N	1	0	L4	602
100209	Melaleuca quinquenervia low to mid high open forest to woodland + Ischaemum australe / Schoenus brevifolius / Baumea juncea / Leptocarpus tenax (very) tall (closed) grassland / sedgeland	N	1	0	M3	401
100210	Melaleuca quinquenervia +/- rainforest species mid high to tall open forest + mid dense to very sparse mid stratum of rainforest species	N	1	0	M3	401
100211	Melaleuca quinquenervia / Eucalyptus robusta / Lophostemon suaveolens mid high to tall open forest + Gahnia clarkei (very) tall closed sedgeland	N	1	0	M3	403
100212	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100213	Melaleuca quinquenervia mid high open forest to open woodland + Ischaemum australe / Entolasia marginata (very) tall closed grassland	N	1	0	M3	401
100214	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall open forest + Ischaemum australe / Setaria sphacelata (very) tall closed to open grassland	N	1	0	M3	601
100215	Melaleuca quinquenervia mid high open forest to woodland + (very) sparse to mid stratum of swamp sclerophyll species	N	1	0	M3	401
100216	Melaleuca quinquenervia +/- Allocasuarina / rainforest species mid high open forest to woodland + mid dense to sparse mid stratum of predominantly rainforest species	N	1	0	M3	401
100217	Avicennia marina +/- Casuarina glauca dwarf to low open woodland + dense to sparse ground stratum of Aegiceras corniculatum	N	1	0	L1	602
100218	Casuarina glauca mid high open woodland + Axonopus compressus / Setaria sphacelata / Paspalum wetsteinii (very) tall closed grassland	N	1	0	NA	1099
100219	Casuarina glauca mid high open woodland + Axonopus compressus / Setaria sphacelata / Paspalum wetsteinii (very) tall closed grassland	N	1	0	NA	1099
100220	Casuarina glauca +/- Lophostemon suaveolens mid high to tall open forest to woodland + sparse to very sparse mid stratum of Casuarina glauca	N	1	0	M3	601
100221	Casuarina glauca +/- Lophostemon suaveolens mid high (open) woodland + Axonopus compressus / Setaria sphacelata (very) tall (closed) grassland	N	1	0	M2	601
100222	Casuarina glauca mid high to tall open forest + Enydra fluitans / Setaria sphacelata / Entolasia marginata / Lepironia articulata (closed) forbland / grassland / sedgeland	N	1	0	M3	601
100223	Casuarina glauca tall open forest + dense to sparse mid stratum of Lantana camara	N	1	3	M3	601
100224	Casuarina glauca mid high open woodland + Axonopus compressus / Setaria sphacelata / Paspalum wetsteinii (very) tall closed grassland	N	1	0	M2	601
100225	Casuarina glauca +/- Melaleuca quinquenervia mid high (open) woodland + Axonopus compressus / Setaria sphacelata (very) tall (closed) grassland	N	1	0	NA	1099
100226	Casuarina glauca +/- Lophostemon suaveolens mid high to tall open forest to woodland + sparse to very sparse mid stratum of Casuarina glauca	N	1	0	M3	601
100227	Casuarina glauca / Melaleuca quinquenervia dwarf to low open woodland + Juncus kraussii / Phragmites australis / Eleocharis species (very) tall rushland / grassland / sedgeland	N	1	0	NA	1099
100228	Casuarina glauca / Melaleuca quinquenervia low to mid high (open) woodland + Phragmites australis / Zoysia macrantha / Eleocharis species / Bacopa monnieri low to tall grassland / forbland	N	1	0	L3	402
100229	Melaleuca quinquenervia mid high open forest + Phragmites australis / Eleocharis species / Triglochin striata / Bacopa monnieri low to very tall (open) grassland / sedgeland / forbland	N	1	0	M3	401
100230	Casuarina glauca / Melaleuca quinquenervia low to mid high (open) woodland + Phragmites australis / Zoysia macrantha / Eleocharis species / Bacopa monnieri low to tall grassland / forbland	N	1	0	L3	402
100231	Melaleuca quinquenervia +/- Casuarina glauca tall open forest + Paspalidium disjunctum / Entolasia marginata / Viola hereracea / Enydra fluitans low to tall (open) grassland / forbland	N	1	0	M3	401
100232	Casuarina glauca mid high to tall open forest to woodland + Axonopus compressus / Setaria sphacelata low to tall grassland	N	1	0	M3	601
100233	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest + Hypolepis muelleri / Carex appressa (very) tall (open) fernland / sedgeland	N	1	0	M3	402
100234	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall open forest to woodland + mid dense to sparse mid stratum of Cinnamomum camphora / Lantana camara	N	1	3	M3	601

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100235	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall open forest + Enydra fluctuans / Hydrocotyle bonariensis / Viola hederacea / Entolasia marginata low to tall (open) forbland / grassland	N	1	0	M3	601
100236	Phragmites australis / Juncus kraussii / Eleocharis species / Bacopa monnieri low to tall grassland / sedgeland / forbland	N	1	0	Y	701
100237	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest + Hydrocotyle bonariensis / Enydra fluitans / Paspalidium disjunctum / Paspalum notatum low to tall forbland / grassland	N	1	0	M3	402
100238	Casuarina glauca +/- Cinnamomum camphora mid high to tall open forest + mid dense mid stratum of Cinnamomum camphora	S	1	3	M3	601
100239	Casuarina glauca mid high open forest to woodland + Bacopa monnieri / Enydra fluitans / Triglochin striata / Juncus kraussii / Phragmites australis low to tall (open) forbland / rushland / grassland	N	1	0	M3	601
100240	Casuarina glauca +/- Avicennia marina mid high (open) woodland + mid dense to sparse mid stratum of Aegiceras corniculatum / Casuarina glauca	N	1	0	M2	601
100241	Casuarina glauca +/- Avicennia marina mid high open forest to woodland + Acrostichum speciosum / Fimbristylis ferruginea / Juncus kraussii (very) tall (sparse) fernland / sedgeland / rushland	N	1	0	M2	601
100242	Casuarina glauca +/- rainforest species mid high to tall open forest to woodland + dense to very sparse mid stratum of rainforest species	N	1	0	M3	601
100243	Casuarina glauca +/- Avicennia marina mid high to very tall open forest + Baumea juncea / Triglochin procera / Apium prostratum / Viola hederacea / Eriochloa procera / Acrostichum speciosum (very) tall (closed) sedgeland / forbland / grassland / fernland	N	1	0	M3	601
100244	Pinus species mid high to tall open forest + mid dense to very sparse mid stratum of Lantana camara and rainforest species	N	1	0	M3	1006
100245	Eucalyptus siderophloia / Lophostemon confertus +/- Eucalyptus intermedia mid high to tall open forest to woodland + Gahnia clarkei / Lomandra longifolia / Austromyrtus dulcis / Pteridium esculentum (very) tall (open) sedgeland / forbland / fernland	N	1	0	M3	303
100246	Avicennia marina +/- Casuarina glauca low to mid high open forest to open woodland + dense to sparse mid stratum of Aegiceras corniculatum	N	1	0	L3	602
100247	Aegiceras corniculatum tall closed shrubland	N	1	0	L4	602
100248	Pinus sp. / Melaleuca quinquenervia / Lophostemon confertus +/- E. intermedia / E. robusta mid high open forest + Leucopogon lanceolatus / Austromyrtus dulcis / Pteridium esculentum / Gahnia clarkei (very) tall (open) forbland / fernland / sedgeland	N	1	0	M3	403
100249	Casuarina glauca +/- Melaleuca quinquenervia mid high open forest + Gahnia clarkei / Entolasia marginata / Oplismenus imbecillis (very) tall sedgeland / grassland	N	1	0	M3	601
100250	Avicennia marina / Casuarina glauca dwarf to low (open) woodland + dense to sparse ground stratum of Aegiceras corniculatum	N	1	0	L2	602
100251	Juncus kraussii +/- Sporobolus virginicus tall (closed) rushland / grassland	N	1	0	Y	701
100252	Avicennia marina low woodland + dense to sparse mid stratum of Aegiceras corniculatum	N	1	0	L2	602
100253	Juncus kraussii / Sarcocornia quinqueflora / Sporobolus virginicus mid high to tall (closed) sedgeland / forbland / grassland	N	1	0	Y	603
100254	Melaleuca quinquenervia / Casuarina glauca mid high open forest to woodland + Schoenus brevifolius / Zoysia macrantha (very) tall closed sedgeland / grassland	N	1	0	M3	402
100255	Eucalyptus intermedia / Allocasuarina littoralis / Melaleuca quinquenervia mid high open forest + mid dense to sparse mid stratum of sclerophyll species	N	1	0	M3	301
100256	Melaleuca quinquenervia mid high closed to open forest + Schoenus brevifolius (very) tall (closed) sedgeland	N	1	0	M3	401
100257	Avicennia marina / Casuarina glauca low open woodland + Baumea juncea / Juncus kraussii / Sporobolus indicus tall closed sedgeland / grassland	N	1	0	L1	602
100258	Eucalyptus intermedia / Lophostemon suaveolens / Melaleuca quinquenervia + mid dense to sparse mid stratum of rainforest and sclerophyll species	N	1	0	M3	301
100259	Aegiceras corniculatum (very) tall shrubland	N	1	0	L3	602
100260	Casuarina glauca mid high open forest + Baumea juncea tall (open) sedgeland	N	1	0	M3	601
100261	Avicennia marina +/- Casuarina glauca mid high open forest to woodland + mid dense to very sparse mid stratum of Aegiceras corniculatum	N	1	0	M3	602
100262	Allocasuarina littoralis +/- Eucalyptus intermedia mid high to tall open forest to woodland + mid dense to sparse mid stratum of rainforest and sclerophyll species	N	1	0	M3	312
100263	Casuarina glauca +/- Avicennia marina mid high open forest to woodland + Sporobolus virginicus / Juncus kraussii / Baumea juncea tall closed to open grassland / fernland	N	1	0	M3	601
100264	Melaleuca quinquenervia +/- Lophostemon suaveolens low to mid high open forest to woodland + Ischaemum australe / Themeda australis / Schoenus brevifolius (very) tall (closed) grassland / sedgeland	N	1	0	L3	401
100265	Melaleuca quinquenervia / Lophostemon suaveolens dwarf to low (open) woodland + Leptocarpus tenax / Schoenus brevifolius / Ischaemum australe / Selaginella uliginosa (very) tall closed sedgeland / grassland / forbland	N	1	0	L3	403
100266	Lophostemon suaveolens / Eucalyptus intermedia / Melaleuca quinquenervia +/- Allocasuarina littoralis mid high to tall open forest to woodland + Themeda australis / Calochloa dubia / Austromyrtus dulcis (very) tall (closed) grassland/fernland/ forblan	N	1	0	M3	309
100267	Lophostemon confertus +/- Eucalyptus intermedia / Eucalyptus siderophloia tall open forest + Calochloa dubia / Austromyrtus dulcis (very) tall (open) fernland / forbland	N	1	0	M3	303
100268	Casuarina glauca +/- Avicennia marina mid high to tall open forest to woodland + Acrostichum speciosum (very) tall closed to open fernland	N	1	0	M3	601
100269	Allocasuarina littoralis +/- Melaleuca quinquenervia mid high open forest + sparse mid stratum of Dodonaea triquetra	N	1	0	M3	312
100270	Avicennia marina mid high open forest to woodland + sparse to very sparse mid stratum of Avicennia marina / Aegiceras corniculatum	N	1	0	L3	602

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100271	Casuarina glauca / Avicennia marina low to mid high woodland + mid dense to sparse mid stratum of Aegiceras corniculatum / Casuarina glauca	N	1	0	L3	601
100272	Melaleuca quinquenervia mid high open forest to woodland + Blechnum indicum / Ischaemum australe tall (closed) fernland / grassland	N	1	0	M3	401
100273	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100274	Melaleuca quinquenervia mid high closed to open forest + Ischaemum australe / Schoenus brevifolius (very) tall closed grassland sedgeland	N	1	0	L4	401
100275	Melaleuca quinquenervia / Lophostemon suaveolens +/- Eucalyptus intermedia mid high open forest + Themeda australis (closed) grassland	N	1	0	M3	403
100276	Melaleuca quinquenervia +/- Lophostemon suaveolens / Eucalyptus intermedia mid high open forest to woodland + Ischaemum australe / Themeda australis (very) tall closed grassland	N	1	0	M3	401
100277	Eucalyptus intermedia / Lophostemon suaveolens mid high to tall open forest to woodland + mid dense to sparse mid stratum of rainforest and sclerophyll species	N	1	0	M3	301
100278	Eucalyptus tereticornis / Lophostemon suaveolens +/- Casuarina glauca mid high to tall open forest + mid dense to sparse mid stratum of Persoonia adenantha	N	1	0	M3	304
100279	Eucalyptus intermedia / Lophostemon suaveolens +/- rainforest species mid high to tall open forest to woodland + mid dense to sparse mid stratum of rainforest species	S	1	0	M3	301
100280	Lophostemon confertus / Eucalyptus siderophloia / Eucalyptus intermedia mid high to tall open forest + mid dense to sparse mid stratum of rainforest and sclerophyll species	N	1	0	M3	303
100281	Lophostemon confertus / Glochidion sumatranum mid high to tall (open) woodland + mid dense to very sparse mid stratum of rainforest species	N	1	0	M2	303
100282	Casuarina glauca +/- Lophostemon suaveolens + mid dense to sparse mid stratum of rainforest species	N	1	0	M3	601
100283	Casuarina glauca +/- Lophostemon suaveolens mid high open forest + Entolasia marginata / Paspalum notatum tall (open) grassland	N	1	0	M3	601
100284	Casuarina glauca / Cinnamomum camphora mid high to tall closed to open forest + (very) sparse mid stratum of rainforest	D	1	3	M4	601
100285	Casuarina glauca mid high open forest to woodland + Paspalum notatum tall closed to open grassland	N	1	0	M3	601
100286	Casuarina glauca mid high open forest + Eriochloa procera / Apium prostratum low to tall grassland / forbland	N	1	0	M3	601
100287	Eriochloa procera / Digitaria didactyla / Juncus kraussii / Juncus continuus low to (very) tall grassland / rushland / sedgeland	N	1	0	NA	1099
100288	Juncus kraussii / Fimbristylis ferruginea / Bacopa monnieri low to (very) tall rushland / sedgeland / forbland	N	1	0	Y	701
100288	Juncus kraussii / Fimbristylis ferruginea / Bacopa monnieri low to (very) tall rushland / sedgeland / forbland	N	3	0	NA	1099
100289	Casuarina glauca mid high to tall open forest + Entolasia marginata / Eriochloa procera / Phragmites australis / Enydra fluctuans (very) tall grassland / forbland	N	1	0	M3	601
100291	Avicennia marina +/- Casuarina glauca dwarf to low open forest to woodland	N	1	0	L3	602
100292	Casuarina glauca +/- Avicennia marina low to mid high open forest to woodland + Zoysia macrantha / Juncus kraussii low to tall closed to open grassland / sedgeland	N	1	0	M3	601
100293	Casuarina glauca +/- Melaleuca quinquenervia mid high (open) woodland + dense to sparse mid stratum of Melaleuca quinquenervia / Acacia sophorae	N	1	0	M2	601
100294	Fimbristylis ferruginea / Juncus kraussii / Phragmites australis (very) tall closed to open sedgeland / grassland	N	1	0	Y	701
100295	Avicennia marina +/- Casuarina glauca low open forest to woodland + ground stratum of Aegiceras corniculatum / Baumea juncea	N	1	0	L3	602
100296	Melaleuca quinquenervia low to mid high open forest to woodland + mid dense to sparse mid stratum of Acacia sophorae / Melaleuca quinquenervia	N	1	0	L3	401
100297	Allocasuarina +/- Lophostemon suaveolens mid high (open) woodland + Phyllota phylloides / Allocasuarina littoralis / Dodonaea triquetra / Pteridium esculentum mid high to tall closed to open shrubland	N	1	0	M2	312
100298	Melaleuca quinquenervia +/- Lophostemon confertus low to mid high open forest to woodland + Dodonaea triquetra / Pteridium esculentum (very) tall closed to open forbland / fernland	N	1	0	L3	401
100299	Melaleuca quinquenervia +/- Allocasuarina littoralis low (open) woodland + Lepyrodia interrupta / Schoenus brevifolius / Homoranthus virgatus tall closed to open sedgeland	N	1	0	L3	401
100300	Allocasuarina low to mid high closed forest to woodland	N	1	0	L4	312
100301	Melaleuca quinquenervia +/- Allocasuarina littoralis mid high open forest to woodland + Gahnia sieberiana / Lepyrodia interrupta / Xanthorrhoea fulva (very) tall (open) sedgeland	N	1	0	L3	401
100302	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
100303	Allocasuarina littoralis low forest to woodland	N	1	0	L4	312
100304	Melaleuca quinquenervia low open woodland	N	1	0	L2	401
100305	Melaleuca quinquenervia / Allocasuarina littoralis / Acacia concurrens low to midhigh (open) woodland	N	1	0	L3	401
100306	Leptocarpus tenax / Lepyrodia interrupta tall open rushland	N	1	0	NA	1099
100307	Casuarina glauca +/- Melaleuca quinquenervia mid high open forest + Eriochloa procera / Baumea juncea / Juncus continuus / Bacopa monnieri low to tall open to sparse grassland / sedgeland / forbland	N	1	0	M3	601
100308	Pinus species mid high to tall open forest	N	1	0	M3	1006
100309	Eucalyptus intermedia / Lophostemon suaveolens mid high open forest to woodland	N	1	0	M3	301
100310	Eucalyptus robusta / Casuarina glauca +/- Lophostemon suaveolens mid high open forest to woodland + Setaria sphacelata (very) tall closed grassland	N	1	0	M3	305
100311	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100312	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100313	Chrysanthemum monilifera / Digitaria didactyla / Themeda australis (closed) shrubland / grassland	N	1	3	S4	1008
100314	Casuarina equisetifolia +/- Banksia integrifolia low open woodland + Chrysanthemum monilifera closed shrubland	N	1	3	L2	1008

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100315	Banksia integrifolia / Rainforest species low to mid high open forest to woodland	S	1	0	M3	310
100316	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
100317	Acronychia imperforata mid high closed forest to woodland + closed ground stratum of Protasparagus aethiopicus and Chrysanthemum monilifera	N	1	0	M4	101
100318	Avicennia marina dwarf to low open forest to woodland	N	1	0	L3	602
100319	Melaleuca quinquenervia +/- Rainforest species mid high to tall woodland + mid dense to sparse mid stratum of Acacia sophorae	N	1	0	M2	401
100320	Melaleuca quinquenervia dwarf to low open woodland + Baumea juncea / Gleichenia dicarpa / Lycopodium cernuum sedgeland / fernland / mossland	N	1	0	L2	401
100321	Melaleuca quinquenervia +/- Casuarina glauca low to mid high (open woodland + closed to open ground stratum of Baumea juncea / Acacia sophorae	N	1	0	L3	401
100322	Acacia sophorae (tall) (sparse) shrubland + Platysace ericoides / Homoranthus virgatus / Digitaria ciliaris low (closed) shrubland / grassland	N	1	3	L2	1008
100323	Imperata cylindrica tall (closed) grassland	N	1	0	G	902
100324	Banksia aemula (very) tall open to sparse shrubland + Banksia aemula / Banksia oblongifolia / Platysace ericoides / Lomandra longifolia / Lomandra elongata closed to open shrubland / forbland / rushland	N	1	0	L2	501
100325	Melaleuca quinquenervia +/- Banksia aemula dwarf to low open woodland + Melaleuca quinquenervia / Banksia oblongifolia / Lomandra longifolia / Themeda australis (open) shrubland / rushland / grassland	N	1	3	L1	1008
100326	Banksia aemula (very) tall open to sparse shrubland + Lomandra elongata / Pteridium esculentum / Banksia aemula closed to open rushland / fernland / shrubland	N	1	0	L2	501
100327	Casuarina equisetifolia low to mid high open woodland + Acacia sophorae / Leptospermum laevigatum (closed) shrubland	N	1	3	L1	1008
100328	Banksia integrifolia +/- Casuarina equisetifolia (very) tall sparse shrubland + Digitaria didactyla / Acacia sophorae / Chrysanthemum monilifera (closed) grassland / shrubland / forbland	N	1	3	L1	1008
100329	Banksia aemula / Monotoca elliptica (very) tall (open) shrubland	N	1	0	L3	501
100330	Banksia integrifolia +/- rainforest species low to mid high open forest	N	1	0	L3	310
100331	Melaleuca quinquenervia +/- Banksia integrifolia / Monotoca elliptica low open forest to woodland + Lomandra longifolia / Caustis recurvata / Pultenea villosa (open) rushland / sedgeland / shrubland	N	1	0	L3	401
100332	Melaleuca quinquenervia / Banksia aemula dwarf to low (open) woodland + Banksia oblongifolia / Brachyloma daphnoides? / Lomandra longifolia (closed) shrubland / rushland	N	1	0	L3	401
100333	Melaleuca quinquenervia dwarf to low (open) woodland + Epacris microphylla / Leptospermum polygalifolia / Schoenus brevifolius / Caustis recurvata / Empodisma minus closed to open shrubland / sedgeland	N	1	0	L3	401
100334	Banksia integrifolia / Casuarina equisetifolia / Melaleuca quinquenervia low to mid high open woodland + dense to sparse mid stratum of Acacia sophorae and Chrysanthemum monilifera	N	1	3	L2	1008
100335	Leptospermum laevigatum / Casuarina equisetifolia low to mid high open forest to woodland	N	1	3	L3	1008
100336	Melaleuca quinquenervia / Casuarina glauca low open forest to woodland + closed exotic grassland	N	1	0	L3	402
100337	Allocasuarina littoralis +/- Melaleuca quinquenervia low to mid high closed to open forest + mid stratum of predominantly rainforest species	N	1	0	L4	312
100338	Melaleuca quinquenervia / Acacia sophorae / Leptospermum laevigatum tall open shrubland + Digitaria ciliaris / Homoranthus virgatus / Leucopogon ericoides (open) grassland / shrubland	N	1	0	NA	1099
100339	Casuarina equisetifolia dwarf to low open woodland + (closed) Digitaria didactyla / Acacia sophorae grassland / shrubland	N	1	3	L1	1008
100340	Leptospermum laevigatum / Acacia sophorae (very) tall (open) shrubland + sparse ground stratum of Acacia sophorae / Digitaria didactyla	S	1	3	L3	1008
100342	Littoral rainforest low to mid high (closed) forest	S	1	0	L4	101
100343	Casuarina equisetifolia +/- Banksia integrifolia dwarf to low open forest to woodland + closed ground stratum of Acacia sophorae / Digitaria didactyla	N	1	3	L3	1008
100344	Spinifex sericeus / Carex pumila / Vigna marina low to tall (open) grassland / sedgeland / vineland	N	1	0	G	801
100345	Outside study area. Estuarine waters	NA	1	0	NA	903
100346	Casuarina equisetifolia dwarf to low (open) woodland + Spinifex sericeus / Acacia sophorae grassland / shrubland	ND	1	3	ND	1008
100347	Casuarina equisetifolia low to mid high open forest to woodland + Digitaria didactyla / Imperata cylindrica / Acacia sophorae closed grassland / shrubland	N	1	3	L3	1008
100348	Outside study area. Estuarine waters	NA	1	0	NA	903
100349	Melaleuca quinquenervia +/- Eucalyptus tereticornis mid high open forest to woodland + Ischaemum australe (very) tall closed grassland	N	1	0	M3	401
100350	Casuarina glauca / Banksia integrifolia low to mid high open woodland + Imperata cylindrica / Ischaemum australe / Eragrostis species/ Pteridium esculentum (very) tall closed grassland / fernland	N	1	0	NA	1099
100351	Casuarina glauca / Eucalyptus intermedia mid high open forest to woodland + mid dense to sparse mid stratum of Lantana camara	N	1	3	M3	601
100352	Lophostemon suaveolens / Eucalyptus intermedia mid high open forest to woodland + Pteridium esculentum / Themeda australis (very) tall closed fernland / grassland	N	1	0	L3	309
100353	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
100354	Casuarina glauca +/- Callistemon salignus mid high open forest + sparse mid stratum of rainforest species	N	1	0	M3	601
100355	Casuarina glauca mid high open forest to woodland + mid dense to sparse mid stratum of Lanatana camara and rainforest species	N	1	0	M3	601
100356	Lophostemon confertus +/- Casuarina glauca / Eucalyptus intermedia mid high to tall closed to open forest + mid dense to sparse mid stratum of rainforest species	N	1	0	M4	303
100357	Lophostemon confertus +/- Eucalyptus intermedia / RF mid high to tall closed to open forest + dense to sparse mid stratum of rainforest species	N	1	0	M4	303

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100358	Lophostemon confertus / Casuarina glauca mid high open forest to open woodland + dense to mid dense mid stratum of Lantana camara	N	1	3	M3	303
100359	Eucalyptus intermedia / Allocasuarina littoralis / Lophostemon suaveolens / Casuarina glauca mid high open forest to woodland + (very) sparse mid stratum of rainforest species	N	1	0	M3	301
100360	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest + mid dense to sparse mid stratum of Lantana camara and Schefflera actinophylla	N	1	3	M3	402
100361	Casuarina glauca / Lophostemon suaveolens open woodland + Urochloa decumbens / Setaria sphacelata / Gomphocarpus fruticosus / Pteridium esculentum (very) tall closed grassland / forland / fernland	N	1	0	NA	1099
100362	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100363	Casuarina glauca +/- Melaleuca quinquenervia mid high open forest to woodland + Chrysanthemum monillifera / Senna pendula / Digitaria didactyla (closed) shrubland / grassland	N	1	0	M3	601
100364	Avicennia marina dwarf open woodland + Sporobolus virginicus low (open) grassland	N	1	0	L1	602
100365	Melaleuca quinquenervia +/- Casuarina glauca mid high open forest to woodland + Phragmites australis / Leersia hexandra (very) tall (closed) grassland	N	1	0	M3	401
100366	Paspalum notatum / Digitaria didactyla / Ischaemum australe (closed) grassland	N	1	0	NA	1099
100367	Melaleuca quinquenervia / Lophostemon suaveolens low to mid high (open) woodland + closed ground stratum dominated by Banksia robur / Ischaemum australe / Pteridium esculentum	N	1	0	L3	403
100368	Lophostemon suaveolens low to mid high open forest to woodland + Ischaemum australe / Pteridium esculentum tall grassland / fernland	N	1	0	L3	309
100369	Melaleuca quinquenervia mid high (open) woodland + Blechnum indicum / Phragmites australis / Leersia hexandra (very) tall (closed) grassland / fernland	N	1	0	L3	401
100370	Lophostemon suaveolens mid high (open) woodland + Digitaria didactyla / Setaria sphacelata low to very tall grassland	N	1	0	NA	1099
100371	Melaleuca quinquenervia mid high to tall open woodland + (vey) sparse mid stratum of Melaleuca quinquenervia / Lophostemon suaveolens	N	1	0	M2	401
100372	Lophostemon suaveolens / Melaleuca quinquenervia low open woodland + dense to mid dense ground stratum of Banksia robur / Ischaemum australe / Leptospermum polygalifolia / Xanthorrhoea fulva	N	1	0	L1	309
100373	Melaleuca quinquenervia mid high to tall (open) woodland + Blechnum indicum / Phragmites australis / Leersia hexandra (very) tall (closed) fernland / grassland	N	1	0	M3	401
100374	Lophostemon suaveolens +/- Lophostemon confertus mid high to tall open forest + Pteridium esculentum tall closed to open fernland.	N	1	0	M3	309
100375	Melaleuca quinquenervia mid high open forest + Blechnum indicum tall closed to open fernland	N	1	0	M3	401
100376	Lophostemon suaveolens / Melaleuca quinquenervia mid high closed to open forest + Gahnia clarkei / Imperata cylindrica (vey) tall (open) sedgeland / grassland	N	1	0	M4	309
100377	Melaleuca quinquenervia / Lophostemon suaveolens low to mid high open woodland to isolated trees + Ischaemum australe / Axonopus communis / Pteridium esculentum tall (closed) grassland / fernland	N	1	0	NA	1099
100378	Melaleuca quinquenervia / Lophostemon suaveolens low to mid high (open) woodland + Pteridium esculentum / Imperata cylindrica / Sacciolepis indica / Ischaemum australe / Hemarthria uncinata tall (closed) fernland / grassland	N	1	0	M2	403
100379	Melaleuca quinquenervia mid high (open) woodland + Blechnum indicum / Leersia hexandra / Hemarthria uncinata tall closed fernland / grassland	N	1	0	M3	401
100380	Melaleuca quinquenervia mid high open forest + Blechnum indicum / Pteridium esculentum / Ischaemum australe / Hemarthria uncinata tall (closed) fernland / grassland	N	1	0	M3	401
100381	Melaleuca quinquenervia mid high to tall open forest to woodland + Blechnum indicum / Lepironia articulata / Phragmites australis (very) tall fernland / sedgeland / grassland	N	1	0	M3	401
100382	Melaleuca quinquenervia dwarf open forest to woodland + Lepironia articulata / Leersia hexandra tall open sedgeland / grassland	N	1	0	M2	401
100383	Lophostemon suaveolens +/- Elaeocarpus reticulatus low (open) woodland + closed ground stratum of Banksia robur / Pteridium esculentum / Leptospermum polygalifolia	N	1	0	L3	309
100384	Lophostemon suaveolens mid high to tall open forest + Pteridium esculentum / Imperata cylindrica tall (open) fernland / grassland	N	1	0	M3	309
100385	Melaleuca quinquenervia mid high open forest to woodland + (very) sparse mid stratum dominated by Commersonia bartramia	N	1	0	M3	401
100386	Nymphaea capensis low open forland	N	1	0	F	702
100387	Melaleuca quinquenervia mid high woodland + Blechnum indicum / Lepironia articulata / Leersia hexandra tall (open) fernland / sedgeland / grassland	N	1	0	M3	401
100388	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100390	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
100391	Phragmites australis / Axonopus communis / Digitaria didactyla / Triglochin striata low to very tall (closed) grassland / forland	NA	99	0	NA	1099
100392	Casuarina glauca / Banksia integrifolia low to mid high open forest to woodland + mid dense to very sparse mid stratum of Chrysanthemum monillifera	N	1	3	L3	601
100393	Avicennia marina low to mid migh woodland + sparse mid stratum of Aegiceras corniculatum	N	1	0	L2	602
100394	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
110001	Melaleuca quinquenervia mid high to tall open forest to woodland + Imperata cylindrica / Ischaemum australe / Hemarthria uncinata tall grassland	N	1	0	M3	401
110002	Andropogon virginicus / Axonopus communis / Ischaemum australe / Digitaria didactyla mid high to tall (closed) grassland	N	1	0	NA	1099

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110003	Melaleuca quinquenervia mid high to tall open forest + Blechnum indicum / Leersia hexandra tall (closed) fernland / grassland	N	1	0	M3	401
110004	Melaleuca quinquenervia dwarf to low open woodland + Ischaemum australe / Hemarthria uncinata tall (closed) grassland	N	1	0	L2	401
110005	Lophostemon suaveolens +/- Eucalyptus robusta dwarf to low (open) woodland + (mid) dense groundstratum of Leptospermum polygalifolia / Banksia robur / Pultenea villosa / Hemarthria uncinata / Schoenus brevifolius	N	1	0	L3	309
110006	Melaleuca quinquenervia mid high (open) woodland + Blechnum indicum / Imperata cylindrica (very) tall (closed) fernland / grassland	N	1	0	M3	401
110007	Melaleuca quinquenervia mid high to tall open forest to woodland + mid dense ground stratum of Pultenea villosa / Blechnum induicum	N	1	0	M3	401
110008	Lophostemon confertus / Lophostemon suaveolens mid high to tall open forest + mid dense to sparse ground stratum of Leptospermum polygalifolia / Austromyrtus dulcis / Pteridium esculentum / Gahnia clarkei	N	1	0	M3	303
110009	Melaleuca quinquenervia mid high to tall (open) woodland + (very) sparse mid stratum of Lophostemon suaveolens	N	1	0	M1	401
110010	Banksia robur tall (closed) shrubland	N	1	0	S4	502
110011	Lophostemon suaveolens dwarf to low (open) woodland + (mid) dense ground stratum of Schoenus brevifolius / Banksia robur / Leptospermum polygalifolia / Pultenea villosa	N	1	0	L3	309
110012	Lophostemon suaveolens / Melaleuca quinquenervia low to mid high open woodland + mid dense to sparse ground stratum of Banksia robur	N	1	0	L2	309
110013	Melaleuca quinquenervia +/- Eucalyptus robusta mid high (open) woodland + Ischaemum australe / Hemarthria uncinata / Schoenus brevifolius / Pteridium esculentum tall closed grassland / sedgeland / fernland	N	1	0	M2	401
110014	Melaleuca quinquenervia mid high to tall open forest + Pteridium esculentum very tall closed fernland	N	1	0	M3	401
110015	Lophostemon confertus +/- Eucalyptus intermedia mid high to tall open forest to woodland + Imperata cylindrica (very) tall closed grassland	N	1	0	M3	303
110016	Melaleuca quinquenervia dwarf to low (open) woodland	N	1	0	L3	401
110017	Leptocarpus tenax / Schoenus brevifolius tall (sparse) sedgeland	N	1	0	Y	701
110018	Melaleuca quinquenervia / Lophostemon suaveolens low to mid high (open) woodland + mid dense ground stratum of Ischaemum australe / Imperata cylindrica / Pteridium esculentum / Leptospermum polygalifolia / Banksia robur	N	1	0	L3	403
110019	Melaleuca quinquenervia mid high to tall (open) woodland + Imperata cylindrica / Ischaemum australe / Hemarthria uncinata / Schoenus brevifolius tall grassland / sedgeland	N	1	0	M3	401
110020	Melaleuca quinquenervia +/- Lophostemon suaveolens mid high to tall (open) woodland + (very) sparse mid stratum of Melaleuca quinquenervia / Lophostemon suaveolens	N	1	0	M3	401
110021	Melaleuca quinquenervia low to mid high open woodland + Ischaemum australe / Hemarthria uncinata tall (closed) grassland	N	1	0	NA	1099
110022	Eucalyptus robusta / Lophostemon suaveolens low open forest to woodland + Schoenus brevifolius tall (closed) sedgeland	N	1	0	L3	305
110023	Lophostemon suaveolens dwarf to low open woodland + (mid) dense ground stratum of Banksia robur / Banksia oblongifolia / Leptospermum polygalifolia / Leptocarpus tenax	N	1	0	L1	309
110024	Ischaemum australe/ Fimbristylis nutans / Selaginella uliginosa low to tall (closed) grassland / sedgeland / club mossland	N	1	0	NA	1099
110025	Melaleuca quinquenervia / Lophostemon suaveolens mid high to tall (open) woodland + mid dense to sparse mid stratum of Lophostemon suaveolens / Leptospermum polygalifolia	N	1	0	M3	403
110026	Casuarina glauca / Banksia integrifolia +/- Rainforest species mid high open forest to woodland + (very) sparse mid stratum of Rainforest species	N	1	0	L3	601
110027	Melaleuca quinquenervia / Casuarina glauca mid high (open) woodland + very sparse mid stratum of Rainforest species	N	1	0	L2	402
110028	Casuarina equisetifolia mid high open forest to woodland + Digitaria didactyla low (open) grassland	N	1	3	L3	1008
110029	Banksia integrifolia +/- Leptospermum laevigatum low to mid high open forest + Digitaria didactyla / Ottochloa gracilima? / Conyza bonariensis low to tall closed to open grassland / forbland	N	1	3	L3	1008
110030	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
110031	Casuarina equisetifolia low to mid high woodland + Chrysanthemum monilifera tall (closed) shrubland	N	1	3	L3	1008
110032	Casuarina equisetifolia low to mid high (open) forest + (very) sparse mid stratum of Leptospermum laevigatum	N	1	3	L3	1008
110033	Banksia integrifolia / Casuarina equisetifolia low to mid high (open) woodland + Digitaria didactyla / Eragrostis interrupta / Zoysia macrantha / Imperata cylindrica low to tall closed to open grassland	N	1	3	L3	1008
110034	Leptospermum laevigatum +/- Casuarina equisetifolia / Banksia integrifolia low to midhigh open forest to woodland + (very) sparse mid stratum of Leptospermum laevigatum	N	1	3	L3	1008
110035	Leptospermum laevigatum (very) tall (open) shrubland + Eragrostis interrupta / Digitaria ciliaris / Digitaria didactyla low to tall open to sparse grassland	N	1	3	L3	1008
110036	Casuarina glauca low to mid high open woodland + (open) mid stratum of Avicennia marina	N	1	0	M1	601
110037	Acacia sophorae / Leptospermum laevigatum / Duboisia myoporoides (very) tall sparse shrubland + Digitaria didactyla / Digitaria ciliaris / Eragrostis interrupta / Zoysia macrantha low to tall closed to open grassland	N	1	3	L1	1008
110038	Avicennia marina +/- Casuarina glauca dwarf to low (open) forest	N	1	0	L3	602
110039	Spinifex sericeus mid high open to sparse grassland	N	1	0	G	801
110040	Casuarina equisetifolia low to mid high open woodland to isolated trees + Acacia sophorae mid high to tall closed to open shrubland	N	1	3	L1	1008
110041	Leptospermum laevigatum (very) tall shrubland	N	1	3	L3	1008
110042	Banksia integrifolia / Leptospermum laevigatum / Casuarina glauca dwarf (very) sparse forest + dense to very sparse ground stratum of Digitaria didactyla / Chrysanthemum monilifera / Acacia sophorae	N	1	3	L1	1008
110043	Casuarina equisetifolia low to mid high open forest to woodland + (very) sparse ground stratum of Chrysanthemum monilifera	N	1	3	L3	1008

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110044	Casuarina glauca mid high open forest to woodland + (very) sparse mid stratum of Avicennia marina / Hibiscus tiliaceus	N	1	0	L3	601
110045	Sporobolus virginicus low (open) grassland	N	1	0	G	603
110046	Avicennia marina dwarf to low closed forest to woodland	N	1	0	L3	602
110047	Banksia integrifolia low to mid high open forest to woodland + dense to sparse mid stratum of Chrysanthemum monilifera	N	1	0	L3	310
110048	Casuarina equisetifolia low to mid high (open) woodland + closed to open ground stratum of Chrysanthemum monilifera	N	1	3	L3	1008
110049	Casuarina equisetifolia dwarf to low (open) woodland + dense to sparse ground stratum of Acacia sophorae / Spinifex sericeus	N	1	3	L2	1008
110050	Avicennia marina dwarf open forest + mid dense to sparse ground stratum of Avicennia marina	N	1	0	L1	602
110051	Avicennia marina low to mid high (closed) forest	N	1	0	L4	602
110052	Banksia integrifolia low to mid high (open) woodland + dense ground stratum of Chrysanthemum monilifera	N	1	0	L3	310
110053	Melaleuca quinquenervia +/- Rf species mid high to tall open forest to woodland + mid dense to sparse mid stratum of Rf species	S	1	0	M3	401
110054	Banksia integrifolia / Acronychia imperforata / Cupaniopsis anacardioides / Planchonella chartacea low to mid high closed forest to woodland	N	1	0	M4	101
110055	Casuarina equisetifolia / Banksia integrifolia low (open) woodland + mid dense to sparse mid stratum of Leptospermum laevigatum	N	1	3	L2	1008
110056	Spinifex sericeus mid high open to sparse grassland	N	1	0	G	801
110057	Casuarina glauca / Avicennia marina / Hibiscus tiliaceus dwarf open woodland + mid dense to sparse ground stratum of Sporobolus virginicus / Avicennia marina	N	1	0	L2	601
110058	Melaleuca quinquenervia mid high to tall open forest + Blechnum indicum / Phragmites australis / Leersia hexandra / Lepironia articulata (very) tall (closed) fernland / grassland / sedgeland	N	1	0	M3	401
110059	Melaleuca quinquenervia low to mid high (open) woodland + dense to mid dense ground stratum of Leptospermum polygalifolia / Ischaemum australe / Paspalum orbiculare	N	1	0	M2	401
110060	Eucalyptus intermedia mid high to tall (open) woodland + Imperata cylindrica / Calochlaena dubia / Pteridium esculentum tall grassland / fernland	N	1	0	M2	301
110061	Melaleuca quinquenervia mid high to tall open forest to woodland + (very) sparse mid stratum of Cyathea cooperi and Rf species	N	1	0	M3	401
110062	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	M3	402
110063	Lophostemon confertus mid high to tall open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	M3	303
110064	Melaleuca quinquenervia mid high open forest to woodland + Entolasia marginata / Viola hederacea / Hypolepis muelleri tall (closed) grassland / forland / fernland	N	1	0	M3	401
110065	Melaleuca quinquenervia mid high to tall open forest to woodland + Imperata cylindrica tall closed grassland	N	1	0	M3	401
110066	Leptocarpus tenax / Schoenus brevifolius / Baumea rubiginosa tall closed to open sedgeland	N	1	0	Y	701
110067	Melaleuca quinquenervia low to mid high open woodland + Pteridium esculentum / Digitaria didactyla / Imperata cylindrica / Phragmites australis	N	1	0	NA	1099
110068	Melaleuca quinquenervia low to mid high closed forest to woodland + Phragmites australis tall closed to open grassland	N	1	0	L4	401
110069	Melaleuca quinquenervia / Casuarina glauca mid high to tall open woodland + (mid) dense ground stratum of Aristida / Themeda australis / Ischaemum australe Panicum simile / Hemarthria uncinata / Leptospermum polygalifolia	N	1	0	NA	1099
110070	Melaleuca quinquenervia mid high to tall closed to open forest + Lepironia articulata tall open to sparse sedgeland	N	1	0	M4	401
110071	Melaleuca quinquenervia mid high to tall closed to open forest + (very) sparse mid stratum of Baccharis halimifolia / Lantana camara / Ficus coronata / Melaleuca quinquenervia / Parsonsia straminea	N	1	0	M4	401
110072	Melaleuca quinquenervia mid high to tall closed to open forest + (very) sparse mid stratum of Ficus coronata / Cyathea cooperi	N	1	0	M4	401
110073	Melaleuca quinquenervia +/- Casuarina glauca mid high to tall (open) woodland + mid dense to sparse mid stratum of Lantana camara / Baccharis halimifolia	N	1	3	M2	401
110074	Lophostemon suaveolens low to mid high open woodland + (mid) dense ground stratum of Leptospermum polygalifolia / Pteridium esculentum / Melastoma affine / Calochlaena dubia	N	1	0	L2	309
110075	Melaleuca quinquenervia / Lophostemon suaveolens mid high open forest to woodland + Schoenus brevifolius / Restio pallens / Imperata cylindrica tall (closed) sedgeland / grassland	N	1	0	M3	403
110076	Lophostemon suaveolens mid high to tall open forest to woodland + mid dense ground stratum of Leptospermum polygalifolia / Imperata cylindrica	N	1	0	M3	309
110077	Melaleuca quinquenervia mid high to tall open forest to woodland + Restio pallens / Ischaemum australe / Hemarthria uncinata tall close to open sedgeland / grassland	N	1	0	M3	401
110078	Lophostemon suaveolens / Melaleuca quinquenervia mid high to tall open forest to woodland + dense to sparse ground stratum of Imperata cylindrica / Ischaemum australe / Hemarthria uncinata / Pteridium esculentum / Pultenea villosa	N	1	0	M3	309
110079	Lophostemon suaveolens mid high (open) woodland + (very) sparse mid stratum of Lophostemon suaveolens / Leptospermum whitei	N	1	0	M2	309
110080	Eucalyptus intermedia mid high to tall (open) woodland + dense to sparse ground stratum of Imperata cylindrica / Austromyrtus dulcis / Pteridium esculentum	N	1	0	M2	301
110081	Lophostemon suaveolens / Eucalyptus intermedia mid high to tall woodland + mid dense to sparse mid stratum of Lophostemon suaveolens / Leptospermum polygalifolia / Glochidion ferdinandi / Melaleuca quinquenervia	N	1	0	M2	309
110082	Lophostemon suaveolens mid high to tall woodland + sparse mid stratum of Lophostemon suaveolens	N	1	0	M2	309

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110083	Lophostemon suaveolens +/- Lophostemon confertus midhigh to tall open forest to woodland + mid dense to sparse mid stratum of Eucalyptus intermedia / Persoonia adenantha / Lophostemon suaveolens / Glochidion ferdinandi / Leptospermum polygalifolia	N	1	0	M3	309
110084	Melaleuca quinquenervia mid high to tall open forest + Imperata cylindrica / Calochlaena dubia / Gahnia clarkei tall (closed) grassland / fernland / sedgeland	N	1	0	M3	401
110085	Fimbristylis nutans / Philydrum lanuginosum low to tall (open) sedgeland / forbland	N	1	0	Y	701
110086	Melaleuca quinquenervia / Banksia integrifolia low to mid high open woodland to isolated plants + Axonopus compressus / Imperata cylindrica / Digitaria didactyla / Digitaria ciliaris low to tall closed to open grassland	N	1	0	NA	1099
110087	Lophostemon suaveolens / Eucalyptus tereticornis mid high to tall open forest to woodland + Themeda australis / Ischaemum australe / Paspalum orbiculare / Digitaria ciliaris tall (closed) grassland	N	1	0	M3	309
110088	Eucalyptus tereticornis +/- Eucalyptus intermedia / Casuarina glauca mid high to tall (open) woodland + Imperata cylindrica / Panicum simile / Pteridium esculentum tall closed to open grassland / fernland	N	1	0	M2	304
110089	Casuarina glauca mid high to tall open woodland + (very) sparse mid stratum of Casuarina glauca / Lophostemon suaveolens	N	1	0	NA	1099
110090	Lophostemon confertus / Casuarina glauca / Melaleuca quinquenervia mid high (open) woodland + closed to open mid stratum of Lanatana camara	N	1	3	M3	303
110091	Melaleuca quinquenervia +/- Casuarina glauca mid high to tall open forest to woodland + mid dense to sparse mid stratum of Lantana camara and Rf species	N	1	0	M3	401
110092	Casuarina glauca mid high to tall open forest to woodland + closed to open mid stratum of Lantana camara / Callistemon salignus	N	1	3	M3	601
110093	Casuarina glauca / Melaleuca quinquenervia mid high to tall closed forest to woodland + closed to open mid stratum of Lantana camara and Rf species	N	1	3	M4	402
110094	Melaleuca quinquenervia mid high to tall open forest to woodland + Leersia hexandra tall grassland	N	1	0	M3	401
110095	Eucalyptus microcorys mid high to tall open forest to woodland + Imperata cylindrica tall (open) grassland	N	1	0	M3	308
110096	Lophostemon confertus mid high to tall open woodland + Imperata cylindrica / Digitaria didactyla low to tall closed to open grassland	N	1	0	M2	303
110097	Fimbristylis nutans / Ischaemum australe / Paspalum orbiculare / Sacciolepis indica / Axonopus compressus low to tall (closed) sedgeland / grassland	N	1	0	NA	1099
110098	Baumea juncea / Fimbristylis ferruginea / Juncus kraussii / Zoysia macrantha / Phragmites australis low to tall closed to open sedgeland / grassland	N	1	0	NA	1099
110098	Baumea juncea / Fimbristylis ferruginea / Juncus kraussii / Zoysia macrantha / Phragmites australis low to tall closed to open sedgeland / grassland	N	1	0	Y	701
110099	Baumea rubiginosa / Rhyncospora brownii / Fimbristylis nutans / Gahnia clarkei (very) tall closed sedgeland	N	1	0	Y	701
110100	Digitaria didactyla / Paspalum orbiculare / Paspalum urvillei / Axonopus compressus low to tall (closed) grassland	N	1	0	NA	1099
110101	Banksia integrifolia +/- Casuarina glauca low to mid high open forest + (very) sparse mid stratum of Rf species	N	1	0	M3	310
110102	Avicennia marina low (open) woodland + mid dense to very sparse ground stratum of Aegiceras corniculatum	N	1	0	L2	602
110103	Banksia integrifolia +/- Casuarina glauca low to mid high open forest + (very) sparse mid stratum of Rf species	N	1	0	M3	310
110104	Sporobolus indicus / Zoysia macrantha low grassland	N	1	0	NA	1099
110105	Fimbristylis nutans / Digitaria didactyla / Paspalum orbiculare / Hemarthria uncinata / Ischaemum australe / Axonopus compressus low to tall (closed) sedgeland / grassland	N	1	0	NA	1099
110106	Digitaria didactyla low (closed) grassland	S	1	0	G	902
110107	Banksia integrifolia low to mid high open forest to woodland + Digitaria didactyla low closed grassland	N	1	0	M3	310
110108	Casuarina glauca low to mid high (open) woodland + closed ground stratum of Cyperus polystachyos / Phragmites australis / Paspalum urvillei / Baccharis halimifolia	N	1	0	M1	601
110109	Banksia integrifolia low to mid high open woodland + closed ground stratum of Banksia integrifolia / Digitaria ciliaris / Digitaria didactyla / Imperata cylindrica	N	1	0	M1	310
110110	Casuarina glauca / Lophostemon suaveolens low to mid high open forest to woodland + closed to open ground stratum of Lophostemon suaveolens / Casuarina glauca / Callistemon salignus / Imperata cylindrica	N	1	0	M3	601
110111	Eucalyptus tereticornis / Lophostemon suaveolens / Melaleuca quinquenervia mid high to tall open forest to woodland + Imperata cylindrica / Pteridium esculentum low to tall closed to open grassland / fernland	N	1	0	M3	304
110112	Casuarina glauca / Lophostemon suaveolens mid high open woodland + Imperata cylindrica tall (closed) grassland	N	1	0	M2	601
110113	Digitaria didactyla / Digitaria ciliaris low to tall (closed) grassland	N	1	0	NA	1099
110114	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall (open) woodland + Paspalum orbiculare / Paspalum urvillei / Axonopus compressus / Schoenus species mid high to tall closed grassland / sedgeland	N	1	0	NA	1099
110115	Casuarina glauca +/- Eucalyptus intermedia / Lophostemon suaveolens mid high to tall open woodland + Imperata cylindrica / Digitaria didactyla	N	1	0	NA	1099
110116	Casuarina glauca mid high to tall open woodland + Digitaria didactyla low to mid high (closed) grassland	N	1	0	NA	1099
110117	Melaleuca quinquenervia mid high to tall open forest + open to sparse mid stratum of Parsonsia straminea / Ficus coronata / Lantana camara	N	1	0	M3	401
110118	Lophostemon confertus mid high to tall open forest + mid dense to very sparse mid stratum of Rf species	N	1	0	M3	303
110119	Casuarina glauca / Eucalyptus intermedia / Lophostemon confertus mid high open woodland + Imperata cylindrica / Digitaria didactyla / Andropogon virginicus / Axonopus compressus low to tall (closed) grassland	N	1	0	NA	1099
110120	Melaleuca quinquenervia mid high to tall open woodland + mid dense to sparse mid stratum of Melaleuca quinquenervia	N	1	0	M2	401
110121	Melaleuca quinquenervia mid high to tall woodland + mid dense to sparse mid stratum of Commersonia bartramia / Acacia melanoxylon / Lantana camara	N	1	0	M2	401
110122	Melaleuca quinquenervia mid high to tall open forest + Gleichenia dicarpa / Hypolepis muelleri / Blechnum indicum / Gahnia clarkei / Leersia hexandra tall closed to open fernland / sedgeland / grassland	N	1	0	M3	401
110123	Melaleuca quinquenervia mid high to tall open forest to woodland + mid dense to sparse mid stratum of Commersonia bartramia / Lantana camara	N	1	0	M3	401

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110124	Lophostemon confertus mid high to tall closed forest + mid dense to sparse mid stratum of Rf species	N	1	0	M3	303
110125	Phragmites australis / Baumea juncea (very) tall (closed) grassland / sedgeland	N	1	0	Y	701
110126	Zoysia macrantha / Digitaria didactyla low closed grassland	N	1	0	NA	1099
110127	Pteridium esculentum / Eragrostis species / Imperata cylindrica / Digitaria didactyla / Digitaria ciliaris / low to tall (closed) fernland / grassland + Lophostemon suaveolens dwarf (open) woodland	N	1	0	G	902
110128	Casuarina glauca / Lophostemon suaveolens dwarf to low open woodland + Pteridium esculentum tall closed fernland	N	1	0	L2	601
110129	Lophostemon suaveolens / Banksia integrifolia mid high open woodland + Digitaria didactyla / Imperata cylindrica / Eragrostis species / Pteridium esculentum low to tall closed to open grassland / fernland	N	1	0	NA	1099
110130	Casuarina glauca / Banksia integrifolia low to mid high open forest to woodland + Digitaria didactyla / Pteridium esculentum low to tall (open) grassland / fernland	N	1	0	M3	601
110131	Casuarina glauca / Melaleuca quinquenervia low to mid high open forest to woodland + Imperata cylindrica / Pteridium esculentum tall (closed) grassland / fernland	N	1	0	M1	402
110132	Casuarina glauca mid high to tall open woodland to isolated trees + Setaria sphacelata / Digitaria didactyla / Axonopus compressus low to tall (closed) grassland	N	1	0	NA	1099
110133	Casuarina glauca / Melaleuca quinquenervia low to mid high (open) woodland + Setaria sphacelata / Axonopus compressus / mid high to tall (closed) grassland	N	1	0	NA	1099
110134	Melaleuca quinquenervia / Casuarina glauca mid high open forest to woodland + Axonopus compressus low (closed) grassland	N	1	0	M3	402
110137	Casuarina glauca / Melaleuca quinquenervia dwarf to low (open) woodland + closed ground stratum of Paspalum orbiculare / Axonopus compressus / Eragrostis species / Baccharis halimifolia	N	1	0	NA	1099
110138	Casuarina glauca dwarf to low open woodland to isolated trees + Paspalum notatum / Axonopus compressus low to mid high (closed) grassland	N	1	0	NA	1099
110139	Lophostemon suaveolens mid high to tall open woodland to isolated trees + (closed) ground stratum of Digitaria didactyla / Imperata cylindrica / Axonopus compressus / Lophostemon suaveolens	N	1	0	NA	1099
110140	Eucalyptus robusta mid high to tall open forest to woodland + Digitaria didactyla / Imperata cylindrica / Pteridium esculentum low to tall grassland / fernland	N	1	0	M3	305
110141	Avicennia marina low to dwarf (open) woodland + mid dense to sparse ground stratum of Avicennia marina / Aegiceras corniculatum	N	1	0	L2	602
110142	Casuarina glauca / Melaleuca quinquenervia dwarf to low (open) woodland + Baumea juncea / Juncus kraussii / Zoysia macrantha low to tall open to sparse sedgeland / grassland	N	1	0	L2	402
110143	Melaleuca quinquenervia / Casuarina glauca / Banksia integrifolia mid high open forest to woodland + Imperata cylindrica / Entolasia marginata / Pteridium esculentum low to tall (closed) grassland / fernland	N	1	0	M3	402
110144	Avicennia marina low to mid high open forest to woodland + dense to sparse mid stratum of Aegiceras corniculatum	N	1	0	L3	602
110145	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + Imperata cylindrica / Entolasia marginata / Pteridium esculentum low to tall (closed) grassland / fernland	N	1	0	M3	402
110146	Melaleuca quinquenervia / Casuarina glauca mid high open forest to woodland + Zoysia macrantha / Baumea juncea / Cynanchum carnosum low to tall closed to open grassland / sedgeland / vineland	N	1	0	M3	402
110147	Axonopus compressus / Paspalum orbiculare / Paspalum urvillei mid high to tall closed grassland + open to sparse low to mid high shrubland of Casuarina glauca	N	1	0	NA	1099
110148	Lophostemon suaveolens / Banksia integrifolia / Casuarina glauca mid high open forest to woodland + open to sparse mid stratum of Rf species	N	1	0	M3	309
110149	Zoysia macrantha / Fimbristylis ferruginea low to tall closed grassland / sedgeland	N	1	0	G	902
110150	Eragrostis species / Digitaria didactyla / Imperata cylindrica / Axonopus compressus / Paspalum urvillei low to tall closed grassland	N	1	0	NA	1099
110151	Casuarina glauca / Melaleuca quinquenervia low to mid high open forest to woodland + open mid stratum of Casuarina glauca	N	1	0	M3	402
110152	Eragrostis species low (open) grassland	N	1	0	G	902
110153	Acronychia imperforata / Syzygium oleosum / Banksia integrifolia low to mid high closed to open forest	N	1	0	M3	101
110154	Acronychia imperforata / Banksia integrifolia / Casuarina glauca low closed to open forest	N	1	0	L4	101
110155	Banksia integrifolia / Casuarina glauca low to mid high open woodland + (mid) dense mid stratum of Monotoca elliptica / Acronychia imperforata	N	1	0	M1	310
110156	Casuarina glauca / Melaleuca quinquenervia mid high open forest to woodland + Zoysia macrantha / Baumea juncea low to tall closed to open grassland / sedgeland	N	1	0	M3	402
110158	Avicennia marina dwarf to low open woodland + (very) sparse ground stratum of Sporobolus virginicus / Aegiceras corniculatum / Avicennia marina	N	1	0	L1	602
110159	Casuarina glauca low open forest to woodland + Sporobolus virginicus / Zoysia macrantha / Chloris gayana low to mid high closed to open grassland	N	1	0	L3	601
110160	Avicennia marina / Aegiceras corniculatum dwarf to low closed to open forest	N	1	0	L4	602
110161	Zoysia macrantha / Digitaria didactyla / Viola hederacea / Conyza bonariensis low to tall grassland / forbland	N	1	0	NA	1099
110162	Casuarina glauca +/- Banksia integrifolia low to mid high open forest to woodland + open to sparse mid stratum of Rf species	N	1	0	L3	601
110163	Digitaria didactyla / Zoysia macrantha low grassland	N	1	0	G	902
110164	Avicennia marina dwarf to mid high open forest to woodland	N	1	0	L3	602
110165	Banksia integrifolia / Acronychia imperforata / Planchonella chartacea / Cupaniopsis anacardioides low to mid high closed forest to woodland	N	1	0	L4	101
110166	Rhodomyrtus psidioides dwarf to low (open) woodland + Digitaria didactyla / Eragrostis species low to mid high (closed) grassland	N	1	3	L3	1002
110167	Banksia integrifolia / Casuarina glauca low to mid high (open) woodland + closed to open mid stratum of Cupaniopsis anacardioides / Alphitonia excelsa / Acronychia imperforata / Rhodomyrtus psidioides	N	1	0	L3	310

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110168	Avicennia marina dwarf to low open woodland to isolated trees + mid dense to sparse ground stratum of Avicennia marina / Sporobolus virginicus	N	1	0	L1	602
110169	Melaleuca quinquenervia mid high to tall open forest + mid dense to sparse mid stratum of Acronychia imperforata / Melaleuca quinquenervia / Casuarina glauca	N	1	0	M3	401
110170	Casuarina glauca dwarf to low open forest to woodland + low to mid high grassland	N	1	0	L3	601
110171	Melaleuca quinquenervia +/- Casuarina glauca mid high to tall open forest + sparse mid stratum of Banksia integrifolia / Symplocos thwaitesii / Acronychia imperforata / Cupaniopsis anacardioides	N	1	0	M3	401
110172	Casuarina glauca / Banksia integrifolia low to mid high (open) woodland + mid dense to sparse mid stratum of Duboisia myoporoides / Callistemon salignus / Banksia integrifolia	N	1	0	L2	601
110173	Avicennia marina dwarf to low (open) woodland + very sparse groundstratum of Aegiceras corniculatum	N	1	0	L2	602
110174	Casuarina glauca low to mid high woodland + Juncus kraussii / Sporobolus virginicus low to tall (open) sedgeland / grassland	N	1	0	M2	601
110175	Melaleuca quinquenervia +/- Casuarina glauca mid high (open) woodland + (very) sparse mid stratum dominated by Casuarina glauca	N	1	0	M2	401
110176	Eucalyptus robusta low to mid high (open) woodland + (mid) dense ground stratum of Schoenus brevifolius / Leptocarpus tenax / Banksia oblongifolia / Banksia robur / Melaleuca thymifolia	N	1	0	L2	305
110177	Schoenus brevifolius / Leptocarpus tenax tall sparse sedgeland	N	1	0	Y	701
110178	Melaleuca quinquenervia mid high to tall woodland + (very) sparse mid stratum of Lophostemon suaveolens	N	1	0	M2	401
110179	Melaleuca quinquenervia mid high to tall (open) woodland + Phragmites australis / Blechnum indicum (very) tall (open) grassland / fernland	N	1	0	M3	401
110180	Lophostemon suaveolens mid high to tall open forest to woodland + mid dense to sparse ground stratum of Pultenea villosa / Leptospermum polygalifolia / Banksia robur / Schoenus brevifolius	N	1	0	M3	309
110181	Melaleuca quinquenervia mid high to tall open woodland + Blechnum indicum / Phragmites australis (very) tall (closed) fernland	N	1	0	M3	401
110182	Lophostemon suaveolens mid high to tall open woodland + (mid) dense ground stratum of Leptospermum polygalifolia / Banksia robur / Schoenus brevifolius	N	1	0	M2	309
110183	Lophostemon suaveolens +/- Eucalyptus intermedia mid high to tall open forest to woodland + dense to sparse ground stratum of Pteridium esculentum / Calochlaena dubia	N	1	0	M3	309
110184	Melaleuca quinquenervia mid high to tall woodland + Schoenus brevifolius / Lepironia articulata / Gahnia clarkei / Entolasia stricta (very) tall closed sedgeland / grassland	N	1	0	M3	401
110185	Axonopus compressus / Imperata cylindrica / Paspalum urvillei / Digitaria didactyla / Phragmites australis / Blechnum indicum low to very tall (closed) grassland / fernland	N	1	0	NA	1099
110186	Melaleuca quinquenervia mid high to tall (open) woodland + Phragmites australis / Leersia hexandra / Blechnum indicum (very) tall (closed) grassland / fernland	N	1	0	M2	401
110187	Melaleuca quinquenervia mid high to tall open forest to woodland + Ischaemum australe / Leersia hexandra / Phragmites australis / Blechnum indicum (very) tall (closed) grassland / fernland	N	1	0	M3	401
110188	Hemarthria uncinata / Ischaemum australe / Axonopus compressus / Sacciolepis indicus / Schoenus brevifolius / Fimbristylis nutans mid high to tall (closed) grassland / sedgeland + Melaleuca quinquenervia mid high shrubland	N	1	0	NA	1099
110189	Eucalyptus intermedia mid high open woodland + open to sparse mid stratum of Melaleuca quinquenervia	N	1	0	NA	903
110190	Nymphaea capensis / Philydrum lanuginosum / Baumea rubiginosa / Baumea articulata / Leersia hexandra low to tall (sparse) forland / sedgeland / grassland	N	1	0	NA	903
110191	Melaleuca quinquenervia mid high to tall open forest to woodland + Leersia hexandra / Phragmites australis (very) tall (closed) grassland	N	1	0	M3	401
110192	Lophostemon confertus mid high to tall (open) woodland + Pteridium esculentum / Imperata cylindrica tall (closed) fernland / grassland	N	1	0	M3	303
110193	Melaleuca quinquenervia low open woodland + Phragmites australis / Leersia hexandra / Blechnum indicum / Lepironia articulata (very) tall closed grassland / sedgeland	N	1	0	L1	401
110194	Melaleuca quinquenervia mid high to tall open forest to woodland + Blechnum indicum / Imperata cylindrica tall closed to open fernland / grassland	N	1	0	M3	401
110195	Melaleuca quinquenervia mid high to tall open forest to woodland + Blechnum indicum / Leersia hexandra tall (closed) fernland / grassland	N	1	0	M3	401
110196	Melaleuca quinquenervia dwarf to low (open) woodland + Axonopus compressus / Paspalum orbiculare mid high to tall closed grassland	N	1	0	NA	1099
110197	Melaleuca quinquenervia mid high to tall open forest to woodland + Andropogon virginicus / Paspalum wettsteinii / Imperata cylindrica / Blechnum indicum mid high to tall (closed) grassland / fernland	N	1	0	M3	401
110198	Melaleuca quinquenervia / Eucalyptus robusta mid high woodland + pen to sparse mid stratum of Eucalyptus robusta	N	1	0	M2	403
110199	Melaleuca quinquenervia mid high to tall closed forest to woodland + open to sparse mid stratum of Eucalyptus robusta	N	1	0	M4	401
110200	Blechnum indicum / Leersia hexandra / Lepironia articulata (very) tall closed fernland / grassland / sedgeland	N	1	0	F	702
110201	Paspalum wettsteinii / Leersia hexandra / Phragmites australis / Axonopus compressus mid high to very tall closed grassland	N	1	0	NA	1099
110202	Melaleuca quinquenervia mid high to tall (open) woodland + Phragmites australis / Leersia hexandra / Lepironia articulata / Blechnum indicum (very) tall closed grassland / sedgeland / fernland	N	1	0	M2	401
110203	Melaleuca quinquenervia mid high to tall woodland + Paspalum urvillei / Hemarthria uncinata / Digitaria didactyla / Paspalum wettsteinii / Imperata cylindrica mid high to very tall closed grassland	N	1	0	M3	401
110204	Melaleuca quinquenervia tall open forest + open to sparse mid stratum of Acacia melanoxylon / Commersonia bartramia	N	1	0	M3	401
110205	Melaleuca quinquenervia mid high to tall open forest + Blechnum indicum / Leersia hexandra (very) tall fernland / grassland	N	1	0	M3	401
110206	Melaleuca quinquenervia tall (open) woodland + Leersia hexandra tall closed grassland	N	1	0	M3	401

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110207	Melaleuca quinquenervia mid high to tall (open) woodland + Andropogon virginicus / Ischaemum australe / Paspalum wettsteinii / Paspalum orbiculare / Sacciolepis indicus / Axonopus compressus tall closed grassland	N	1	0	M2	401
110208	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
110209	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
110210	Land outside study area consisting of bedrock soils. Cleared.	NA	99	0	NA	1099
110211	Outside study area, consisting of fresh water without significant emergent or floating vegetation	NA	1	0	NA	903
110212	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
120001	Melaleuca quinquenervia / Hibiscus tiliaceus mid high open woodland + (mid) dense mid stratum of Hibiscus tiliaceus	N	1	0	M2	401
120002	Casuarina glauca mid high open forest to woodland + (very) sparse mid stratum of Rf species / Lantana camara	N	1	0	L3	601
120003	Avicennia marina / Aegiceras corniculatum / Casuarina glauca dwarf open woodland + Juncus Kraussii (very) tall closed sedgeland	N	1	0	L1	602
120004	Casuarina glauca +/- Melaleuca quinquenervia mid high open forest to woodland + Juncus kraussii (very) tall closed to open sedgeland	N	1	0	M3	601
120005	Juncus kraussii (very) tall closed sedgeland	N	1	0	Y	701
120006	Banksia integrifolia low to mid high (open) woodland + dense ground stratum of Chrysanthemum monilifera / Chloris gayana	N	1	0	L3	310
120007	Avicennia marina low open forest to woodland	N	1	0	L3	602
120008	Euroschinus falcata / Cupaniopsis anacardioides / Polyscias elegans mid high forest	S	1	0	M3	101
120009	Melaleuca quinquenervia / Casuarina glauca mid high open forest to woodland + mid dense to sparse mid stratum of Cupaniopsis anacardioides / Exocarpus latifolius / Alectryon coriaceus	N	1	0	M3	402
120010	Chrysanthemum monilifera mid high to tall closed shrubland	N	1	3	S4	1008
120011	Casuarina equisetifolia low to mid high open woodland + Chrysanthemum monilifera tall closed shrubland	N	1	3	L1	1008
120012	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
120013	Banksia integrifolia / Cupaniopsis anacardioides / Euroschinus falcata / Acronychia imperforata low to mid high open forest to woodland	N	1	0	M3	101
120014	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + Phragmites australis / Acrostichum speciosum / Juncus kraussii (very) tall grassland / fernland / sedgeland	N	1	0	M3	402
120015	Melaleuca quinquenervia +/- Casuarina glauca / Rf species mid high to tall open forest to woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M3	401
120016	Melaleuca quinquenervia / Euroschinus falcata / Mischocarpus pyriformis mid high to tall open forest to woodland	N	1	0	M3	401
120017	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + (very) sparse mid stratum of Archontophoenix cunninghamiana / Cupaniopsis anacardioides / Flagellaria indica	N	1	0	M3	402
120018	Mischocarpus pyriformis / Euroschinus falcatus mid high open forest	N	1	0	M3	101
120019	Banksia integrifolia low to mid high (open) woodland + Chrysanthemum monilifera tall (closed) shrubland	N	1	0	L3	310
120020	Casuarina equisetifolia dwarf to low open woodland to isolated clumps + mid dense to very sparse ground stratum of Spinifex sericeus / Acacia sophorae	N	1	3	L2	1008
120021	Banksia integrifolia / Casuarina equisetifolia low to mid high open woodland + Chrysanthemum monilifera tall closed shrubland	N	1	3	M1	1008
120022	Casuarina equisetifolia low to mid high open forest to woodland + Chrysanthemum monilifera tall (closed) shrubland	N	1	3	L3	1008
120023	Acronychia imperforata / Banksia integrifolia / Cupaniopsis anacardioides / Euroschinus falcata / Alphonsea excelsa low to mid high open forest to woodland	N	1	0	M3	101
120024	Banksia integrifolia / Rf species +/- Casuarina glauca low to mid high (open) woodland + (very) sparse mid stratum of Rf species	N	1	0	L2	310
120025	Banksia integrifolia / Acronychia imperforata low to mid high open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	L3	101
120026	Euroschinus falcata / Exocarpus latifolius / Trochocarpa laurina / Mischocarpus pyriformis low open forest to woodland	N	1	0	L3	101
120027	Casuarina glauca +/- Melaleuca quinquenervia / Rf species mid high to tall (open) woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M2	601
120028	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall (open) woodland + mid dense to sparse ground stratum of Paspalum conjugatum / Urochloa mutica / Paspalidium distans	N	1	0	M2	601
120029	Archontophoenix cunninghamiana +/- Ficus spp mid high to tall (closed) forest	S	1	0	M4	104
120030	Euroschinus falcata / Cupaniopsis anacardioides mid high to tall closed forest to woodland	N	1	0	M4	101
120031	Banksia integrifolia / Cupaniopsis anacardioides / Acronychia imperforata mid high closed to open forest	N	1	0	M3	101
120032	Banksia integrifolia / Cupaniopsis anacardioides / Acronychia imperforata / Elaeocarpus obovatus low to mid high open forest to woodland	N	1	0	L3	101
120033	Casuarina equisetifolia low to mid high open forest to woodland + Chrysanthemum monilifera tall (closed) shrubland	N	1	3	L3	1008
120034	Casuarina equisetifolia mid high open forest to woodland + dense ground stratum of Chrysanthemum monilifera	N	1	3	L3	1008
120035	Casuarina glauca / Melaleuca quinquenervia mid high to tall (open) woodland + sparse ground stratum of Phragmites australis	N	1	0	M2	402

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120036	Cupaniopsis anacardioides / Casuarina glauca / Archontophoenix cunninghamiana mid high (open) woodland + dense to sparse mid stratum of Flagellaria indica / Smilax australis / Cupaniopsis anacardioides / Archontophoenix cunninghamiana	N	1	0	M3	101
120037	Banksia integrifolia / Casuarina equisetifolia dwarf to low (open) woodland + dense to sparse ground stratum of Acacia sophorae / Chrysanthemum monilifera	N	1	3	NA	1008
120038	Banksia integrifolia +/- Rf species dwarf to low open woodland + Digitaria ciliaris / Axonopus compressus mid high closed grassland	N	1	0	NA	1099
120039	Casuarina glauca +/- Melaleuca quinquenervia low to mid high open forest to woodland + Lepironia articulata / Leersia hexandra / Paspalum orbiculare / Cyclosorus interruptus (very) tall sedgeland / grassland / fernland	N	1	0	M3	601
120040	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
120041	Casuarina glauca mid high open woodland + Setaria sphacelata / Paspalum conjugatum tall closed grassland	N	1	0	M2	601
120042	Casuarina glauca / Cinnamomum camphora / Symplocos thwaitesii mid high open woodland + mid dense to sparse mid stratum of Cinnamomum camphora / Parsonsia straminea	D	1	0	M2	601
120043	Paspalum urvillei / Urochloa mutica / Digitaria didactyla / Cyclosorus interruptus (very) tall closed grassland / fernland	S	1	0	NA	1099
120044	Eucalyptus species low to mid high (open) woodland + Paspalum urvillei / Urochloa mutica (very) tall (closed) grassland	S	1	0	NA	1099
120045	Banksia integrifolia / Casuarina glauca / Cupaniopsis anacardioides mid high open forest + mid dense to very sparse mid stratum of Rf species	S	1	0	L3	101
120046	Banksia integrifolia / Cupaniopsis anacardioides / Acronychia imperforata low to mid high open forest to woodland	N	1	0	L3	101
120047	Cupaniopsis anacardioides / Casuarina equisetifolia / Banksia integrifolia low to mid high (open) woodland + dense to sparse ground stratum of Digitaria ciliaris / Digitaria didactyla / Acacia sophorae / Chrysanthemum monilifera	N	1	0	L3	101
120048	Euroschinus falcata / Cupaniopsis anacardioides / Elaeocarpus obovata low to mid high closed forest to woodland	N	1	0	M3	101
120049	Casuarina glauca +/- Melaleuca quinquenervia / Cupaniopsis anacardioides mid high open forest	N	1	0	M3	601
120050	Melaleuca quinquenervia mid high closed forest to woodland + Lepironia articulata very tall (closed) sedgeland	N	1	0	M4	401
120051	Casuarina glauca +/- Melaleuca quinquenervia mid high to tall (open) woodland + Digitaria didactyla / Axonopus communis tall closed grassland	N	1	0	M3	601
120052	Urochloa mutica / Digitaria didactyla mid high to tall closed grassland	N	1	0	NA	1099
120053	Cupaniopsis anacardioides / Banksia integrifolia / Acronychia imperforata low to mid high closed forest to woodland	N	1	0	M4	101
120054	Digitaria didactyla low (closed) grassland	N	1	0	NA	1099
120055	Callitris columellaris low to mid high open forest to woodland + Digitaria didactyla low (open) grassland	N	1	0	L3	313
120056	Melaleuca quinquenervia mid high to tall open forest to woodland + mid dense to very sparse mid stratum of Hovea acutifolia	N	1	0	M3	401
120057	Melaleuca quinquenervia mid high open forest to woodland + mid dense to sparse mid stratum of Phebalium squameum	N	1	0	M3	401
120058	Mid high open Littoral Rf	N	1	0	M3	101
120059	Banksia integrifolia / Callitris columellaris / Acacia aulacocarpa mid high open forest + Lomandra longifolia tall rushland	N	1	0	M3	310
120060	Low to mid high closed to open Littoral Rf	N	1	0	M4	101
120061	Pteridium esculentum / Histiopteris incisa / Gahnia clarkei (very) tall closed fernland / sedgeland	N	1	0	F	702
120062	Melaleuca quinquenervia mid high to tall open forest + Blechnum camfieldii / Histiopteris incisa / Rhyncospora corymbosa / Gahnia clarkei very tall (closed) fernland / sedgeland	N	1	0	M3	401
120063	Lepironia articulata / Hemarthria uncinata (very) tall closed sedgeland / grassland	N	1	0	NA	1099
120064	Lophostemon suaveolens +/- Callistemon salignus low to mid high open woodland + Pteridium esculentum / Imperata cylindrica (very) tall closed fernland / grassland	N	1	0	M2	309
120065	Melaleuca quinquenervia / Casuarina glauca +/- Lophostemon suaveolens mid high to tall open forest to woodland + very sparse mid stratum of Rf species	S	1	0	M3	402
120066	Melaleuca quinquenervia mid high open forest to woodland + Lepironia articulata (very) tall closed sedgeland	N	1	0	M3	401
120067	Casuarina glauca mid high (open) woodland + Axonopus communis / Imperata cylindrica / Paspalum orbiculare / Pteridium esculentum (very) tall closed grassland / fernland	S	1	0	M3	601
120068	Casuarina glauca low to mid high open woodland + Axonopus communis / Imperata cylindrica / Pteridium esculentum tall closed grassland / fernland	S	1	0	M2	601
120069	Melaleuca quinquenervia mid high to tall open forest + Lepironia articulata / Carex maculata (very) tall (closed) sedgeland	N	1	0	M3	401
120070	Melaleuca quinquenervia mid high open forest + Leersia hexandra / Hemarthria uncinata / Lepironia articulata (very) tall closed grassland / sedgeland	N	1	0	M3	401
120071	Melaleuca quinquenervia mid high to tall open forest to woodland + (very) sparse mid stratum of Melicope elleryana	S	1	0	M3	401
120072	Melaleuca quinquenervia +/- Casuarina glauca / Acacia aulacocarpa / Acacia melanoxylon mid high to tall open forest to woodland + sparse to very sparse mid stratum of Rf species	S	1	0	M3	401
120073	Eucalyptus robusta / Melaleuca quinquenervia mid high open forest to woodland + mid dense to sparse ground stratum of Pultenea villosa / Gahnia clarkei	N	1	0	M3	403
120074	Imperata cylindrica / Paspalum orbiculare / Axonopus communis / Hemarthria uncinata (very) tall closed grassland	N	1	0	NA	1099
120075	Banksia integrifolia +/- Casuarina glauca low to mid high open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	L3	310

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120076	Casuarina glauca +/- Lophostemon suaveolens mid high open forest to woodland + Entolasia marginata / Viola hedracea low closed grassland / forbland	N	1	0	M3	601
120077	Banksia integrifolia low to mid high open woodland + Pteridium esculentum / Imperata cylindrica (very) tall closed fernland / grassland	N	1	0	M1	310
120078	Lepironia articulata / Paspalum orbiculare / Hemarthria uncinata (very) tall closed sedgeland / grassland	N	1	0	Y	701
120079	Banksia integrifolia / Casuarina glauca low to mid high open forest to woodland + very sparse mid stratum of Rf species	N	1	0	L3	310
120080	Imperata cylindrica / Hemarthria uncinata tall closed grassland	N	1	0	NA	1099
120081	Lepironia articulata / Baumea rubiginosa / Paspalum orbiculare / Hemarthria uncinata / Ischaemum australe (very) tall closed sedgeland / grassland	N	1	0	Y	701
120082	Cupaniopsis anacardioides / Banksia integrifolia / Casuarina glauca mid high open forest to woodland + very sparse mid stratum of Rf species	N	1	0	L3	101
120083	Melaleuca quinquenervia +/- Casuarina glauca mid high open forest to woodland + Lepironia articulata / Paspalum orbiculare / Hemarthria uncinata (very) tall closed sedgeland / grassland	N	1	0	M3	401
120084	Banksia integrifolia / Cupaniopsis anacardioides / Glochidion ferdinandi / Acronychia imperforata mid high open forest to woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M3	101
120085	Casuarina glauca / Banksia integrifolia +/- Melaleuca quinquenervia dwarf to low (open) woodland + (mid) dense ground stratum of Rf species	N	1	0	L3	601
120086	Banksia integrifolia low open woodland + dense to sparse ground stratum of Chrysanthemum monilifera	N	1	3	L2	1008
120087	Acronychia imperforata / Cupaniopsis anacardioides / Banksia integrifolia / Casuarina glauca low to mid high open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	L3	101
120088	Low to mid high open woodland of Littoral Rf species + mid dense to sparse mid stratum of Acrotiche aggregata / Rf species	N	1	0	L2	101
120089	Banksia integrifolia / Lophostemon confertus low open woodland + mid dense to sparse mid stratum of Monotoca elliptica / Acronychia imperforata	N	1	0	L2	310
120090	Banksia integrifolia / Melaleuca quinquenervia / Acronychia imperforata low to mid high open forest to open woodland + mid dense to very sparse mid stratum of Rf species	N	1	0	L3	101
120091	Cupaniopsis anacardioides / Acronychia imperforata / Eroschinus falcata mid high open forest to woodland	N	1	0	M3	101
120092	Melaleuca quinquenervia mid high to tall open forest to woodland + Lepironia articulata very tall (closed) sedgeland	N	1	0	M3	401
120093	Casuarina glauca / Lophostemon suaveolens / Alphitonia excelsa / Glochidion ferdinandi / Litsea australis mid high open forest to woodland + mid dense to sparse mid stratum of Acronychia imperforata / Litsea australis / Smilax australis	S	1	0	M3	601
120094	Melaleuca quinquenervia mid high open forest + Hemarthria uncinata / Blechnum indicum / Lepironia articulata (very) tall closed grassland / fernland / sedgeland	N	1	0	M3	401
120095	Casuarina glauca low to mid high (open) woodland + (very) sparse mid stratum of Rf species	N	1	0	M2	601
120096	Glochidion ferdinandi / Acacia aulacocarpa low to mid high (open) woodland + mid dense to sparse mid stratum of Lantana camara	N	1	3	M2	311
120097	Callitris columellaris mid high to tall open forest to woodland + mid dense to sparse mid stratum of Acronychia imperforata / Halfordia kendack	N	1	0	M3	313
120098	Eucalyptus signata / Eucalyptus robusta / Melaleuca quinquenervia mid high to tall (open) woodland + mid dense to sparse mid stratum of Baekea stenophylla / Leptospermum polygalifolia	N	1	0	M2	306
120099	Eucalyptus signata / Melaleuca quinquenervia mid high to tall open forest + mid dense to sparse mid stratum of Leptospermum polygalifolia / Leptospermum whitei / Acacia aulacocarpa	N	1	0	M3	306
120100	Melaleuca quinquenervia low to mid high (open) woodland + (mid) dense ground stratum of Gahnia clarkei / Ischaemum australe / Setaria sphacelata / Pultenea villosa	N	1	0	M2	401
120101	Melaleuca quinquenervia low to mid high open forest + Gahnia clarkei (very) tall (closed) sedgeland	N	1	3	M3	401
120102	Melaleuca quinquenervia / Lophostemon suaveolens / Lophostemon confertus +/- Eucalyptus robusta mid high to tall open forest to woodland + Gahnia clarkei (very) tall closed to open sedgeland	N	1	0	M3	403
120103	Casuarina glauca mid high open forest to woodland + Setaria sphacelata tall closed grassland	N	1	0	M3	601
120104	Melaleuca quinquenervia +/- Lophostemon suaveolens mid high open forest to woodland + mid dense to sparse mid stratum of Leptospermum polygalifolia / Baekea stenophylla / Acacia aulacocarpa	N	1	0	M2	401
120105	Eucalyptus robusta / Melaleuca quinquenervia mid high to tall open forest + (mid) dense ground stratum of Gahnia clarkei / Pultenea villosa	N	1	0	M3	403
120106	Banksia aemula / Leptospermum trinervium (very) tall shrubland + mid dense to sparse ground stratum of Austomyrtus dulcis / Acacia ulicifolia / Lomandra longifolia	N	1	0	L3	501
120107	Eucalyptus signata mid high open forest to woodland + (very) sparse mid stratum of Banksia aemula	N	1	0	M2	306
120108	Melaleuca quinquenervia +/- Casuarina glauca / Rf species mid high to tall open forest to woodland + Hypolepis muelleri / Entolasia marginata / Gahnia clarkei (very) tall fernland / grassland / sedgeland	N	1	0	M3	401
120109	Melaleuca quinquenervia mid high open forest + Blechnum indicum / Lepironia articulata / Gahnia clarkei / Leersia hexandra tall (closed) fernland / sedgeland / grassland	N	1	0	M3	401
120110	Casuarina glauca / Melaleuca quinquenervia mid high open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	M3	402
120111	Leptospermum polygalifolia / Leptospermum whitei +/- Elaeocarpus reticulatus mid high open forest + Blechnum indicum / Hypolepis muelleri / Restio tetraphyllus / Gahnia clarkei (very) tall fernland / sedgeland	N	1	0	M3	502
120112	Melaleuca quinquenervia low to mid high open woodland + Blechnum indicum (very) tall (closed) fernland	N	1	0	L2	401
120113	Eucalyptus robusta mid high open forest to woodland + Blechnum indicum / Restio tetraphyllus (very) tall closed fernland / sedgeland	N	1	0	M3	305
120114	Blechnum indicum (very) tall closed fernland	N	1	0	F	702
120115	Melaleuca quinquenervia +/- Lophostemon suaveolens mid high to tall open forest + (very) sparse mid stratum of Elaeocarpus reticulatus / Commersonia bartramia	N	1	0	M3	401

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120116	Lophostemon suaveolens mid high to tall open forest + (very) sparse mid stratum of <i>Elaeocarpus reticulatus</i> / <i>Commersonia bartramia</i>	N	1	0	M3	309
120117	Melaleuca quinquenervia low to mid high (open) woodland + <i>Blechnum indicum</i> (very) tall (closed) fernland	N	1	0	L2	401
120118	<i>Eucalyptus signata</i> mid high open forest to woodland + (very) sparse mid stratum of <i>Banksia aemula</i>	N	1	0	M3	306
120119	Melaleuca quinquenervia / <i>Casuarina glauca</i> +/- <i>Lophostemon suaveolens</i> mid high to tall open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	M3	402
120120	<i>Lophostemon suaveolens</i> / <i>Casuarina glauca</i> mid high open forest to woodland + <i>Gahnia clarkei</i> / <i>Entolasia marginata</i> / <i>Viola hederacea</i> / <i>Pteridium esculentum</i> tall closed sedgeland / grassland / forbland / fernland	N	1	0	M3	309
120121	<i>Leersia hexandra</i> tall closed grassland	N	1	0	G	902
120122	<i>Casuarina glauca</i> mid high open forest to woodland + <i>Pteridium esculentum</i> / <i>Entolasia marginata</i> tall (closed) fernland / grassland	N	1	0	M3	601
120123	<i>Lophostemon suaveolens</i> / <i>Casuarina glauca</i> mid high open forest to woodland + <i>Imperata cylindrica</i> / <i>Ottochloa gracillima</i> / <i>Pteridium esculentum</i> tall closed grassland / fernland	N	1	0	M3	309
120124	Melaleuca quinquenervia / <i>Casuarina glauca</i> mid high (open) woodland + <i>Imperata cylindrica</i> / <i>Ischaemum australe</i> / <i>Hemarthria uncinata</i> / <i>Pteridium esculentum</i> tall closed grassland / fernland	N	1	0	M2	402
120125	<i>Casuarina glauca</i> / Melaleuca quinquenervia mid high to tall open forest to woodland + <i>Imperata cylindrica</i> / <i>Ischaemum australe</i> / <i>Hemarthria uncinata</i> (very) tall closed grassland	N	1	0	M3	402
120126	<i>Lepironia articulata</i> (very) tall closed sedgeland	N	1	0	Y	701
120127	<i>Casuarina glauca</i> low to mid high open woodland + <i>Imperata cylindrica</i> / <i>Hemarthria uncinata</i> (very) tall closed grassland	N	1	0	M1	601
120128	<i>Baumea rubiginosa</i> / <i>Lepironia articulata</i> / <i>Hemarthria uncinata</i> (very) tall closed sedgeland / grassland	N	1	0	Y	701
120129	<i>Casuarina glauca</i> / Melaleuca quinquenervia mid high open forest to woodland + (very) sparse mid stratum of <i>Duboisia myoporoides</i> / <i>Elaeocharis reticulata</i> / <i>Melicope elleryana</i>	N	1	0	M3	402
120130	Melaleuca quinquenervia mid high open forest + <i>Leersia hexandra</i> / <i>Ischaemum australe</i> / <i>Imperata cylindrica</i> / <i>Blechnum indicum</i> / <i>Lepironia articulata</i> (very) tall (closed) grassland / fernland / sedgeland	N	1	0	M3	401
120131	Melaleuca quinquenervia / <i>Banksia integrifolia</i> dwarf to low (open) woodland + (mid) dense ground stratum of <i>Leucopogon lanceolatus</i> / <i>Austromyrtus dulcis</i> / <i>Imperata cylindrica</i> / <i>Pteridium esculentum</i>	N	1	0	L3	310
120132	<i>Leptospermum trinervium</i> (very) tall (open) shrubland + mid dense to sparse ground stratum of <i>Lomandra longifolia</i> / <i>Pteridium esculentum</i> / <i>Austromyrtus dulcis</i>	N	1	0	L3	502
120133	<i>Lophostemon confertus</i> / <i>Eucalyptus intermedia</i> low open (woodland) + (mid) dense ground stratum of <i>Acacia ulicifolia</i> / <i>Pteridium esculentum</i> / <i>Lomandra longifolia</i>	N	1	0	L3	303
120134	<i>Eucalyptus intermedia</i> / <i>Lophostemon confertus</i> +/- <i>Acacia aulacocarpa</i> dwarf to low (open) woodland + dense mid stratum of <i>Acacia ulicifolia</i> / <i>Leucopogon lanceolatus</i> / <i>Acacia aulacocarpa</i> / <i>Pteridium esculentum</i>	N	1	0	L2	302
120135	<i>Lophostemon suaveolens</i> / Melaleuca quinquenervia mid high open forest to woodland + <i>Imperata cylindrica</i> / <i>Pteridium esculentum</i> tall closed grassland / fernland	N	1	0	M3	309
120136	Melaleuca quinquenervia / <i>Lophostemon suaveolens</i> / <i>Acacia aulacocarpa</i> / <i>Acronychia imperforata</i> mid high open forest to woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M3	403
120137	Melaleuca quinquenervia mid high (open) woodland + (mid) dense ground stratum of <i>Entolasia marginata</i> / <i>Ottochloa gracillima</i> / <i>Pteridium esculentum</i> / <i>Chrysanthemum monilifera</i>	N	1	0	M2	401
120138	<i>Banksia integrifolia</i> / <i>Acronychia imperforata</i> low (closed) forest	N	1	0	L4	101
120139	<i>Leptospermum laevigatum</i> (very) tall open to sparse shrubland + dense to open ground stratum of <i>Chrysanthemum monilifera</i> / <i>Acacia sophorae</i>	N	1	3	L3	1008
120140	Melaleuca quinquenervia mid high open forest to woodland + <i>Baumea juncea</i> (very) tall (closed) sedgeland	N	1	0	M3	401
120141	Melaleuca quinquenervia / <i>Casuarina glauca</i> / <i>Archontophoenix cunninghamiana</i> mid high to tall (open) woodland + mid dense to sparse mid stratum of <i>Archontophoenix cunninghamiana</i> / <i>Flagellaria indica</i>	N	1	0	M3	104
120142	<i>Axonopus communis</i> / <i>Hemarthria uncinata</i> mid high to tall closed grassland	N	1	0	NA	1099
120143	<i>Blechnum indicum</i> / <i>Lepironia articulata</i> / <i>Hemarthria uncinata</i> / <i>Imperata cylindrica</i> tall closed fernland / sedgeland / grassland	N	1	0	F	702
120144	<i>Eucalyptus intermedia</i> / <i>Callitris columellaris</i> / <i>Eucalyptus robusta</i> mid high to tall open forest to woodland + (mid) dense ground stratum of <i>Gahnia clarkei</i> / <i>Restio tetraphyllus</i> / <i>Lomandra longifolia</i> / <i>Austromyrtus dulcis</i>	N	1	0	M3	301
120145	Melaleuca quinquenervia +/- <i>Lophostemon suaveolens</i> / <i>Eucalyptus robusta</i> mid high to tall open forest + <i>Gahnia clarkei</i> / <i>Restio tetraphyllus</i> (very) tall (closed) sedgeland	N	1	0	M3	401
120146	<i>Lophostemon suaveolens</i> mid high open forest + <i>Gahnia clarkei</i> / <i>Restio tetraphyllus</i> tall (open) sedgeland	N	1	0	M3	309
120147	Melaleuca quinquenervia mid high open forest	N	1	0	M3	401
120148	Melaleuca quinquenervia +/- <i>Eucalyptus robusta</i> mid high to tall open forest + mid dense to sparse mid stratum of predominantly Rf species	N	1	0	M3	401
120149	Melaleuca quinquenervia +/- <i>Eucalyptus robusta</i> mid high open forest + (very) sparse mid stratum of <i>Callistemon salignis</i> / <i>Acronychia imperforata</i> / <i>Leptospermum polygalifolia</i>	N	1	0	M3	401
120151	<i>Lophostemon suaveolens</i> +/- <i>Eucalyptus robusta</i> low to mid high open forest to woodland + <i>Restio tetraphyllus</i> (very) tall (closed) sedgeland	N	1	0	M3	309
120152	Melaleuca quinquenervia / <i>Casuarina glauca</i> mid high open forest to woodland + (mid) dense ground stratum of <i>Pultenea villosa</i> / <i>Setaria sphacelata</i>	N	1	0	M3	402
120153	<i>Lophostemon suaveolens</i> mid high open forest + <i>Ischaemum australe</i> / <i>Entolasia marginata</i> mid high to tall (closed) grassland	N	1	0	M3	309
120154	<i>Lophostemon suaveolens</i> / <i>Casuarina glauca</i> mid high to tall open forest + sparse mid stratum of predominantly Rf species and <i>Lantana camara</i>	S	1	0	M3	309
120155	<i>Lophostemon suaveolens</i> +/- Melaleuca quinquenervia / <i>Acacia aulacocarpa</i> / <i>Acacia concurrens</i> low (closed) forest	N	1	0	L4	309
120156	<i>Lophostemon suaveolens</i> / <i>Acacia aulacocarpa</i> / <i>Casuarina glauca</i> low to mid high open woodland to isolated plants + <i>Blechnum indicum</i> mid high to tall (closed) fernland	S	1	0	NA	1099
120157	<i>Casuarina glauca</i> / <i>Eucalyptus teriticornis</i> mid high to tall open forest to woodland + mid dense to sparse mid stratum of <i>Acacia aulacocarpa</i>	S	1	0	M3	601

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120158	Lophostemon suaveolens low closed forest to woodland + Pteridium esculentum / Blechnum indicum tall fernland to isolated plants	N	1	0	L4	309
120159	Casuarina glauca +/- Lophostemon suaveolens mid high to tall (open) woodland + mid dense to sparse mid stratum of Acacia aulacocarpa	S	1	0	M2	601
120160	Casuarina glauca mid high open forest to woodland + mid dense to sparse mid stratum of Acacia aulacocarpa / Lantana camara	S	1	0	M3	601
120161	Eucalyptus pilularis mid high to tall open forest	N	1	0	M3	307
120162	Acacia aulacocarpa mid high open forest + sparse mid stratum of Dodonea triquetra	N	1	0	M3	311
120163	Acacia aulacocarpa mid high open forest to woodland + Lomandra longifolia / Axonopus communis / Eragrostis species low to tall (open) rushland / grassland	N	1	0	L3	311
120164	Melaleuca quinquenervia mid high open forest + Gahnia clarkei tall (open) sedgeland	N	1	0	M3	401
120165	Eucalyptus robusta / Melaleuca quinquenervia +/- Acacia melanoxylon + sparse mid stratum of predominantly Rf species	N	1	0	M3	403
120166	Casuarina glauca dwarf to low open woodland + Sporobolus virginicus / Zoysia macrantha low closed to open grassland	N	1	0	L2	601
120167	Banksia integrifolia / Casuarina glauca low to mid high open forest to woodland + Digitaria didactyla low (open) grassland	N	1	0	L3	310
120168	Avicennia marina low to mid high open forest to woodland + open to sparse mid stratum of Aegiceras corniculatum	N	1	0	L3	602
120169	Casuarina glauca low to mid high open forest to woodland + Digitaria didactyla / Zoysia macrantha / Chloris gayana low to mid high closed to sparse grassland	N	1	0	L3	601
120170	Digitaria didactyla / Pteridium esculentum / Axonopus compressus low to mid high (open) grassland / fernland	N	1	0	NA	1099
120171	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest + mid dense to very sparse mid stratum of Rf species	N	1	0	M3	402
120172	Casuarina glauca mid high to tall open forest to woodland + Entolasia marginata / Imperata cylindrica / Digitaria didactyla / Pteridium esculentum low to mid high dense to sparse grassland / fernland	N	1	0	M3	601
120173	Lophostemon suaveolens mid high open forest + Imperata cylindrica / Entolasia marginata / Pteridium esculentum low to mid high grassland / fernland	N	1	0	M3	309
120174	Melaleuca quinquenervia mid high to tall open forest + mid dense to sparse mid stratum of Guioa semiglaucula / Planchonella chartacea	N	1	0	M3	401
120175	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + Juncus kraussii / Baumea juncea / Phragmites australis mid high to tall (sparse) sedgeland / grassland	N	1	0	M3	402
120176	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M3	402
120177	Lophostemon suaveolens / Euroschinus falcata mid high to tall closed forest to woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M4	309
120178	Euroschinus falcata / Lophostemon suaveolens mid high (open) woodland + mid dense to sparse mid stratum of Trochocarpa laurina / Euroschinus falcata / Acronychia imperforata	N	1	0	M3	101
120179	Melaleuca quinquenervia / Casuarina glauca mid high to tall open forest to woodland + open to sparse mid stratum of Avicennia marina	N	1	0	M3	402
120180	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest to woodland + Entolasia marginata / Pteridium esculentum low to mid high grassland / fernland	N	1	0	M3	402
120181	Casuarina glauca mid high open forest to woodland + Pteridium esculentum / Digitaria didactyla low to mid fernland / grassland	N	1	0	M3	601
120182	Melaleuca quinquenervia / Casuarina glauca mid high open forest to woodland +(open) mid stratum of Polyscias elegans / Symplocos thwaitesii / Exocarpos latifolius / Acrotriche aggregata / Acronychia imperforata	N	1	0	M3	402
120183	Casuarina glauca mid high woodland + Phragmites australis / Baumea juncea mid high to tall open grassland / sedgeland	N	1	0	M3	601
120184	Axonopus compressus / Eragrostis species / Digitaria didactyla / Panicum simile low to mid high (sparse) grassland	N	1	0	NA	1099
120185	Melaleuca quinquenervia mid high open forest to woodland + mid dense to sparse mid stratum of Euroschinus / Planchonella chartacea / Acronychia imperforata	N	1	0	M3	401
120186	Avicennia marina dwarf to low (open) woodland + open to sparse ground stratum of Aegiceras corniculatum	N	1	0	L3	602
120187	Melaleuca quinquenervia low to mid high open forest to woodland + mid dense to sparse ground stratum of Baumea juncea / Zoysia macrantha / Austromyrtus dulcis	N	1	0	L3	401
120188	Casuarina glauca / Melaleuca quinquenervia mid high (open) woodland + mid dense to sparse mid stratum of Acronychia imperforata / Exocarpos latifolius / Polyscias elegans	N	1	0	L3	402
120189	Casuarina glauca / Avicennia marina low to mid high open forest to woodland + mid dense to very sparse mid stratum of Aegiceras corniculatum	N	1	0	L3	601
120190	Casuarina glauca / Lophostemon suaveolens +/- Melaleuca quinquenervia mid high to tall open forest to woodland + mid dense to sparse mid stratum of Acronychia imperforata / Polyscias elagans / Exocarpos latifolius	N	1	0	M3	601
120191	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest to woodland + Juncus kraussii / Baumea juncea / Phragmites australis / Sporobolus virginicus / Acrostichum speciosum low to mid high (sparse) sedgeland / grassland / fernland	N	1	0	M3	402
120192	Avicennia marina dwarf to low open forest to woodland + Phragmites australis tall open to sparse grassland	N	1	0	L3	602
120193	Casuarina glauca mid high to tall open forest + Entolasia marginata / Digitaria didactyla / Pteridium esculentum low to mid high (open) grassland / fernland	N	1	0	M3	601
120194	Casuarina glauca mid high to tall open forest + Juncus kraussii / Sporobolus virginicus / Digitaria didactyla low to mid high closed to open sedgeland / grassland	N	1	0	M3	601
120195	Casuarina glauca mid high to tall open forest + Entolasia marginata / Digitaria didactyla / Axonopus compressus / Pteridium esculentum low to mid high closed grassland / fernland	N	1	0	M3	601

CAL_POLYID	CAL_DESC	CAMP CODE	FIELD CODE	COND CODE	STRUCT CODE	VEG CODE
120196	<i>Imperata cylindrica</i> / <i>Digitaria didactyla</i> / <i>Pteridium esculentum</i> low to mid high (closed) grassland / fernland	S	1	0	NA	1099
120197	<i>Acrostichum speciosum</i> mid high (closed) fernland	N	1	0	F	702
120198	<i>Avicennia marina</i> dwarf to low open forest to woodland	N	1	0	L3	602
120199	<i>Acrostichum speciosum</i> / <i>Phragmites australis</i> / <i>Juncus kraussii</i> mid high to tall (closed) fernland / grassland / sedgeland	N	1	0	Y	701
120200	<i>Casuarina glauca</i> +/- <i>Melaleuca quinquenervia</i> mid high open forest to woodland + <i>Phragmites australis</i> / <i>Acrostichum speciosum</i> / <i>Juncus kraussii</i> mid high to tall (open) grassland / fernland / sedgeland	N	1	0	M3	601
120201	<i>Casuarina glauca</i> / <i>Melaleuca quinquenervia</i> mid high to tall open forest to woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M3	402
120202	<i>Phragmites australis</i> tall grassland	N	1	0	Y	701
120203	<i>Avicennia marina</i> dwarf to low (open) woodland + <i>Phragmites australis</i> tall (open) grassland	N	1	0	L3	602
120204	<i>Casuarina glauca</i> +/- <i>Melaleuca quinquenervia</i> mid high open forest + (very) sparse mid stratum of <i>Maclura cochinchensis</i> / <i>Exocarpos latifolius</i>	N	1	0	M3	601
120205	<i>Casuarina glauca</i> +/- <i>Melaleuca quinquenervia</i> mid high to tall open forest to woodland + <i>Phragmites australis</i> / <i>Sporobolus virginicus</i> / <i>Baumea juncea</i> / <i>Juncus kraussii</i> low to tall (sparse) grassland / sedgeland	N	1	0	M3	601
120206	<i>Phragmites australis</i> / <i>Rhynchospora corymbosa</i> mid high to tall (open) grassland / sedgeland	N	1	0	Y	701
120207	<i>Melaleuca quinquenervia</i> / <i>Cupaniopsis anacardioides</i> mid high to tall open forest to woodland + mid dense to sparse mid stratum of <i>Exocarpos latifolius</i> / <i>Cupaniopsis anacardioides</i>	N	1	0	M3	101
120208	<i>Casuarina glauca</i> mid high to tall open forest to woodland + mid dense to sparse mid stratum of <i>Maclura cochinchensis</i> / <i>Cupaniopsis anacardioides</i>	N	1	0	M3	601
120209	<i>Casuarina glauca</i> mid high to tall open forest to woodland + <i>Cynanchum carnosum</i> / <i>Cotula</i> species / <i>Juncus kraussii</i> / <i>Baumea juncea</i> low to mid high vineland / forbland / sedgeland	N	1	0	M3	601
120210	<i>Casuarina glauca</i> mid high to tall open forest to woodland + mid dense to sparse mid stratum of <i>Lantana camara</i> / <i>Cupaniopsis anacardioides</i>	N	1	3	M3	601
120211	<i>Casuarina glauca</i> mid high to tall open forest to woodland + <i>Phragmites australis</i> / <i>Juncus kraussii</i> / <i>Eleocharis</i> species mid high to tall closed to open grassland / sedgeland	N	1	0	M3	601
120212	<i>Casuarina glauca</i> mid high to tall open forest to woodland + <i>Cotula</i> species / <i>Triglochin striata</i> / <i>Bacopa monnieri</i> / <i>Cynanchum carnosum</i> / <i>Juncus kraussii</i> low to mid high forbland / vineland / sedgeland	N	1	0	M3	601
120213	<i>Casuarina glauca</i> mid high to tall (open) woodland + <i>Digitaria didactyla</i> low closed grassland	N	1	0	M2	601
120214	<i>Casuarina glauca</i> mid high to tall (open) woodland + <i>Phragmites australis</i> / <i>Baumea juncea</i> / <i>Juncus kraussii</i> mid high to tall (open) grassland sedgeland	N	1	0	M2	601
120215	<i>Casuarina glauca</i> +/- <i>Lophostemon suaveolens</i> mid high to tall open forest to woodland + mid dense to sparse mid stratum of <i>Polyscias elegans</i> / <i>Alphitonia excelsa</i> / <i>Casuarina glauca</i> / <i>Lantana camara</i>	N	1	0	M3	601
120216	<i>Lepironia articulata</i> / <i>Baumea rubiginosa</i> / <i>Leersia hexandra</i> / <i>Hemarthria uncinata</i> / <i>Blechnum indicum</i> (very) tall closed sedgeland / grassland / fernland	N	1	0	Y	701
120217	<i>Melaleuca quinquenervia</i> low to mid high open woodland + dense to sparse mid stratum of <i>Melaleuca quinquenervia</i>	N	1	0	L2	401
120218	<i>Casuarina glauca</i> low to mid high open woodland + <i>Imperata cylindrica</i> tall closed grassland	N	1	0	NA	1099
120219	<i>Melaleuca quinquenervia</i> +/- Rf species mid high to tall (open) woodland + <i>Hypolepis muelleri</i> / <i>Histiopteris incisa</i> / <i>Pteridium esculentum</i> / <i>Gahnia clarkei</i> (very) tall (closed) fernland / sedgeland	N	1	0	M3	401
120220	<i>Eucalyptus robusta</i> mid high open woodland + dense to sparse mid stratum of <i>Leptospermum polygalifolia</i>	N	1	0	M2	305
120221	<i>Eucalyptus robusta</i> mid high open forest to woodland + <i>Gahnia clarkei</i> / <i>Restio tetraphyllus</i> / <i>Blechnum indicum</i> (very) tall (sparse) sedgeland / fernland	N	1	0	M3	305
120222	<i>Callitris columellaris</i> +/- <i>Lophostemon confertus</i> / <i>Eucalyptus intermedia</i> mid high open woodland + mid dense to very sparse mid stratum of <i>Leptospermum polygalifolia</i> / <i>Monotoca elliptica</i> / <i>Callitris columellaris</i> and Rf species	N	1	0	M2	313
120223	<i>Melaleuca quinquenervia</i> mid high open woodland + dense to sparse ground stratum of <i>Gahnia clarkei</i> / <i>Oxylobium robustum</i>	N	1	0	M2	401
120224	<i>Callitris columellaris</i> mid high to tall open forest to woodland + (very) sparse mid stratum of <i>Halfordia kendack</i>	N	1	0	M3	313
120225	<i>Casuarina glauca</i> +/- <i>Lophostemon suaveolens</i> mid high to tall open forest to woodland + (very) sparse mid stratum of Rf species	S	1	0	M3	601
120226	<i>Endiandra sieberi</i> / <i>Eucalyptus intermedia</i> / <i>Eucalyptus robusta</i> mid high to tall open forest to woodland + mid dense mid stratum of rainforest and sclerophyll species	N	1	0	M3	305
120227	<i>Melaleuca quinquenervia</i> +/- <i>Lophostemon suaveolens</i> / <i>Eucalyptus intermedia</i> / <i>Callitris columellaris</i> tall open forest to woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M3	401
120228	<i>Lophostemon suaveolens</i> +/- <i>Banksia integrifolia</i> / <i>Acacia aulacocarpa</i> mid high to tall open forest to woodland + (very) sparse mid stratum of Rf species	N	1	0	M3	309
120229	<i>Callitris columellaris</i> mid high to tall open forest to woodland + <i>Lomandra longifolia</i> tall open to sparse rushland	N	1	0	M3	313
120230	<i>Callitris columellaris</i> mid high to tall open forest to woodland + mid dense to sparse mid stratum of Rf species	N	1	0	M3	313
120231	<i>Lophostemon suaveolens</i> +/- <i>Eucalyptus intermedia</i> / <i>Melaleuca quinquenervia</i> mid high to tall open forest + mid dense ground stratum of <i>Dodonea triquetra</i>	N	1	0	M3	309
120232	<i>Eucalyptus</i> species dwarf to low (open) woodland + <i>Digitaria didactyla</i> low to mid high closed grassland	N	1	0	NA	1099
120233	<i>Casuarina glauca</i> +/- <i>Lophostemon suaveolens</i> low to mid high open forest to woodland + <i>Axonopus compressus</i> / <i>Ischaemum australe</i> / <i>Pteridium esculentum</i> (very) tall closed grassland / fernland	N	1	0	M3	601
120234	<i>Melaleuca quinquenervia</i> mid high open forest + mid dense to sparse ground stratum of <i>Pultenea villosa</i> / <i>Entolasia marginata</i> / <i>Imperata cylindrica</i>	N	1	0	M3	401
120235	<i>Callitris columellaris</i> mid high to tall open forest to woodland + mid dense to sparse mid stratum of <i>Monotoca elliptica</i>	N	1	0	M3	313
120236	<i>Eucalyptus signata</i> mid high to tall open forest + mid dense to sparse ground stratum of <i>Oxylobium robustum</i> / <i>Restio tetraphyllus</i> / <i>Gahnia clarkei</i>	N	1	0	M3	306

CAL_POLYID	CAL_DESC	CAMP CODE	FIELD CODE	COND CODE	STRUCT CODE	VEG CODE
120237	Eucalyptus robusta / Melaleuca quinquenervia / Lophostemon suaveolens mid high to tall (open) woodland + (very) sparse mid stratum of Melaleuca quinquenervia / Lophostemon suaveolens / Callistemon salignus	N	1	0	M2	305
120238	Callitris columellaris / Lophostemon suaveolens +/- Melaleuca quinquenervia mid high to tall open forest to woodland + Gahnia clarkei / Restio tetraphyllus (very) tall (closed) sedgeland	N	1	0	M3	313
120239	Callitris columellaris mid high to tall open forest to woodland + (very) sparse mid stratum of predominantly Rf species	N	1	0	M3	313
120240	Blechnum indicum / Lepironia articulata / Baumea rubiginosa (very) tall (closed) fernland / sedgeland	N	1	0	F	702
120241	Melaleuca quinquenervia mid high to tall open forest + Blechnum indicum / Baumea rubiginosa tall (closed) fernland / sedgeland	N	1	0	M3	401
120242	Casuarina glauca +/- Lophostemon suaveolens mid high to tall open forest + (very) sparse mid stratum of Melicope elleryana	S	1	0	M3	601
120243	Casuarina glauca mid high open woodland + Hemarthria uncinata / Imperata cylindrica / Axonopus compressus / Baumea articulata / Blechnum indicum (very) tall closed grassland / sedgeland / fernland	N	1	0	M1	601
120244	Casuarina glauca / Banksia integrifolia low to mid high (open) woodland + Pteridium esculentum / Imperata cylindrica tall closed fernland / grassland	N	1	0	M1	601
120245	Mid high to tall Rf + Casuarina glauca	N	1	0	M3	101
120246	Casuarina glauca mid high to tall (open) woodland + Leersia hexandra / Hemarthria uncinata tall closed grassland	N	1	0	M3	601
120247	Digitaria didactyla / Axonopus compressus / Imperata cylindrica tall closed grassland	N	1	0	NA	1099
120248	Melaleuca quinquenervia +/- Lophostemon suaveolens mid high open forest + Sparse mid stratum of Rf species	S	1	0	M3	401
120249	Casuarina glauca mid high (open) woodland + Imperata cylindrica / Axonopus compressus tall closed grassland	N	1	0	M2	601
120250	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest to woodland + (open) mid stratum of Rf species	S	1	0	M3	402
120251	Casuarina glauca / Melaleuca quinquenervia mid high to tall (open) woodland + Axonopus compressus / Entolasia marginata / Paspalum conjugatum low to tall closed grassland	N	1	0	M2	402
120252	Cupaniopsis anacardioides / Euroschinus falcatus mid high to tall open forest to woodland + mid dense to open mid stratum of Lantana camara and Rf species	N	1	0	M3	101
120253	Casuarina glauca mid high to tall open forest to woodland + Cynanchum carnosum / Fimbristylis ferruginea low to tall closed to open forbland / sedgeland	N	1	0	M3	601
120254	Melaleuca quinquenervia mid high to tall open forest to woodland + Paspalum conjugatum mid high to tall closed grassland	N	1	0	M3	401
120255	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest to woodland + Phragmites australis / Acrostichum speciosum / Baumea juncea (very) tall (open) grassland / fernland / sedgeland	N	1	0	M3	402
120256	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest to woodland + mid dense to open mid stratum of Rf species	S	1	0	M3	402
120257	Casuarina glauca low to mid high open woodland + Digitaria didactyla / Imperata cylindrica / Pteridium esculentum mid high to tall (closed) grassland / fernland	N	1	0	M1	601
120258	Elaeocarpus obovatus / Commersonia bartramia / Cinnamomum camphora mid high to tall open forest to woodland + mid dense to open mid stratum of Rf species	C	1	3	M3	1002
120259	Elaeocarpus obovatus / Cupaniopsis anacardioides / Commersonia bartramia / Ficus macrophylla mid high to tall open forest to woodland + Paspalum conjugatum / Paspalum notatum / Digitaria didactyla low to tall closed grassland	N	1	0	M3	101
120260	Casuarina glauca / Melaleuca quinquenervia mid high to tall open forest to woodland + open mid stratum of Rf species	N	1	0	M3	402
120261	Elaeocarpus obovatus / Jagera pseudorhus / Cinnamomum camphora mid high to tall open forest to woodland + mid dense to open mid stratum of Rf species	C	1	3	M3	1002
120262	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
120263	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	1	0	NA	1099
120264	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
120265	Paspalum orbiculare / Hemarthria uncinata / Axonopus communis midhigh to tall closed grassland	N	1	0	NA	1099
120266	Lepironia articulata / Hemarthria uncinata mid high to tall closed sedgeland / grassland	N	1	0	Y	701
120267	Land outside study area consisting of bedrock soils	NA	99	0	NA	1099
130001	Acacia melanoxylon / Cinnamomum camphora / Cupaniopsis anacardioides mid high open forest to woodland	C	1	3	M3	1003
130002	Sporobolus virginicus / Sarcocornia quinqueflora / Triglochin striata low to mid high (closed) grassland / forbland (saltmarsh)	N	1	0	G	603
130003	Paspalum vaginatum / Leersia hexandra / Typha orientalis (very) tall (closed) grassland / rushland (wet meadow)	N	1	0	G	902
130004	Leersia hexandra / Paspalum vaginatum / Axonopus communis / Paspalum urvillei (very) tall (closed) grassland (wet meadow)	N	1	0	G	902
130005	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
130006	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
130007	Floodplain or area of marine sandy soil within study area largely cleared of native vegetation for farming or urban purposes	NA	99	0	NA	1099
130008	Casuarina glauca midhigh open forest to woodland	N	1	0	M3	601
130009	Casuarina glauca midhigh to tall open forest	N	1	0	M3	601

CAL_POLYID	CAL_DESC	CAMPFCODE	FIELDCODE	CONDCODE	STRUCTCODE	VEGCODE
130010	Casuarina glauca midhigh to tall open woodland with Excoecaria agallocha low to midhigh forest to open woodland and Paspalum conjugatum midhigh to tall (closed) grassland	N	1	0	M2	601
130011	Casuarina glauca +/- Melaleuca quinquenervia midhigh open forest to woodland	N	1	0	M3	601
130012	Casuarina glauca low to midhigh open woodland to isolated trees with Fimbristylis ferruginea / Phragmites australis midhigh to tall closed sedge/grassland	N	1	0	NA	1099
130013	Casuarina glauca midhigh (open) woodland with Phragmites australis / Acrostichum speciosum very tall grass/fernland	N	1	0	M3	601
130014	Casuarina glauca low to midhigh open woodland with Phragmites australis very tall closed grassland	N	1	0	NA	1099
130015	Casuarina glauca midhigh open woodland with Aegiceras corniculatum (very) tall closed shrubland	N	1	0	M3	601
130016	Casuarina glauca low to midhigh (open) woodland with Aegiceras corniculatum midhigh to tall (open) shrubland and Phragmites australis very tall grassland	N	1	0	L3	601
130017	Casuarina glauca midhigh to tall open forest to woodland with Aegiceras corniculatum (extremely) tall (open) shrubland and Fimbristylis ferruginea / Phragmites australis / Acrostichum speciosum (very) tall (open) sedge/grass/fernland	N	1	0	M3	601
130018	Sporobolus virginicus / Phragmites australis low to very tall closed grassland	N	1	0	NA	1099

Byron Shire Vegetation Associations / Communities (1999) Landmark Ecological Services, Ecograph and Terrafocus (1999). Byron Flora and Fauna Study. Consultancy report prepared for Byron Shire Council.		
Code	Description	Community
11	Littoral rainforest species	Rainforest
12	Rainforest Subtropical / Hoop Pine / Brush Box / Warm Temperate	Rainforest
13	Subtropical (>50%) / Camphor (<50%)	Rainforest
16	Camphor (51-80%)+/- Subtropical Rainforest species +/- Eucalypt +/- Acacia	Rainforest
17	Camphor (81% +)+/- Subtropical Rainforest species	Rainforest
18	Camphor +/- Eucalypt +/- Brush Box	Rainforest
21	Brush Box +/- Hoop Pine/Flooded Gum +/- Blackbutt-Tallowood-Grey Ironbark-Pink Bloodwood-Red Mahogany	Brush Box Forest and Woodland
22	Brush Box +/- Eucalypt/Camphor (not necessarily Brush Box dominated)	Brush Box Forest and Woodland
23	Brush Box +Rainforest	Brush Box Forest and Woodland
30	Eucalypt + Camphor	Moist Sclerophyll Forest and Woodland
31	Eucalyptus spp. not specified/unclassified	Moist Sclerophyll Forest and Woodland
32	Blackbutt-Tallowood-Grey Ironbark-Pink Bloodwood-Red Mahogany-Grey Gum	Moist Sclerophyll Forest and Woodland
33	Blue Gum +/- Tallowood +/-Brush Box +/- Flooded Gum	Moist Sclerophyll Forest and Woodland
34	Flooded Gum +/- Blue Gum +/- Tallowood +/-Brush Box +/- Rainforest	Moist Sclerophyll Forest and Woodland
41	Eucalyptus spp. not specified/unclassified	Dry Sclerophyll Forest and Woodland
42	Scribbly Gum +/- Blackbutt	Dry Sclerophyll Forest and Woodland
43	Forest Red Gum	Dry Sclerophyll Forest and Woodland
44	Coast Banksia +/- Pink Bloodwood +/- Black She-oak +/- Brush Box +/- Cypress Pine	Dry Sclerophyll Forest and Woodland
45	Cypress Pine	Dry Sclerophyll Forest and Woodland
51	Acacia > 60% +/-	Acacia
52	Acacia > 50% + Rainforest	Acacia
53	Acacia/Eucalypt	Acacia
61	Paperbark +/- Swamp Oak / Pink Flowered Doughwood-Bangalow Palm-Umbrella Cheese Tree	Swamp Sclerophyll Forest and Woodland
62	Swamp She-oak +/- Paperbark	Swamp Sclerophyll Forest and Woodland
63	Swamp Mahogany/Swamp Box +/- Paperbark	Swamp Sclerophyll Forest and Woodland
71	Horsetail She-oak - Bitou Bush	Foredune Shrubland
81	Wallum Banksia/Dwarf Banksia Heathland	Heathland/Shrubland/Sedgeland
82	Wallum Banksia/Coast Banksia +/- Cypress Pine Shrubland	Heathland/Shrubland/Sedgeland
83	Teatree Shrubland	Heathland/Shrubland/Sedgeland
84	Bitou Bush-Coastal Wattle-Coast Banksia Shrubland	Heathland/Shrubland/Sedgeland
91	Grey Mangrove-River Mangrove	Mangrove Forest and Woodland
92	Mangrove + Swamp She-oak	Mangrove Forest and Woodland
N	Pasture, Agriculture, Wallum Banksia eg. <1 ha., Water, Urban/Rural house plantings, <10% vegetation. coverage CCP	Unassessed

**CRA Forest Ecosystems (NSW NPWS 1999)
Upper North East NSW codes.**

NSW National Parks & Wildlife Service 1999. Draft Forest ecosystem classification and mapping for the Upper and Lower North East CRA Regions; a project undertaken as part of the NSW Comprehensive Regional Assessments project number NA35/EH.
Note: Statistics current to February 2002.

Upper North East NSW codes	Upper North East Forest Ecosystems	Current area (ha)	Pre 1750 area (ha)	% remaining	Rare & Endangered Status	Percentage of Target Met	Other Status	Other Status	Private Land Priority	Target Percentage	Target Area (ha)	Area in NPWS estate	% in NPWS estate	Target met or not
Code	UNE FE	CURRENT AR	PRE1750 AR	Z REMAIN	R&E Status	Z T Met 00	STATUS B	STATUS C	P L P	TARGET PRC	TARGET ARE	AREA NPWS	PRCNT NPWS	TARGET MET
2	Alpine Gum	1329	4165	31.91	Vulnerable	38.64	Severely Depleted		Private Land Priority	60	797	242	30.36	No
3	Baileys Stringybark	34931	46720	74.77		100.00				15	7008	14870	100.00	Yes
5	Banksia	2046	7561	27.06	Rare	25.12	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	2046	509	24.88	No
10	Black Sallee	6	6	100.00	Rare	100.00				100	6	6	100.00	Yes
12	Blue Mountain Ash	121	121	100.00	Rare	42.98				100	121	51	42.15	No
14	Brown Barrell	166	398	41.71	Rare	14.46	Severely Depleted	Highly Inadequately Reserved		100	166	27	16.27	No
15	Brown Barrell-Gum	1004	2587	38.81	Rare	15.74	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	1004	154	15.34	No
16	Bull Oak	2	2	100.00	Rare	100.00				100	2	0	0.00	Yes
17	Candlebark	1961	10200	19.23	Rare	4.69	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	1961	192	9.79	No
18	Casuarina Woodland	43	0	0.00	Rare	13.95		Highly Inadequately Reserved	Private Land Priority	100	43	6	13.95	No
19	Central Mid Elevation Sydney Blue Gum	6786	12586	53.92		51.93			Private Land Priority	15	1889	867	45.90	No
20	Clarence Lowland Needlebark Stringybark	10817	12496	86.56		100.00				15	1874	3325	100.00	Yes
21	Lowlands Grey Box	23913	61789	38.70	Vulnerable	1.72	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	14348	186	1.30	No
22	Coast Cypress Pine	82	158	51.90	Rare	79.27			Private Land Priority	100	82	64	78.05	No
23	Coast Range Bloodwood-Mahogany	5919	18055	32.78		89.99	Severely Depleted			15	2708	1623	59.93	No
24	Clarence Lowlands Spotted Gum	174787	343968	50.81		27.33		Highly Inadequately Reserved	Private Land Priority	15	51600	8488	16.45	No
25	Coast Range Spotted Gum-Blackbutt	743	885	83.95	Rare	13.06		Highly Inadequately Reserved	Private Land Priority	100	743	75	10.09	No
26	Coastal Flooded Gum	9426	14910	63.22		100.00				15	2238	3302	100.00	Yes
27	Coastal Sands Blackbutt	3101	4518	68.64		100.00				15	678	2841	100.00	Yes
29	Corkwood-Crabapple and Mixed Stringybarks	6093	7149	85.23		100.00				15	1072	2192	100.00	Yes
30	Diehard Stringybark-New England Blackbutt	1062	2769	38.35	Rare	11.21	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	1062	107	10.08	No
31	Dorrigo White Gum	3385	3851	87.90	Rare	10.69		Highly Inadequately Reserved	Private Land Priority	100	3385	364	10.75	No
32	Dry Foothills Blackbutt-Turpentine	7364	9370	78.59		66.00				15	1406	606	43.10	No
33	Dry Foothills Spotted Gum	90829	97714	92.95		100.00				15	14657	13073	89.19	Yes
34	Dry Grassy Blackbutt-Tallowwood	6052	9880	61.26		68.02				15	1482	987	66.60	No
35	Dry Grassy Stringybark	69987	87820	79.69		100.00				15	13173	20888	100.00	Yes
36	Dry Grassy Tallowwood-Grey Gum	5564	9726	57.21		28.65		Highly Inadequately Reserved	Private Land Priority	15	1459	380	26.05	No
37	Dry Heathy Blackbutt-Bloodwood	46630	75580	61.70		100.00				15	11337	6297	55.54	Yes
38	Dry Heathy New England Blackbutt	4276	4580	93.36		100.00				15	687	1780	100.00	Yes
39	Dry Heathy New England Stringybarks	1178	1178	100.00		100.00				15	177	1173	100.00	Yes
40	Dry Heathy Sandstone Blackbutt	19036	20939	90.91		100.00				15	3141	5340	100.00	Yes
41	Dry Open New England Blackbutt	121339	219262	55.34		100.00				15	32893	30996	94.23	Yes
42	Dry Redgum-Bloodwood-Apple	243	245	99.18	Rare	90.12				100	243	221	90.95	No
43	Dry Silvertop Stringybark-Apple	13041	15059	86.60		100.00				15	2259	4783	100.00	Yes
44	Dry open Redgum-Broad Leaved Apple	10484	11330	92.53		100.00				15	1700	5343	100.00	Yes
45	Dunns White Gum	975	1453	67.10	Rare	53.95			Private Land Priority	100	975	504	51.69	No
46	Eastern Red Gums	3002	2967	101.18	Vulnerable	94.89				60	1801	1153	64.02	No
47	Escarpment Redgum	28206	55897	50.46		59.32			Private Land Priority	15	8387	4549	54.24	No
48	Escarpment Scribbly Gum-Apple	5488	5871	93.48		100.00				15	881	861	97.73	Yes
50	Wet Bangalow-Brushbox	10098	16154	62.51	Vulnerable	52.53			Private Land Priority	60	6059	3063	50.55	No
52	Foothill Grey Gum-Ironbark-Spotted Gum	46753	59393	78.72		100.00				15	8910	6812	76.45	Yes
53	Gorge Grey Box	11147	12259	90.93		100.00				15	1839	5830	100.00	Yes
54	Grey Box-Red Gum-Grey Ironbark	20438	38416	53.20		37.32				15	5763	2091	36.28	No
55	Foothills Grey Gum-Spotted Gum	8685	10634	81.67		63.95				15	1595	530	33.23	No
56	Granite Mallee	1887	1951	96.72		100.00				15	293	1518	100.00	Yes
57	Highland Granite Stringybarks	2483	2708	91.69		100.00				15	407	2266	100.00	Yes
58	Gorge Grey Gum	5532	6218	88.97		100.00				15	933	2900	100.00	Yes
59	Gorge Ironbark-Grey Gum	63226	74798	84.53		100.00				15	11220	12486	100.00	Yes
60	Grassy New England Blackbutt-Tallowwood-Blue Gum	40245	46952	85.72		100.00				15	7043	8952	100.00	Yes
61	Grey Box-Ironbark	131	146	89.73	Rare	24.43		Highly Inadequately Reserved	Private Land Priority	100	131	21	16.03	No
62	Grey Box-Northern Grey Gum	509	1625	31.32	Rare	6.88	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	509	7	1.38	No
63	Grey Gum-Stringybark	12810	14033	91.28		100.00				15	2105	4290	100.00	Yes
64	Heath	9805	0	0.00	Vulnerable	100.00				60	5883	8981	100.00	Yes
65	Heathy Scribbly Gum	7758	10544	73.58		100.00				15	1582	3269	100.00	Yes
66	Herbfield and Fjaeldmark	68	0	0.00	Rare	79.41			Private Land Priority	100	68	54	79.41	No
67	High Elevation Ferny Blackbutt	10462	12235	85.51		100.00				15	1835	1779	96.95	Yes
68	High Elevation Messmate-Brown Barrell	329	1932	17.03	Rare	27.66	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	329	95	28.88	No
69	High Elevation Moist Open Tallowwood-Blue Gum	3533	4003	88.26		100.00				15	600	607	100.00	Yes
70	High Elevation Open Spotted Gum	50005	61596	81.18		72.67				15	9239	5391	58.35	No
71	Ironbark	7713	24667	31.27		28.00	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	15	3700	1020	27.57	No
72	Low Relief Coastal Blackbutt	859	1574	54.57	Rare	17.69		Highly Inadequately Reserved	Private Land Priority	100	859	144	16.76	No
73	Lowland Red Gum	57016	141011	40.43		40.62	Severely Depleted		Private Land Priority	15	21174	4716	22.27	No

Upper North East NSW codes.	Upper North East Forest Ecosystems	Current area (ha)	Pre 1750 area (ha)	% remaining	Rare & Endangered Status	Percentage of Target Met	Other Status	Other Status	Private Land Priority	Target Percentage	Target Area (ha)	Area in NPWS estate	% in NPWS estate	Target met or not
Code	UNE FE	CURRENT_AR	PRE1750_AR	Z_REMAIN	R&E_Status	Z_T_Met_00	STATUS_B	STATUS_C	P_L_P	TARGET_PRC	TARGET_ARE	AREA_NPWS	PRCNT_NPWS	TARGET_MET
74	Lowlands Scribbly Gum	3496	6783	51.54	Vulnerable	88.61			Private Land Priority	60	2098	1790	85.32	No
75	Lowlands Spotted Gum-Box	19737	37104	53.19		56.67				15	5566	2805	50.40	No
76	Coastal Mallee	1412	2493	56.64	Vulnerable	100.00				60	847	1204	100.00	Yes
77	Mangrove	734	0	0.00	Rare	51.77			Private Land Priority	100	734	390	53.13	No
78	Mann River Wet New England Blackbutt	5132	5139	99.86		100.00				15	771	4538	100.00	Yes
79	Manna Gum-Stringybark	90	95	94.74	Rare	58.89			Private Land Priority	100	90	53	58.89	No
80	Manna Gum	1287	5476	23.50	Rare	14.45	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	1287	188	14.61	No
81	Messmate	6309	17001	37.11	Vulnerable	30.54	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	3785	1000	26.42	No
83	Mid Elevation Wet Blackbutt	1180	1333	88.52		100.00				15	200	609	100.00	Yes
84	Mid North Coast Wet Brushbox-Tallowwood-Blue Gum	10378	12743	81.44		100.00				15	1912	2667	100.00	Yes
85	Mixed Moist Hardwood	346	818	42.30	Rare	37.28	Severely Depleted		Private Land Priority	100	346	122	35.26	No
86	Mixed New England Stringybarks	3002	3320	90.42		100.00				15	498	593	100.00	Yes
87	Mixed Tableland Stringybark-Gum OpenForest	4694	13471	34.85		24.64	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	15	2021	404	19.99	No
88	Moist Escarpment New England Blackbutt	10275	10354	99.24		100.00				15	1553	7407	100.00	Yes
89	Moist Foothills Spotted Gum	35657	37545	94.97		100.00				15	5632	6322	100.00	Yes
90	Moist Messmate-Gum	25159	30214	83.27		100.00				15	4532	9520	100.00	Yes
91	Moist Open Escarpment White Mahogany	1814	1966	92.27		100.00				15	295	257	87.12	Yes
92	Moist Shrubby Stringybark-Gum	4139	5868	70.54		100.00				15	880	1149	100.00	Yes
93	Montane Stringybark-Gum	28687	61335	46.77		32.00		Highly Inadequately Reserved	Private Land Priority	15	9200	2942	31.98	No
95	Northern Moist Blackbutt	9101	10897	83.52		100.00				15	1635	4047	100.00	Yes
96	Natural Grassland	370	0	0.00	Rare	69.73			Private Land Priority	100	370	256	69.19	No
97	Needlebark Stringybark-Large Fruited Blackbutt	9966	10595	94.06		100.00				15	1589	2735	100.00	Yes
98	New England Peppermint	3590	4372	82.11		100.00				15	656	852	100.00	Yes
99	New England Stringybark-Blakelys Red Gum	10786	14496	74.41		100.00				15	2174	2963	100.00	Yes
100	Northern Grassy Sydney Blue Gum	9245	11251	82.17	Vulnerable	67.14			Private Land Priority	60	5547	3399	61.28	No
101	Northern Open Grassy Blackbutt	21590	30488	70.81		100.00				15	4573	4273	93.44	Yes
102	Northern Ranges Dry Tallowwood	57107	100595	56.77		47.32				15	15092	6722	44.54	No
103	Northern Wet Brushbox	16379	25433	64.40		100.00				15	3815	4517	100.00	Yes
104	Northern Wet Tallowwood-Blue Gum	25764	29607	87.02		100.00				15	4441	9886	100.00	Yes
105	Nymboida Tallowwood-Turpentine	2645	3005	88.02		100.00				15	451	1631	100.00	Yes
106	Open Coastal Brushbox	6533	9549	68.42		88.63				15	1433	951	66.36	No
109	Open Shrubby Brushbox-Tallowwood	17472	23572	74.12		100.00				15	3537	3225	91.18	Yes
110	Open Silvertop Stringybark-Blue Gum	3130	3681	85.03		100.00				15	552	1645	100.00	Yes
111	Open Silvertop Stringybark-Tallowwood	4525	4876	92.80		100.00				15	731	810	100.00	Yes
112	Paperbark	28577	0	0.00	Vulnerable	52.06			Private Land Priority	60	17146	8474	49.42	No
113	Peppermint	6478	11200	57.84		100.00				15	1680	2551	100.00	Yes
114	Peppermint-Mountain/Manna Gum	12829	42796	29.98	Vulnerable	19.46	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	7697	1570	20.40	No
115	Red Bloodwood	217	239	90.79	Rare	55.76				100	217	33	15.21	No
116	Red Gum-Stringybark	27128	58064	46.72		6.00		Highly Inadequately Reserved	Private Land Priority	15	8703	498	5.72	No
117	Red Mahogany	1273	1363	93.40		100.00				15	204	1161	100.00	Yes
118	Richmond Range Spotted Gum	22511	48691	46.23		34.00		Highly Inadequately Reserved		15	7304	2344	32.09	No
119	Richmond Range Spotted Gum-Box	24814	41836	59.31		38.67			Private Land Priority	15	6276	2090	33.30	No
120	River Oak	3221	4771	67.51	Vulnerable	10.61		Highly Inadequately Reserved	Private Land Priority	60	1933	196	10.14	No
121	Rock	18162	0	0.00		100.00				15	2724	8593	100.00	Yes
122	Rough-barked Apples	1683	3764	44.71	Vulnerable	100.00	Severely Depleted			60	1010	759	75.15	Yes
123	Roundleaved Gum	17975	40718	44.15		80.66	Severely Depleted		Private Land Priority	15	6108	4681	76.64	No
124	Roundleaved Gum-Turpentine	30	30	100.00	Rare	0.00				100	30	0	0.00	No
125	Saltbush	16	17	94.12	Rare	62.50				100	16	10	62.50	No
126	Sandstone Spotted Gum-Blackbutt	4808	8872	54.19		57.33			Private Land Priority	15	1331	478	35.91	No
127	Sherwood Needlebark Stringybark	9098	11497	79.13		73.97				15	1725	1246	72.23	No
128	Silverleaved Ironbark	1988	2328	85.40		0.57		Highly Inadequately Reserved		15	349	3	0.86	No
129	Smoothbarked Apple	270	273	98.90	Rare	97.41				100	270	255	94.44	No
131	Snow Gum	288	304	94.74	Rare	81.25				100	288	244	84.72	No
132	Snow Gum -Mountain/Manna Gum	21305	97976	21.75	Vulnerable	9.20	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	12783	1045	8.17	No
133	Snow Gum-Black Sallee	2	2	100.00	Rare	100.00				100	2	2	100.00	Yes
135	South Coast Tallowwood-Blue Gum	5338	6754	79.03		100.00				15	1013	918	90.62	Yes
138	Steel Box/Craven Grey Box	427	634	67.35	Rare	36.53		Highly Inadequately Reserved	Private Land Priority	100	427	151	35.36	No
139	Stringybark-Apple	34813	57502	60.54		44.01				15	8625	3724	43.18	No
140	Stringybark-Mallee	2194	2196	99.91		100.00				15	329	2166	100.00	Yes
141	Swamp	24118	0	0.00	Endangered	47.74			Private Land Priority	100	24118	11184	46.37	No
142	Swamp Mahogany	578	695	83.17	Rare	45.67			Private Land Priority	100	578	178	30.80	No
143	Swamp Oak	2883	11165	25.82	Rare	30.21	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	2883	871	30.21	No
145	Sydney Peppermint-Stringybark	255	267	95.51	Rare	10.20		Highly Inadequately Reserved	Private Land Priority	100	255	25	9.80	No
146	Tallowwood	8430	9191	91.72		100.00				15	1379	4817	100.00	Yes
147	Turpentine	2943	6784	43.38		100.00	Severely Depleted			15	1018	1039	100.00	Yes
148	Very Wet New England Blackbutt-Tallowwood	1498	1499	99.93		100.00				15	225	1343	100.00	Yes
149	Mallee-Peppermint mosaic	1618	2721	59.46		78.68			Private Land Priority	15	408	317	77.70	No
150	Washpool Brushbox-Tallowwood	5683	5683	100.00		100.00				15	852	4811	100.00	Yes
151	Wattle	1314	0	0.00		0.00		Highly Inadequately Reserved		15	198	61	30.81	No

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Code	UNE FE	CURRENT_AR	PRE1750_AR	Z_REMAIN	R&E_Status	Z_T_Met_00	STATUS_B	STATUS_C	P_L_P	TARGET_PRC	TARGET_ARE	AREA_NPWS	PRCNT_NPWS	TARGET_MET
152	Wet Bloodwood-Tallowwood	33357	53783	62.02		67.32				15	8069	5169	64.06	No
153	Wet Coastal Tallowwood-Brushbox	6581	12436	52.92		8.69		Highly Inadequately Reserved		15	1865	58	3.11	No
154	Wet Flooded Gum-Tallowwood	9317	24207	38.49		19.33	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	15	3632	489	13.46	No
155	Wet Foothills Blackbutt-Turpentine	7437	8219	90.49		100.00				15	1233	1188	96.35	Yes
157	Wet Shrubby Brushbox-Tallowwood	4891	6265	78.07		100.00				15	940	1386	100.00	Yes
158	Wet Spotted Gum-Tallowwood	2538	2539	99.96		100.00				15	381	626	100.00	Yes
162	Whitetopped Box	4	4	100.00	Rare	25.00				100	4	0	0.00	No
163	Yellow Box-Blakely's Red Gum	7245	39525	18.33	Vulnerable	8.19	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	4347	339	7.80	No
164	Agricultural Plantations-Orchards and Vineyards	71	0	0.00						0	0	5		na
165	Forestry Plantations	18754	0	0.00						0	0	321		na
166	Improved Pasture and Cropland	956	0	0.00						0	0	161		na
167	Introduced Scrub	1312	0	0.00						0	0	53		na
168	Rainforest	159211	0	0.00	Endangered	68.53			Private Land Priority	100	159211	98755	62.03	No
169	Scrub	5447	0	0.00	Vulnerable	91.16			Private Land Priority	60	3268	2981	91.22	No
170	Settlements-Roads-Gravel Pits etc	61000	0	0.00						0	0	2412		na
171	Water Surfaces	26336	0	0.00						0	0	1902		na
172	Sand Ridge	1049	0	0.00						0	0	981		na
173	Cleared-Partially Cleared	9331	0	0.00						0	0	2546		na
174	Orange Gum-Tumbledown Gum-Apple	15435	27288	56.56		0.00		Highly Inadequately Reserved		15	4093	16	0.39	No
175	Orange Gum-New England Blackbutt-Tumbledown Gum	19304	39537	48.83		17.33		Highly Inadequately Reserved	Private Land Priority	15	5931	1056	17.80	No
176	Orange Gum-Ironbark	34295	82312	41.66		7.34	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	15	12347	806	6.53	No
177	Outcrop Orange Gum-New England Blackbutt	7945	26428	30.06		23.34	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	15	3964	895	22.58	No
178	Outcrop Black Cypress-Tumbledown Gum	1034	1642	62.97		0.81		Highly Inadequately Reserved		15	246	0	0.00	No
179	Yellow Box-Broad-leaved Stringybark	3859	11549	33.41	Vulnerable	3.50	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	2315	111	4.79	No
180	Western New England Blackbutt	12415	14754	84.15		100.00				15	2213	3228	100.00	Yes
181	Stringybark-Gum	30258	34306	88.20		100.00				15	5146	18278	100.00	Yes
182	Apple-Black Cypress	1994	2350	84.85		62.04				15	353	216	61.19	No
183	Red Gum-Apple	592	1569	37.73	Rare	0.34	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	592	1	0.17	No
184	Tumbledown Gum-Ironbark	11070	13841	79.98		100.00				15	2076	3758	100.00	Yes
185	Orange Gum-Black Cypress	3510	5585	62.85		100.00				15	838	860	100.00	Yes
186	Open Tumbledown Gum-Black Cypress-Orange Gum	10593	25417	41.68		14.00	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	15	3813	515	13.51	No
189	Silverleaved Ironbark-Cypress	23285	40819	57.04		2.68		Highly Inadequately Reserved		15	6123	185	3.02	No
190	Yellow Box-Grey Box-Red Gum	21273	60630	35.09	Vulnerable	4.75	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	12764	516	4.04	No
194	Round-leaved Gum wet heath	5997	8627	69.51		100.00				15	1294	2200	100.00	Yes
195	Apple-Manna Gum woodland	16214	35674	45.45		20.01		Highly Inadequately Reserved	Private Land Priority	15	5351	1060	19.81	No
196	Broad-leaved Stringybark-Apple Box	19948	53457	37.32	Vulnerable	16.53	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	11969	1956	16.34	No
197	Broad-leaved Stringybark	1643	4409	37.26	Vulnerable	8.52	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	986	80	8.11	No
198	Silvertop Stringybark	1200	4527	26.51	Vulnerable	1.39	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	720	9	1.25	No
199	Riparian Shrubland	1252	5508	22.73	Vulnerable	0.00	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	60	751	2	0.27	No
200	Broad-leaved Stringybark-Ribbon Gum	650	2022	32.15	Rare	0.00	Severely Depleted	Highly Inadequately Reserved	Private Land Priority	100	650	7	1.08	No
201	Camphor Laurel	10381	0	0.00						0	0	12		na

Codes and Classification		Bushfire Hazard	
Vegetation Code	Vegetation Type	Bushfire Hazard Code	Bushfire Hazard Category (NSW Bush Fire Coord Committee 1998)
Vegcode	Vegtype	Fire_code	Fire_Cat
101	Littoral Rainforest	4	Rainforest
102	Sub-tropical / Warm Temperate Rainforest on Bedrock Substrates	4	Rainforest
103	Dry Rainforest	4	Rainforest
104	Lowland Rainforest on Floodplain	4	Rainforest
105	Myrtaceous Riparian Low Closed Forest to Woodland	4	Rainforest
106	River She-oak Open Forest	9	Dry Sclerophyll Forest
201	Blackbutt Open Forest Complex	10	Wet Sclerophyll Forest
202	Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex	9	Dry Sclerophyll Forest
203	Broad-leaved Apple Open Forest	9	Dry Sclerophyll Forest
204	Scribbly Gum / Pink Bloodwood Open Forest	9	Dry Sclerophyll Forest
205	Sydney Blue Gum Open Forest	10	Wet Sclerophyll Forest
206	Flooded Gum Open Forest	10	Wet Sclerophyll Forest
207	Brush Box Open Forest	10	Wet Sclerophyll Forest
208	Tallowwood Open Forest	10	Wet Sclerophyll Forest
211	Turpentine +/- Pink Bloodwood Open Forest	10	Wet Sclerophyll Forest
212	Swamp Box Open Forest	10	Wet Sclerophyll Forest
301	Coastal Pink Bloodwood Open Forest to Woodland	9	Dry Sclerophyll Forest
302	Coastal Pink Bloodwood / Brush Box Open Forest to Woodland	9	Dry Sclerophyll Forest
303	Coastal Brush Box Open Forest to Woodland	9	Dry Sclerophyll Forest
304	Coastal Forest Red Gum Open Forest to Woodland	9	Dry Sclerophyll Forest
305	Coastal Swamp Mahogany Open Forest to Woodland	10	Wet Sclerophyll Forest
306	Coastal Scribbly Gum Open Forest to Woodland	9	Dry Sclerophyll Forest
307	Coastal Blackbutt Open Forest to Woodland	9	Dry Sclerophyll Forest
308	Coastal Tallowwood Open Forest to Woodland	9	Dry Sclerophyll Forest
309	Coastal Swamp Box Open Forest to Woodland	10	Wet Sclerophyll Forest
310	Banksia Dry Sclerophyll Open Forest to Shrubland	6	Mallee / Spinifex
311	Coastal Acacia Communities	6	Mallee / Spinifex
312	Black She-oak Low Open Forest to Woodland	6	Mallee / Spinifex
313	Cypress Pine Open Forest to Woodland	9	Dry Sclerophyll Forest
401	Broad-leaved Paperbark Closed Forest to Woodland	10	Wet Sclerophyll Forest
402	Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland	10	Wet Sclerophyll Forest
403	Broad-leaved Paperbark + Eucalyptus spp.+/- Swamp Box Closed Forest to Woodland	10	Wet Sclerophyll Forest
601	Swamp She-oak Closed Forest to Woodland	9	Dry Sclerophyll Forest
501	Dry Heathland to Shrubland	7	Short Heath
502	Wet Heathland to Shrubland	7	Short Heath
602	Mangrove Low Closed Forest to Woodland	4	Rainforest
603	Saltmarsh Communities	1	Grazed Pasture
701	Sedgeland / Rushland (Murray & James 1998 Study Area Only)	2	Tall Grass
702	Fernland / Forbland (Murray & James 1998 Study Area Only)	1	Grazed Pasture
703	Freshwater Wetlands	1	Grazed Pasture
801	Foredune Complex	6	Mallee / Spinifex
901	Rock Faces	1	Grazed Pasture
903	Open Water	903	NA
998	Not Assessed	777	NA
999	Remnant Vegetation Outside LGA	888	NA
902	Native Grasslands (Murray & James 1998 Study Area Only)	2	Tall Grass
1001	Mowed Heathland (Murray & James 1998 Study Area Only)	1	Grazed Pasture
1002	Early Regrowth Rainforest	4	Rainforest
1003	Acacia / Other Sclerophyll Regrowth Open Forest to Woodland	9	Dry Sclerophyll Forest
1004	Camphor Laurel Dominant Closed to Open Forest	4	Rainforest

Appendix 5

Vegetation Look-up Tables

Vegetation Types - Floristic Composition							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Dominant or Co-dominant Species	Sub-dominant or Locally Dominant Species	Other Species	More Other Species	Favoured Environment and Comments
Vegcode	Vegtype	MajVegCom	Dom_spp	Subdom_spp	Other_spp	MoOtherspp	Favenviron
101	Littoral Rainforest	Rainforest and Riparian Communities	Cupaniopsis anacardioides, Acacia aulacocarpa, Acronychia imperforata, Planchonella chartacea, Syzygium oleosum, Eucalyptus falcata, Polyscias elegans, Mischochloa pyramidalis, Alphitonia excelsa, Exocarpos latifolius, Trochocarpa laurina, Elaeocarpus obovatus, Commersonia bartramia, Ficus macrophylla, Ficus obliqua, Cryptocarya foetida	Lophostemon confertus, Melaleuca quinquenervia, Hibiscus tiliaceus, Macaranga tanarius, Banksia integrifolia, Archontophoenix cunninghamiana, Casuarina equisetifolia, Lophostemon suaveolens, Acrotriche aggregata, Acacia melanoxylon, Cinnamomum camphora, Araucaria cunninghamii, Casuarina glauca	Protasparagus aethiopicus, Chrysanthemum monilifera, Flagellaria indica, Smilax australis, Digitaria ciliaris, D. didactyla, Acacia sophorae, Lantana camara, Paspalum conjugatum, P. notatum, Eucalyptus tereticornis, Aegiceras comiculatum, Bruguiera gymnorrhiza, Avicennia marina, Imperata cylindrica, Pteridium esculentum, Syzygium hodgkinsoniae, Cordyline congesta, Syzygium moorei, Grevillea hilliana, Lophostemon confertus		Siliceous sands at rear or lea side of barrier or hind dunes along the coastal strip
102	Sub-tropical / Warm Temperate Rainforest on Bedrock Substrates	Rainforest and Riparian Communities	Hoop Pine (A. cunninghamii), Red Kamala (M. philippensis), Brush Box (L. confertus), Blue Quandong (E. angustifolius), Red Bean (Dysoxylum muelleri), White Booyong (A. trifoliolatum), Waterhousea floribunda	Pink Flowering Evodia (Euodia elleryana), Red Cedar (Toona ciliata), Umbrella Cheese Tree (Glochidion sumatranum), Cheese Tree (Glochidion ferdinandii), Hard Quandong (E. obovatus), Foambark (Jagera pseudofolius), Silver Basswood (Polyscias elegans), Pencil Cedar (Polyscias murrayi), Moreton Bay Fig (F. macrophylla), Deciduous Fig (F. watkinsiana), White Fig (F. vires) and other Ficus spp., Syzygium spp., Pittosporum spp., Fine Leaved Tuckeroo (Lepidodermis pulchella), Bangalow Palm (A. cunninghamii), Yellow Carabeen (Sloanea woollsi), Brown Kurrajong (Commersonia bartramia), Water Gum (T. laurina), Black Apple (Planchonella australis), Native Tamarind (Diplolottis australis), Water vine (C. antarctica), Cockspur (Maclura cochinchinensis) and other vine spp., Camphor Laurel (C. camphora), Cupaniopsis anacardioides	Rose Myrtle (Archirodomyrtus beckeri), occas. Eucalyptus spp., Forest Sheoak (A. torulosa), Black Walnut (Endiandra gibbosa), Ardisia (Ardisia bakeri), Rough-leaved Elm (A. philippensis), Macadamia (Macadamia tetraphylla), Sour Cherry (Syzygium corynanthum), Incense Cedar (Athorocarpus nitida), Straw Treefern (Cyathea cooperi), White Quandong (Elaeocarpus kirtonii), Red Apple (Acmena ingens), Lantana (L. camara), Flagellaria indica		Sub-tropical rainforests occur at low altitudes on fertile lowland krasnozems soils near sealevel or on basaltic soils up to 600m. Warm temperate rainforests occur in cool, moist areas on less fertile metasediments, basaltically enriched metasediments and on rhyolite with basaltic enrichment on alluvial flats. It also occurs in the riparian zone on less fertile alluvium derived from predominantly siliceous rocks such as sandstone, shale, slate and granite.
103	Dry Rainforest	Rainforest and Riparian Communities	Hoop Pine (A. cunninghamii), Rough-leaved Elm (A. philippensis), Red Kamala (M. philippensis),	Hard Quandong (E. obovatus), Lacebark (Brachychiton discolor), Silky Oak (G. robusta), Native Holly (Alchornea illicifolia), Riberry (Syzygium leuhmannii), Orange Thorn (Citriobatus pauciflorus), Blackwood Wattle (A. melanoxylon), Camphor Laurel (C. camphora),	Brush Box (L. confertus), Fine Leaved Tuckeroo (L. pulchella), Marblewood (Acacia bakeri), Spiny Gardenia (Randia moorei), Finger Lime (Microcitrus australis), Large-leaf Privet (Ligustrum lucidum), Flooded Gum (E. grandis), Pink Bloodwood (C. intermedia),		Occurs where rainfall is low for rainforest development often on steep, stony northern or western slopes and ridges on rhyolite and areas of rainshadow where soils with basaltic enrichment, or composed of mudstones and coal below basalt occur which are often shallow and well drained
104	Lowland Rainforest on Floodplain	Rainforest and Riparian Communities	Weeping Lilly Pilly (W. floribunda), Hoop Pine (A. cunninghamii), White Booyong (Argyrodendron trifoliolatum), Black Bean (C. australe), Water Gum (Tristaniopsis laurina), Blue Quandong (E. angustifolius), Tuckeroo (C. anacardioides), Brush Box (L. confertus), Grey Myrtle (B. myrtifolia), incl. weed spp. Lantana (L. camara), Camphor Laurel (C. camphora),	Rough-leaved Elm (Aphananthe philippensis), Flooded Gum (E. grandis), Blackwood Wattle (A. melanoxylon), Red Kamala (Mallotus philippensis), Guioa (G. semiglaucosa), Red Ash (A. excelsa), Creek Sandpaper Fig (Ficus coronata) and other Ficus spp., River Sheoak (C. cunninghamiana), Bangalow Palm (A. cunninghamii), White Yiel-Yiel (Grevillea hilliana), Giant Water Gum (Syzygium francisii), Cudgerie (F. schottiana), Hard Quandong (Elaeocarpus obovatus), Maiden's Blush (Sloanea australis), Brush Box (L. confertus), and weed spp. in u/storey incl. Lantana (L. camara), Small-leaf Privet (L. sinense), Water Vine (Cissus antarctica) and other vine spp.	Tallowwood (E. microcorys), Grey Gum (E. propinqua), Grey Ironbark (E. siderophloia), Pink Bloodwood (C. intermedia), Plum Pine (P. elatus), Durobby (Syzygium moorei), Red-fruited Ebony (Diospyros mabacea), Thorny Pea (D. acanthocladium), occas. myrtaceous spp. u/storey		Occurs on well-drained, fertile, basaltically enriched alluvial lowland floodplains.
105	Myrtaceous Riparian Low Closed Forest to Woodland	Rainforest and Riparian Communities	Weeping Lilly Pilly (Callistemon viminalis var. "Wollumbin"), Grey Myrtle (B. myrtifolia), Lilly Pilly (Acmena smithii [narrow-leaved form]), Water Gum (T. laurina), Small-leaved Privet (L. sinense),	Silky Oak (G. robusta), Flooded Gum (E. grandis), assorted R.f. spp.			Forms as a relatively narrow band fringing coastal creeks and occupying gully sites within sclerophyll forests.
106	River She-oak Open Forest	Rainforest and Riparian Communities	River Sheoak (Casuarina cunninghamiana), Camphor laurel (C. camphora), Black Teatree (M. bracteata) rainforest layer	Black Teatree (Melaleuca bracteata), Black Bean (C. australe), Silky Oak (G. robusta), Blue Quandong (Elaeocarpus angustifolius), Flooded Gum (E. grandis), Sydney Blue Gum (E. saligna), Brush Box (L. confertus), Blackwood Wattle (A. melanoxylon), Weeping Lilly Pilly (Waterhousea floribunda) with or without rainforest species and many weed spp.	Tallowwood (E. microcorys), Grey Gum (E. propinqua), Ficus spp., Bangalow Palm (A. cunninghamii), Forest Red Gum (E. tereticornis), Thorny Pea (Desmodium acanthocladium), Callistemon viminalis subsp. "Wollumbin", epiphytic spp., Small-leaf Privet (L. sinense), Cat's-claw Creeper (Macfadyena unguis-cati) and other weed spp.		Occurs as a fringing forest along riparian zones and is normally confined to or usually associated with flowing water. Developing usually on stony or sandy soils and upstream of tidal influences.
107	Cool Temperate Rainforest	Rainforest and Riparian Communities	Antarctic Beech (Nothofagus moorei), Coachwood (Ceratopetalum apetalum),	Rough Possumwood (Quintinia sieberi), Sassafras (Doryphora sassafras), Blackwood Wattle (Acacia melanoxylon), Soft Corkwood (Caldcluvia paniculosa), Sassafras (Doryphora sassafras), Crabapple (Schizomeria ovata), Callicoma (Callicoma serratifolia), Hill Kanuka (Tristaniopsis collina), Prickly Ash (Orites excelsa).	Native Hydrangea (Abrophyllum omans), Featherwood (Polysoma cunninghamii), Dorrigo Waratah (Oreocallis pinnata), Southern Marara (Vesselowskyia rubifolia), Mountain Vineberry (Aristotelia australis), Tasman Flax Lily (Dianella tasmanica), Orange Berry (Drymophila moorei), the vine species Berberidopsis beckeri, Beech Orchid (Dendrobium falcostrum), Dagger Orchid (D. pugioniforme) and Filmy Ferns (Fieldia australis)	Sweet Pittosporum (Pittosporum undulatum), Lance Beard-heath (Leucopogon lanceolatus), Tree Heath (Trochocarpa laurina), Cut-leaf Mint Bush (Prostanthera incisa), Xanthorrhoea latifolia subsp. maxima, Acomis acoma, Tall Cassinia (Cassinia compacta), Olearia vagans and Sticky Daisy Bush (Olearia elliptica)	Occurs over extensive areas and in small stands including creekside belts and mesic sites above 450-900m and extending up to 1500m.

Vegetation Types - Floristic Composition							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Dominant or Co-dominant Species	Sub-dominant or Locally Dominant Species	Other Species	More Other Species	Favoured Environment and Comments
Vegcode	Vegtype	MajVegCom	Dom_spp	Subdom_spp	Other_spp	MoOtherspp	Favenviron
201	Blackbutt Open Forest Complex	Sclerophyll Open Forests on Bedrock Substrates	Blackbutt (<i>E. pilularis</i>), Grey Ironbark (<i>E. siderophloia</i>), White Mahogany (<i>E. acmenoides</i>), Sydney Blue Gum (<i>E. saligna</i>), <i>E. microcorys</i> , <i>E. resinifera</i> , <i>C. intermedia</i>	Tallowwood (<i>E. microcorys</i>), Grey Gum (<i>E. propinqua</i>), Broad-leaved Paperbark (<i>M. quinquerivaria</i>), Swamp Turpentine (<i>L. suaveolens</i>), Forest Red Gum (<i>E. tereticornis</i>), Brush Box (<i>L. confertus</i>), Turpentine (<i>S. glomulifera</i>),	Blackwood Wattle (<i>Ac. melanoxylon</i>), Forest She-oak (<i>A. torulosa</i>), Cudgerie (<i>Flindersia schottiana</i>), Golden Pea (<i>D. arborea</i>), Xanthorrhoea spp., Shining Burrawang (<i>Lepidodamia peroffskyana</i>), Camphor Laurel (<i>C. camphora</i>), <i>R.f.</i> species		The "moist" type usually occurs in relatively sheltered sites, south facing and lower slopes with an understorey of rainforest and mesophytic species. The "dry" type occurs on ridges and more exposed sites with a more open and sclerophyllous dominated understorey.
202	Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex	Sclerophyll Open Forests on Bedrock Substrates	Grey Ironbark (<i>E. siderophloia</i>), White Mahogany (<i>E. acmenoides</i>), Grey Gum (<i>E. propinqua</i>), Pink bloodwood (<i>C. intermedia</i>), <i>E. tereticornis</i> , <i>E. saligna</i> , <i>E. microcorys</i>	Red Mahogany (<i>E. resinifera</i>), Brush Box (<i>L. confertus</i>), Sydney Blue Gum (<i>E. saligna</i>), Broad-leaved Apple (<i>A. subvelutina</i>), Turpentine (<i>Syn. glomulifera</i>), Forest Red Gum (<i>E. tereticornis</i>), Tallowwood (<i>E. microcorys</i>), Flooded Gum (<i>E. grandis</i>), Blackbutt (<i>E. pilularis</i>)	Forest She-oak (<i>A. torulosa</i>), Golden Pea (<i>Daviesia arborea</i>), Kangaroo Grass (<i>Themeda triandra</i>), Grass Tree (<i>Xanthorrhoea media</i>), Wattles (<i>Acacia</i> spp.), Camphor Laurel (<i>Cinnamomum camphora</i>), White Bottlebrush (<i>C. salignus</i>), <i>Pinus elliotii</i>		Occurring in a variety of situations from slopes of differing aspects to ridgetops on the ranges an hills throughout the Shire, found on a wide variety of soils, generally of less fertility
203	Broad-leaved Apple Open Forest	Sclerophyll Open Forests on Bedrock Substrates	Broad-leaved apple (<i>Angophora subvelutina</i>)	Tallowwood (<i>E. microcorys</i>), Pink Bloodwood (<i>C. intermedia</i>), Grey Ironbark (<i>E. siderophloia</i>), Brush Box (<i>L. confertus</i>)	Coastal banksia (<i>B. integrifolia</i> var. <i>compar</i>)		Occurs as a moist open forest, particularly on alluvial soils and areas underlain by sandstone.
204	Scribbly Gum / Pink Bloodwood Open Forest	Sclerophyll Open Forests on Bedrock Substrates	Scribbly Gum (<i>Eucalyptus racemosa</i>), Pink Bloodwood (<i>C. intermedia</i>)	<i>E. propinqua</i> , <i>Syn. glomulifera</i>	<i>E. pilularis</i> , <i>E. acmenoides</i>		Forms as a mid height dry sclerophyll open forest on infertile, well drained soils, often adjoining and mixing with tall forests that form on soils of higher fertility.
205	Sydney Blue Gum Open Forest	Sclerophyll Open Forests on Bedrock Substrates	Sydney Blue Gum (<i>E. saligna</i>)	White Mahogany (<i>E. acmenoides</i>), Tallowwood (<i>E. microcorys</i>), Brush Box (<i>L. confertus</i>), Pink Bloodwood (<i>C. intermedia</i>), Grey Gum (<i>E. propinqua</i>), Turpentine (<i>S. glomulifera</i>), Flooded Gum (<i>E. grandis</i>), Grey Ironbark (<i>E. siderophloia</i>).	Blackwood Wattle (<i>Ac. melanoxylon</i>), Forest Sheoak (<i>A. torulosa</i>), Broad-leaved Apple (<i>A. subvelutina</i>), <i>R.f.</i> species, <i>Lantana</i> (<i>L. camara</i>)		Occurs in relatively moist sites with clay soils of moderate to high fertility. Found on valley floors and the moister upper slopes often with an understorey of rainforest species.
206	Flooded Gum Open Forest	Sclerophyll Open Forests on Bedrock Substrates	Flooded Gum (<i>E. grandis</i>), Brush Box (<i>L. confertus</i>), Tallowwood (<i>E. microcorys</i>)	Pink Bloodwood (<i>Corymbia intermedia</i>), White Mahogany (<i>E. acmenoides</i>), Turpentine (<i>S. glomulifera</i>), Swamp Turpentine (<i>L. suaveolens</i>), Hoop Pine (<i>Araucaria cunninghamii</i>), <i>Ficus</i> spp. and Silky Oak (<i>Grevillea robusta</i>), Camphor Laurel (<i>C. camphora</i>), Grey Gum (<i>E. propinqua</i>).	White Bottlebrush (<i>C. salignus</i>), Blackwood Wattle (<i>Ac. melanoxylon</i>), Hickory Wattle (<i>A. aulacocarpa</i>), other <i>Acacia</i> spp., <i>R.f.</i> species mid-layer to understorey, Camphor Laurel (<i>C. camphora</i>), Small-leaf Privet (<i>Ligustrum sinense</i>), some weed presence <i>Lantana</i> (<i>L. camara</i>), Cabbage Palm (<i>Livistona australis</i>).		Occurs as a tall open to open, wet sclerophyll forest on moderate to fertile soils, often in sheltered moist locations such as valley floors along watercourses.
207	Brush Box Open Forest	Sclerophyll Open Forests on Bedrock Substrates	Brush Box (<i>L. confertus</i>), Tallowwood (<i>E. microcorys</i>), Flooded Gum (<i>E. grandis</i>), Camphor Laurel (<i>C. camphora</i>),	Pink Bloodwood (<i>Corymbia intermedia</i>), Sydney Blue Gum (<i>E. saligna</i>), Hoop Pine (<i>A. cunninghamii</i>), Grey Ironbark (<i>E. siderophloia</i>), White Mahogany (<i>E. acmenoides</i>), Turpentine (<i>S. glomulifera</i>), Grey Gum (<i>E. propinqua</i>), Broad-leaved Apple (<i>A. subvelutina</i>),	<i>R.f.</i> species mid-layer to understorey, Red Ash (<i>Alphitonia excelsa</i>), <i>Flindersia</i> spp., <i>Bangalow Palm</i> (<i>A. cunninghamiana</i>), Forest Sheoak (<i>A. torulosa</i>), Kangaroo Grass (<i>Themeda triandra</i>), Blackwood Wattle (<i>Ac. melanoxylon</i>), Nightcap Wattle (<i>Ac. crites</i>), Pointed-leaved Hovea (<i>H. longifolia</i>), <i>Cordylina</i> spp., White Bottlebrush (<i>C. salignus</i>), Golden Pea (<i>D. arborea</i>), <i>Macaranga</i> (<i>M. tanarius</i>), <i>Polyscias</i> spp., Red Cedar (<i>Toona ciliata</i>), Small-leaf privet (<i>L. sinense</i>)		Occurs as a wet sclerophyll open forest over a range of terrains from wetter sheltered gullies, to sites with fertile soils extending to the ridgetops. Frequently this type colonises lower slopes that have been cleared or rainforest areas that have been disturbed by fire.
208	Tallowwood Open Forest	Sclerophyll Open Forests on Bedrock Substrates	Tallowwood (<i>E. microcorys</i>), Camphor laurel (<i>C. camphora</i>) +/- White Mahogany (<i>E. acmenoides</i>) +/- Pink Bloodwood (<i>C. intermedia</i>) +/- Brush Box (<i>L. confertus</i>) +/- Red stringybark (<i>E. resinifera</i>)	Sydney Blue Gum (<i>E. saligna</i>), Grey Ironbark (<i>E. siderophloia</i>), Turpentine (<i>Syn. glomulifera</i>), Flooded Gum (<i>E. grandis</i>), Grey Gum (<i>E. propinqua</i>), Forest Red Gum (<i>E. tereticornis</i>),	Blackbutt (<i>E. pilularis</i>), Hoop Pine (<i>A. cunninghamii</i>), Cudgerie (<i>F. schottiana</i>), Bopple Nut (<i>Hicksbeachia pinnatifolia</i>), Blackwood Wattle (<i>A. melanoxylon</i>), Hickory Wattle (<i>A. aulacocarpa</i>), White Bottlebrush (<i>C. salignus</i>), Forest Sheoak (<i>A. torulosa</i>), Swamp Turpentine (<i>L. suaveolens</i>), Silky Oak (<i>G. robusta</i>), Coastal Banksia (<i>B. integrifolia</i> var. <i>compar</i>), Broad-leaved Apple (<i>A. subvelutina</i>), Golden Pea (<i>D. arborea</i>), <i>R.f.</i> or sclerophyll species and/or exotic weed spp.u/storey, <i>Lantana</i> (<i>L. camara</i>), Grey Myrtle (<i>Backhousia myrtifolia</i>),		Found on sheltered to exposed moist sites on soils of moderate to high fertility.
211	Turpentine +/- Pink Bloodwood Open Forest	Sclerophyll Open Forests on Bedrock Substrates	Turpentine (<i>S. glomulifera</i>) +/- Pink Bloodwood (<i>C. intermedia</i>)	Brush Box (<i>L. confertus</i>), Pink Bloodwood (<i>C. intermedia</i>), Flooded Gum (<i>E. grandis</i>), White Mahogany (<i>E. acmenoides</i>), Tallowwood (<i>E. microcorys</i>)	Sydney Blue Gum (<i>E. saligna</i>), Grey Ironbark (<i>E. siderophloia</i>), Forest Sheoak (<i>A. torulosa</i>), <i>Callioma</i> (<i>C. serratifolia</i>) and sclerophyll or <i>R.f.</i> elements in u/storey		Forms as a wet sclerophyll forest occupying a wide range of sites but particularly in sheltered gullies.

Vegetation Types - Floristic Composition							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Dominant or Co-dominant Species	Sub-dominant or Locally Dominant Species	Other Species	More Other Species	Favoured Environment and Comments
Vegcode	Vegtype	MajVegCom	Dom_spp	Subdom_spp	Other_spp	MoOtherspp	Favenviron
213	New England Blackbutt Open Forest	Sclerophyll Open Forests on Bedrock Substrates	New England Blackbutt (<i>E. andrewsii</i> ssp. <i>campanulata</i>)	Grey Gum (<i>E. propinqua</i>), White Mahogany (<i>E. acmenoides</i>), Blackbutt (<i>E. pilularis</i>), Tallowwood (<i>E. microcorys</i>), Sydney Blue Gum (<i>E. saligna</i>), Blue Mountains Ash (<i>E. oreades</i>), Scribbly Gum (<i>E. racemosa</i>), Brush Box (<i>Lophostemon confertus</i>), Turpentine (<i>Syncarpia glomulifera</i> subsp. <i>glomulifera</i>), Thin-leaved Stringybark (<i>E. eugenoides</i>) and White-topped Box (<i>E. quadrangulata</i>).	Red Bloodwood (<i>C. gummifera</i>), Queensland White Stringybark (<i>E. tindaliae</i>), Roughbark Apple (<i>Angophora floribunda</i>), Forest She-oak (<i>A. torulosa</i>), Blackwood Wattle (<i>A. melanoxylon</i>), Nightcap Wattle (<i>A. orites</i>), Rose-leaf Marara (<i>Calcoluvia paniculosa</i>), Blueberry Ash (<i>Elaeocarpus reticulatus</i>), Bolly gum (<i>Litsea reticulata</i>), Hill Kanuka (<i>Tristaniaopsis laurina</i>), Tree-heath (<i>Trochocarpa laurina</i>), She-oaks (<i>Allocasuarina</i> spp.), Woolly Tea-tree (<i>Leptospermum lanigerum</i>), <i>Leptospermum</i> species, <i>Quintinia</i> spp., Grass Tree (<i>Xanthorrhoea</i> sp. aff. <i>X. media</i>), <i>Hibbertia hexandra</i> , Elderberry Panax (<i>Polyscias sambucifolius</i>), Rough Tree Fern (<i>Cyathea australis</i>), Gristle Fern (<i>Blechnum cartilagineum</i>). Significant spp. Nightcap Wattle (<i>A. orites</i>), <i>Gahnia insignis</i> , <i>Hibbertia hexandra</i> , Large-leaved Wonga Vine (<i>Pandorea baileyana</i>) and <i>Rulingia salviolia</i> .	Snow Grass (<i>Poa sieberiana</i>), Wiry Ricegrass (<i>Tetrarrhena juncea</i>), <i>Dianella caerulea</i> , <i>Gahnia insignis</i> , Dogwood (<i>Jacksonia scoparia</i>), Fern-leaved Lomatia (<i>Lomatia silaifolia</i>), <i>Oxylobium ilicifolium</i> , Five-leaf Water Vine (<i>Cissus hypoglauca</i>), Headache Vine (<i>Clematis glycinoides</i>), Austral Sarsaparilla (<i>Smilax australis</i>)	This type varies from a wet sclerophyll forest to 55m to dry sclerophyll forest less than 25m and tends to replace the Grey Gum – Ironbark league as the vegetation of shallow-sloped ridges in generally moist, but higher altitude, sites in northern NSW.
301	Coastal Pink Bloodwood Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Pink Bloodwood (<i>Corymbia intermedia</i>), Brush Box (<i>Lophostemon confertus</i>), Swamp Turpentine (<i>Lophostemon suaveolens</i>), Forest Red Gum (<i>Eucalyptus tereticornis</i>), Swamp Mahogany (<i>Eucalyptus robusta</i>), <i>Acacia melanoxylon</i> , <i>Corymbia intermedia</i> , <i>Allocasuarina littoralis</i> , <i>Banksia integrifolia</i> , <i>Lophostemon suaveolens</i> , <i>Casuarina glauca</i> , <i>Callitris columnaris</i>	Scribbly Gum (<i>Eucalyptus racemosa</i>), Broad-leaved Paperbark (<i>M. quinquenervia</i>), <i>Lophostemon suaveolens</i> , <i>Banksia aemula</i> , <i>Allocasuarina littoralis</i> , <i>Syzygium oleosum</i> , <i>Acronychia imperforata</i>	<i>Chrysanthemum monilifera</i> , <i>Melinis minutiflora</i> , <i>Imperata cylindrica</i> , <i>Pteridium esculentum</i> , <i>Dodonaea triquetra</i> , <i>Restio tetraphyllus</i> , <i>Imperata cylindrica</i> , <i>Calochlaena dubia</i> , <i>Austromyrtus dulcis</i> , <i>Gahnia darkei</i> , <i>Restio tetraphyllus</i> , <i>Lomandra longifolia</i> , <i>Avicennia marina</i> , <i>Aegicera comiculatum</i> , <i>Acrostichum speciosum</i>	Occurs as a wet or dry sclerophyll open forest to woodland on relatively fertile sand substrates in estuarine areas, on Quaternary coastal dunes and beaches and on sand islands.	
302	Coastal Pink Bloodwood / Brush Box Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	<i>Corymbia intermedia</i> , <i>Lophostemon confertus</i>	<i>Acacia aulacocarpa</i>	<i>Dodonaea triquetra</i> , <i>Austromyrtus dulcis</i> , <i>Pteridium esculentum</i> , <i>Restio tetraphyllus</i> , <i>Acacia ulicifolia</i> , <i>Leucopogon lanceolatus</i> , <i>Acacia aulacocarpa</i>	Occurs as a wet or dry sclerophyll open forest to woodland on relatively fertile sand substrates in estuarine areas, on Quaternary coastal dunes and beaches and on sand islands.	
303	Coastal Brush Box Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	<i>Lophostemon confertus</i> , <i>Melaleuca quinquenervia</i> , <i>Eucalyptus intermedia</i> , <i>Acacia melanoxylon</i> , <i>Lophostemon suaveolens</i> , <i>Ficus macrophylla</i> , <i>Archontophoenix cunninghamiana</i> , <i>Eucalyptus robusta</i> , <i>Tristaniaopsis laurina</i> , <i>Eucalyptus siderophloia</i> , <i>Glochidion sumatranum</i> , <i>Casuarina glauca</i> , Rainforest spp.	<i>Allocasuarina littoralis</i> , <i>Lophostemon suaveolens</i> , <i>Melaleuca quinquenervia</i> , <i>Eucalyptus pilularis</i> , <i>E. microcorys</i> , <i>E. intermedia</i> , <i>E. siderophloia</i> , <i>E. propinqua</i> , <i>Casuarina glauca</i>	<i>Entolasia marginata</i> , <i>Hypolepis muelleri</i> , <i>Leptospermum polygalifolia</i> , <i>Monotoca elliptica</i> , <i>Leucopogon ericoides</i> , <i>Banksia aemula</i> , <i>Restio tetraphyllus</i> , <i>Gahnia darkei</i> , <i>Lomandra longifolia</i> , <i>Austromyrtus dulcis</i> , <i>Pteridium esculentum</i> , <i>Calochlaena dubia</i> , <i>Lantana camara</i> , <i>Imperata cylindrica</i> , <i>Digitaria didactyla</i> , <i>Acacia ulicifolia</i> , <i>Lomandra longifolia</i> , <i>Acronychia littoralis</i> , <i>Araucaria cunninghamii</i>	Occurs as a wet sclerophyll open forest to woodland on Pleistocene barrier sands of marine-aeolian origin but also extends onto sheltered bedrock slopes.	
304	Coastal Forest Red Gum Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Forest Red Gum (<i>E. tereticornis</i>), Swamp Sheoak (<i>Casuarina glauca</i>), Broad-leaved Paperbark (<i>Melaleuca quinquenervia</i>), <i>Araucaria cunninghamiana</i> , <i>Corymbia intermedia</i> , <i>Lophostemon suaveolens</i>	Swamp Mahogany (<i>E. robusta</i>), Swamp Turpentine (<i>L. suaveolens</i>), Swamp Sheoak (<i>C. glauca</i>), Pink Bloodwood (<i>Corymbia intermedia</i>), Brushbox (<i>L. confertus</i>), Forest Red Gum (<i>E.tereticornis</i>), <i>Cupaniopsis anacardioides</i>	<i>Pteridium esculentum</i> , <i>Imperata cylindrica</i> , <i>Personia adenantha</i> , <i>Panicum simile</i> , <i>Avicennia marina</i> , <i>Aegiceras comiculatum</i> , <i>Excoecaria gallocha</i> , <i>Bruguiera gymnorhiza</i> , <i>Hibiscus tiliaceus</i> , <i>Myoporum acuminatum</i>	Forms a sclerophyll open forest to woodland on poorly drained heavy soil flats of estuarine origin, occasionally extending onto headlands.	
305	Coastal Swamp Mahogany Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Swamp Mahogany (<i>E. robusta</i>), Swamp Turpentine (<i>L. suaveolens</i>), Tallowwood (<i>Eucalyptus microcorys</i>), Brush Box (<i>L. confertus</i>), <i>Corymbia intermedia</i> , <i>Eucalyptus resinifera</i> . (may include hybrid form of <i>E. robusta</i> , x <i>E. patentinervis</i>)	Pink Bloodwood (<i>C. intermedia</i>), Brush Box (<i>L. confertus</i>), Swamp Turpentine (<i>L. suaveolens</i>), Forest Red Gum (<i>E. tereticornis</i>), Swamp Mahogany (<i>E. robusta</i>), Broad-leaved Paperbark (<i>M. quinquenervia</i>), <i>Eucalyptus racemosa</i> , <i>Eucalyptus gummifera</i> , <i>Callistemon salignus</i>	<i>Leptospermum polygalifolia</i> , <i>Leptospermum whitei</i> , <i>Leptospermum liversidgei</i> , <i>Blechnum indicum</i> , <i>Hypolepis muelleri</i> , <i>Gahnia darkei</i> , <i>Restio tetraphyllus</i> , <i>Pteridium esculentum</i> , <i>Lygodium microphyllum</i> , <i>Xanthorrhoea fulva</i> , <i>Cyclosorus interruptus</i> , <i>Gleichenia dicarpa</i> , <i>Cynodon dactylon</i> , <i>Digitaria ciliaris</i> , <i>Ischaemum australe</i> , <i>Acacia maidenii</i> , <i>Baeckea stenophylla</i> , <i>Banksia robur</i> , <i>Oxylobium robustum</i> , <i>Elaeocarpus reticulatus</i> , <i>Pultenea villosa</i> , <i>Austromyrtus dulcis</i> , <i>Calochlaena dubia</i> , <i>Sticherus lobatus</i> , <i>Hypolepis muelleri</i> , <i>Setaria sphacelata</i> , <i>Entolasia stricta</i> , <i>Ottocloa gracillima</i> , <i>Schoenus brevifolius</i> , <i>Digitaria didactyla</i> , <i>Leptocarpus tenax</i> , <i>Banksia oblongifolia</i> , <i>Melaleuca thymifolia</i> , <i>Leptospermum trinervium</i> , <i>Monotoca elliptica</i> , <i>Monotoca scoparia</i>	Occurs as an open to closed swamp sclerophyll forest to woodland at low level sites on heavy, poorly drained waterlogged sands and alluvium near the coast that are subject to periods of increased brackishness, it can also be occasionally found further inland.	
306	Coastal Scribbly Gum Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Scribbly Gum (<i>E. racemosa</i>), Swamp Turpentine (<i>L. suaveolens</i>), Swamp Mahogany (<i>E. robusta</i>), <i>Banksia aemula</i> , <i>Lophostemon confertus</i> , <i>Eucalyptus resinifera</i> , <i>Eucalyptus gummifera</i> , <i>Melaleuca quinquenervia</i>	Pink Bloodwood (<i>C. intermedia</i>), Brush Box (<i>L. confertus</i>), Swamp Turpentine (<i>L. suaveolens</i>), Forest Red Gum (<i>E. tereticornis</i>), Swamp Mahogany (<i>E. robusta</i>), <i>Eucalyptus racemosa</i> , <i>Melaleuca quinquenervia</i>	<i>Leptospermum whitei</i> , <i>Leptospermum polygalifolia</i> , <i>Banksia ericifolia</i> , <i>Banksia oblongifolia</i> , <i>Banksia aemula</i> , <i>Leptospermum trinervium</i> , <i>Lomandra longifolia</i> , <i>Pteridium esculentum</i> , <i>Imperata cylindrica</i> , <i>Baeckea stenophylla</i> , <i>Restio tetraphyllus</i> , <i>Acacia aulacocarpa</i> , <i>Oxylobium robustum</i> , <i>Gahnia darkei</i>	Forms as a sclerophyll open forest to woodland on poorly drained Pleistocene barrier sands of marine-aeolian origin with low fertility.	
307	Coastal Blackbutt Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	<i>Eucalyptus pilularis</i> , <i>Corymbia intermedia</i> , <i>Lophostemon confertus</i> , <i>Melaleuca quinquenervia</i> , <i>Lophostemon suaveolens</i> ,	<i>Allocasuarina littoralis</i> , <i>Corymbia intermedia</i> , <i>Lophostemon suaveolens</i> , <i>Eucalyptus microcorys</i>	<i>Themeda australis</i> , <i>Imperata cylindrica</i> , <i>Pteridium esculentum</i> , <i>Calochlaena dubia</i> , <i>Rhynchospora composita</i> , <i>Blechnum indicum</i> and <i>Leprionia articulata</i>	It has a scattered coastal distribution, occurring on freely draining Pleistocene barrier sands of marine-aeolian origin.	
308	Coastal Tallowwood Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	<i>Eucalyptus microcorys</i> , <i>Eucalyptus robusta</i> , <i>Eucalyptus pilularis</i>	<i>Melaleuca quinquenervia</i> , <i>Corymbia intermedia</i> , <i>Casuarina glauca</i> , <i>Lophostemon confertus</i>	<i>Pteridium esculentum</i> , <i>Calochlaena dubia</i> , <i>Imperata cylindrica</i> , <i>Baumea juncea</i>	Forms as an open forest to woodland on sand substrates.	

Vegetation Types - Floristic Composition							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Dominant or Co-dominant Species	Sub-dominant or Locally Dominant Species	Other Species	More Other Species	Favoured Environment and Comments
Vegcode	Vegtype	MajVegCom	Dom_spp	Subdom_spp	Other_spp	MoOtherspp	Favenviron
309	Coastal Swamp Box Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Lophostemon suaveolens, Melaleuca quinquenervia, Casuarina glauca, Banksia integrifolia, Eucalyptus robusta, Eucalyptus intermedia, Eucalyptus tereticornis, Acacia aulacocarpa, Euroschinus falcata,	Melaleuca quinquenervia, Lophostemon confertus, Casuarina glauca, Eucalyptus intermedia, Eucalyptus tereticornis, Allocasuarina littoralis, Elaeocarpus reticulatus, Eucalyptus robusta, Callistemon salignus, Acacia aulacocarpa, Acacia concurrens, Lophostemon suaveolens, Lophostemon confertus	Imperata cylindrica, Themeda australis, Pteridium esculentum, Schoenus brevifolius, Baumea rubiginosa, B. juncea, Ischaemum australe, Blechnum indicum, Banksia robur, B. ericifolia, Restio tetraphyllus, Leptospermum liversidgei, L. juniperinum, L. polygalifolia, L. whitei, Lepironia articulata, Pultenea villosa, Lomandra longifolia, Axonopus affinis, A. compressus, Ottochloa gracillima, Entolasia stricta, E. marginata, Panicum simile, Calochloa dubia, Austromyrtus dulcis, Digitaria didactyla, D. ciliaris, Setaria sphacelata, Xanthorrhoea fulva, Gahnia clarkei, Hemanthra uncinata, Leptocarpus tenax, Melastoma affine, Glochidion ferdinandi, Persoonia adenantha, Paspalum orbiculare, P. urvillei, Eragrostis spp., Cyperus polystachyos, Elaeocarpus reticulatus, Commersonia bartramia, Viola hederacea, Dodonea triquetra, Guioa semiglauc, Syzygium oleosum, Acacia melanoxylon, Omalanthus populifolius, Livistona australis, Derris involuta, Avicennia marina, Aegiceras corniculatum, Erythrina sp., Flindersia bennettiana, Litsea australis		Occurs on Pleistocene backbarrier deposits of estuarine origin.
310	Banksia Dry Sclerophyll Open Forest to Shrubland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Coast banksia (Banksia integrifolia), Casuarina glauca, Hibiscus tiliaceus, Acacia sophorae, Casuarina equisetifolia, Lophostemon confertus, Acacia melanoxylon, Glochidion spp., Callitris columellaris, Acacia aulacocarpa	Broad-leaved apple (Angophora subvelutina), Casuarina equisetifolia, Cupaniopsis anacardioides, Leptospermum laevigatum, Casuarina glauca, Monotoca elliptica, Acronychia imperforata, Alphitonia excelsa, Rhodomyrtus psidioides	Forest Sheoak (Allocasuarina torulosa), Chrysanthemoides monilifera, Baumea juncea, Digitaria didactyla, Leptospermum polygalifolium, Banksia robur, Xanthorrhoea macronema, Acacia sophorae, Ottochloa gracillima?, Conyza bonariensis, Eragrostis interrupta, Zoyzia macrantha, Imperata cylindrica, Digitaria ciliaris, Chloris gayana, Axonopus compressus, Lomandra longifolia, Avicennia marina, Cynanchum carnosum, Suaeda australis, Apium prostratum, Sporobolus indicus, Baumea juncea, Spinifex sericeus, Lepironia articulata.		Forms as an open forest to shrubland on deep sand soils usually within close proximity of the ocean.
311	Coastal Acacia Communities	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Acacia melanoxylon, Acacia saligna, Acacia aulacocarpa, Acacia sophorae, Glochidion sumatranum, Commersonia bartramia, Glochidion ferdinandi, Macaranga tanarius, Banksia integrifolia, Cinnamomum camphora	Melaleuca quinquenervia, Eucalyptus robusta, Corymbia intermedia, Homoranthus virgatus, Conospermum taxifolium, Eragrostis spartinooides, Leptospermum laevigatum, Duboisia myoporoides	Blechnum indicum, Gahnia clarkei, Lygodium microphyllum, Hypolepis muelleri, Dodonea triquetra, Lomandra longifolia, Axonopus communis, Eragrostis spp., Platysace ericoides, Homoranthus virgatus, Digitaria ciliaris, Digitaria didactyla, Eragrostis interrupta, Zoyzia macrantha and introduced species Chrysanthemum monilifera, Lantana camara, Bambusa, Ficus hillei, Archontophoenix alexandrae, Ravenala madagascariensis, Arecastrum romanzoffianum, Dracaena sp and Nephrolepis cordifolia		These coastal complexes have formed on sand substrates.
312	Black She-oak Low Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Allocasuarina littoralis, Eucalyptus intermedia, Lophostemon suaveolens, Leptospermum polygalifolia, Leptospermum laevigatum, Monotoca elliptica, Duboisia myoporoides	Melaleuca quinquenervia, Lophostemon confertus, Eucalyptus intermedia, Banksia aemula, Lophostemon suaveolens	Leptospermum polygalifolia, Leptospermum trinervium, Endiandra sieberi, Lophostemon confertus, Pteridium esculentum, Lomandra longifolia, Dodonea triquetra, Phyllota phycoides, Allocasuarina littoralis, Dodonea triquetra, Pteridium esculentum, Avicennia marina, Aegiceras corniculatum, Ficus watkinsiana, Endiandra discolor.		Develops on sand substrates near the coast and on dry flats and slopes on rhyolite soils and metasediments further inland where it occurs as an understory species in Eucalyptus forest types.
313	Cypress Pine Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	Cypress Pine (Callitris columellaris), Lophostemon suaveolens	Melaleuca quinquenervia, Acronychia imperforata, Halfordia kendack, Lophostemon confertus, Corymbia intermedia, Monotoca elliptica	Gahnia clarkei, Restio tetraphyllus, Digitaria didactyla, Leptospermum polygalifolia, Monotoca elliptica, Callitris columellaris, Lomandra longifolia, Eucalyptus signata, Eucalyptus intermedia, Eucalyptus robusta, Araucaria cunningghamii.		Forms on Pleistocene barrier sands of marine-aeolian origin slightly inland of the littoral zone.

Vegetation Types - Floristic Composition							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Dominant or Co-dominant Species	Sub-dominant or Locally Dominant Species	Other Species	More Other Species	Favoured Environment and Comments
Vegcode	Vegtype	MajVegCom	Dom_spp	Subdom_spp	Other_spp	MoOtherspp	Favenviro
401	Broad-leaved Paperbark Closed Forest to Woodland	Melaleuca and Swamp She-oak Forests	Broad-leaved Paperbark (<i>M. quinquenervia</i>), <i>Eucalyptus tereticornis</i> , <i>E. intermedia</i> , <i>E. pilularis</i> , <i>E. racemosa</i> , <i>E. robusta</i> , <i>Banksia integrifolia</i> , <i>B. aemula</i> , <i>Callistemon salignus</i> , <i>Allocasuarina littoralis</i> , <i>Acacia melanoxylon</i> , <i>A. sophorae</i> , <i>A. concurrens</i> , <i>Leptospermum laevigatum</i> , <i>L. polygalifolia</i> , <i>L. liversidgei</i> , <i>Lophostemon suaveolens</i> , <i>L. confertus</i> , <i>Araucaria cunninghamiana</i> , <i>Archontophoenix cunninghamiana</i> , <i>Melicope eleryana</i> , <i>Ficus spp.</i> , <i>Glochidion sumatranum</i> , <i>G. ferdinandi</i> , <i>Hibiscus tiliaceus</i> , <i>Euroschinus falcata</i> , <i>Mischocarpus pyriformis</i> , Subtropical Rf species, <i>Cinnamomum camphora</i>	Swamp Sheoak (<i>C. glauca</i>), White Bottlebrush (<i>C. salignus</i>), <i>Eucalyptus robusta</i> , <i>E. tereticornis</i> , <i>E. intermedia</i> , <i>E. patentinervis</i> , <i>Lophostemon suaveolens</i> , <i>L. confertus</i> , <i>Banksia integrifolia</i> , <i>B. aemula</i> , <i>Acacia auilacocarpa</i> , <i>Acacia melanoxylon</i> , <i>Allocasuarina littoralis</i> , <i>Callitris columellaris</i> , <i>Archontophoenix cunninghamiana</i> , <i>Planchonella laurifolia</i> , <i>P. chartacea</i> , <i>Livistona australis</i> , <i>Littoral Rf</i> , <i>Monotoca elliptica</i> , <i>Rhodomerytus psidioides</i> , <i>Baccharis halimifolia</i> , <i>Lantana camara</i> , <i>Ficus coronata</i> , <i>Parsorsia straminea</i> , <i>Cyathea cooperi</i> , <i>Commersonia bartramia</i> , <i>Acacia melanoxylon</i> , <i>Symplocos thwaitesii</i> , <i>Acronychia imperforata</i> , <i>Cupaniopsis anacardioides</i> , <i>Hovea acutifolia</i> , <i>Phebalium squameum</i>	<i>Excoecaria agallocha</i> , <i>Avicennia marina</i> , <i>Myoporum acuminatum</i> , <i>Dodonaea triquetra</i> , <i>Pultenea villosa</i> , <i>Baekkea stenophylla</i> , <i>B. stenomera</i> , <i>Homoranthus virgatus</i> , <i>Epacris pulchella</i> , <i>Lantana camara</i> , <i>Senna pendula</i> , <i>Figs (Ficus spp.)</i> , <i>Andropogon virginicus</i> , <i>Axonopus communis</i> , <i>A. compressus</i> , <i>Paspalum orbiculare</i> , <i>P. notatum</i> , <i>P. conjugatum</i> , <i>P. wetsteinii</i> , <i>Pteridium esculentum</i> , <i>Blechnum indicum</i> , <i>B. camfieldii</i> , <i>Gahnia clarkii</i> , <i>G. sieberiana</i> , <i>Lygodium microphyllum</i> , <i>L. scandens</i> , <i>Entolasia marginata</i> , <i>Todea barbara</i> , <i>Hypolepis muelleri</i> , <i>Cyclosorus interruptus</i> , <i>Ischaemum australe</i> , <i>Histiopteris incisa</i> , <i>Typha orientalis</i> , <i>Baumea juncea</i> , <i>B. articulata</i> , <i>B. rubiginosa</i> , <i>Carex appressa</i> , <i>C. maculata</i> , <i>Erydra fluitans</i> , <i>Zoysia macrantha</i> , <i>Fimbristylis ferruginea</i> , <i>Triglochin striata</i> , <i>Digitaria didactyla</i> , <i>Digitaria ciliaris</i> , <i>Homoranthus virgatus</i> , <i>Cynodon dactylon</i> , <i>Stephania japonica</i> , <i>Phragmites australis</i> , <i>Cladium procerum</i> , <i>Lepironia articulata</i> , <i>Cyperus lucidus</i> , <i>Rhynchospora corymbosa</i> , <i>Leersia hexandra</i> , <i>Schoenus brevifolius</i> , <i>Imperata cylindrica</i> , <i>Themeda australis</i> , <i>Eragrostis species</i> , <i>Nymphaea capensis</i>	<i>Triglochin procerum</i> , <i>Urochloa mutica</i> , <i>Persicaria strigosum</i> , <i>Lepyrodia interrupta</i> , <i>Conospermum taxifolium</i> , <i>Eleocharis species</i> , <i>Setaria sphaeclata</i> , <i>Ageratina adenantha</i> , <i>Caustis recurvata</i> , <i>Restio pallens</i> , <i>R. tetraphyllum</i> , <i>Panicum simile</i> , <i>Aristida acuta</i> , <i>Leucopogon lanceolatus</i> , <i>L. ericoides</i> , <i>Austromyrtus dulcis</i> , <i>Sacciolepis indica</i> , <i>Juncus kraussii</i> , <i>Leptocarpus tenax</i> , <i>Bacopa monnieri</i> , <i>Paspalidium disjunctum</i> , <i>Viola hereracea</i> , <i>Xanthorrhoea fulva</i> , <i>Gleichenia dicarpa</i> , <i>Lycopodium cernuum</i> , <i>Lomandra longifolia</i> , <i>Brachyoloma daphnoides</i> , <i>Calochlaena dubia</i> , <i>Entolasia striata</i> , <i>Ottochloa gracillima</i> , <i>Chrysanthemum monillifera</i>	Occurring in low-lying waterlogged saline depressions, often on Pleistocene sandplains and riverine and estuarine alluvium of moderate fertility.
402	Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland	Melaleuca and Swamp She-oak Forests	Broad-leaved Paperbark (<i>M. quinquenervia</i>) and Swamp Sheoak (<i>C. glauca</i>), <i>Excoecaria agallocha</i> , <i>Eucalyptus tereticornis</i> , <i>Banksia integrifolia</i> , <i>Lophostemon suaveolens</i> , <i>Eucalyptus robusta</i>	White Bottlebrush (<i>Callistemon salignus</i>), Moreton Bay Fig (<i>Ficus macrophylla</i>), <i>Eucalyptus tereticornis</i> , <i>Eucalyptus robusta</i> , <i>Lophostemon suaveolens</i> , <i>Banksia integrifolia</i> , <i>Cupaniopsis anacardioides</i> , <i>Exocarpos latifolius</i> , <i>Alectryon coriaceus</i> , <i>Archontophoenix cunninghamiana</i> , <i>Flagellaria indica</i> , <i>Duboisia myoporoides</i> , <i>Elaeocharis reticulata</i> , <i>Melicope eleryana</i> , <i>Avicennia marina</i> , <i>Polyscias elegans</i> , <i>Symplocos thwaitesii</i> , <i>Acrotiche aggregata</i> , <i>Acronychia imperforata</i> , <i>Lophostemon confertus</i>	<i>Acrostichum speciosum</i> , <i>Baumea juncea</i> , <i>Paspalum wetsteinii</i> , <i>Phragmites australis</i> , <i>Glochidion sumatranum</i> , <i>Macaranga tanarius</i> , <i>Eleocharis species</i> , <i>Cyclosorus interruptus</i> , <i>Typha orientalis</i> , <i>Blechnum indicum</i> , <i>Cupaniopsis anacardioides</i> , <i>Acronychia imperforata</i> , <i>Chrysanthemoides monillifera</i> , <i>Juncus kraussii</i> , <i>Sporobolus virginicus</i> , <i>Ischaemum australe</i> , <i>Schoenus brevifolius</i> , <i>Imperata cylindrica</i> , <i>Eragrostis species</i> , <i>Cinnamomum camphora</i> , <i>Lantana camara</i> , <i>Scheffera actinophylla</i> , <i>Baccharis halimifolia</i> , <i>Zoysia macrantha</i> , <i>Bacopa monnieri</i> , <i>Hypolepis muelleri</i> , <i>Carex appressa</i> , <i>Hydrocotyle bonanensis</i> , <i>Erydra fluitans</i> , <i>Paspalidium disjunctum</i> , <i>Paspalum notatum</i> , <i>P. orbiculare</i> , <i>P. conjugatum</i> , <i>Aristida sp.</i> , <i>Themeda australis</i> , <i>Panicum simile</i> , <i>Hemarthria uncinata</i> , <i>Leptospermum polygalifolia</i> , <i>Imperata cylindrica</i> , <i>Pteridium esculentum</i> , <i>Setaria sphaeclata</i> , <i>Axonopus compressus</i> , <i>Entolasia marginata</i> , <i>Cynanchum carnosum</i> , <i>Pultenea villosa</i> , <i>Triglochin striata</i> , <i>Nymphaea capensis</i> , <i>Schoenoplectus littoralis</i> , <i>Digitaria didactyla</i>		Occurring on wet sands and alluvium, in swamps and around the margins of brackish water bodies.
403	Broad-leaved Paperbark + Eucalyptus spp. +/- Swamp Box Closed Forest to Woodland	Melaleuca and Swamp She-oak Forests	Broad-leaved Paperbark (<i>M. quinquenervia</i>), Swamp Turpentine (<i>L. suaveolens</i>), Swamp Sheoak (<i>C. glauca</i>), Swamp Mahogany (<i>E. robusta</i>), Forest Red Gum (<i>E. tereticornis</i>), <i>Eucalyptus intermedia</i> , <i>Lophostemon confertus</i> , <i>Baekkea stenomera</i> , <i>Acacia auilacocarpa</i> , <i>Acronychia imperforata</i> , <i>Callitris columellaris</i> , <i>Pinus elliptica</i>	Swamp Turpentine (<i>L. suaveolens</i>), Swamp Mahogany (<i>E. robusta</i>), Scribbly Gum (<i>E. racemosa</i>), Swamp Sheoak (<i>C. glauca</i>), Broad-leaved Paperbark (<i>M. quinquenervia</i>), Forest Red Gum (<i>E. tereticornis</i>), <i>E. intermedia</i> , <i>Acacia melanoxylon</i> , <i>Allocasuarina littoralis</i> , <i>Leptospermum polygalifolia</i>	<i>Weeping Lilly-pilly (W. floribunda)</i> , White Bottlebrush (<i>C. salignus</i>), <i>Tallowood (E. microcorys)</i> , <i>Pink Bloodwood (C. intermedia)</i> , <i>Blechnum indicum</i> , <i>B. camfieldii</i> , <i>Hypolepis muelleri</i> , <i>Todea barbara</i> , <i>Pteridium esculentum</i> , <i>Ischaemum australe</i> , <i>Andropogon virginicus</i> , <i>Axonopus communis</i> , <i>Imperata cylindrica</i> , <i>Themeda australis</i> , <i>Restio tetraphyllum</i> , <i>R. pallens</i> , <i>Gahnia clarkii</i> , <i>Leptospermum polygalifolia</i> , <i>L. whitei</i> , <i>L. liversidgei</i> , <i>Lepironia articulata</i> , <i>Baumea rubiginosa</i> , <i>Elaeocarpus reticulatus</i> , <i>Pultenea villosa</i> , <i>Paspalum orbiculare</i> , <i>P. notatum</i> , <i>Leucopogon lanceolatus</i> , <i>Austromyrtus dulcis</i> , <i>Leptocarpus tenax</i> , <i>Schoenus brevifolius</i> , <i>Selaginella uliginosa</i> , <i>Banksia robur</i> , <i>Sacciolepis indica</i> , <i>Hemarthria uncinata</i> , <i>Daviesia arborea</i> , <i>Euroschinus falcata</i> , <i>Callitris columellaris</i> , <i>Archirodomyrtus beckleri</i> , <i>Acronychia imperforata</i> , <i>Banksia aemula</i> , <i>Avicennia marina</i> , <i>Aegiceras corniculatum</i> , <i>Aristida acuta</i>		Occurring on wet sands and alluvium, in swamps and around the margins of brackish water bodies and on low-lying waterlogged saline depressions, often on Pleistocene sandplains and riverine and estuarine areas of moderate fertility.

Vegetation Types - Floristic Composition							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Dominant or Co-dominant Species	Sub-dominant or Locally Dominant Species	Other Species	More Other Species	Favoured Environment and Comments
Vegcode	Vegtype	MajVegCom	Dom_spp	Subdom_spp	Other_spp	MoOtherspp	Favenviron
601	Swamp She-oak Closed Forest to Woodland	Melaleuca and Swamp She-oak Forests	Swamp Sheoak (<i>Casuarina glauca</i>), <i>Avicennia marina</i> , <i>Excoecaria agallocha</i> , <i>Bruguiera gymnorhiza</i> , <i>Hibiscus tiliaceus</i> , <i>Glochidion ferdinandii</i> , <i>G.sumatranum</i> , <i>Banksia integrifolia</i> , <i>Callistemon salignus</i> , <i>Acacia melanoxylon</i> , <i>Acronychia littoralis</i> , <i>Eucalyptus robusta</i> , <i>E. teriticornis</i> , <i>E. intermedia</i> , <i>Cinnamomum camphora</i> , <i>Lophostemon suaveolens</i> , <i>L. confertus</i> , <i>Symplocos thwaitesii</i> , <i>Alphitonia excelsa</i> , <i>Glochidion ferdinandi</i> , <i>Litsea australis</i>	Broad-leaved Paperbark (<i>M. quinquevenaria</i>), Weeping Lilly-pilly (<i>W. floribunda</i>), Plum Pine (<i>Podocarpus elatus</i>), Grey Mangrove (<i>Avicennia marina</i>), River Mangrove (<i>Aegiceras corniculatum</i>), <i>Acacia aulacocarpa</i> , <i>Excoecaria agallocha</i> , <i>Bruguiera gymnorhiza</i> , <i>Hibiscus tiliaceus</i> , <i>Cupaniopsis anacardioides</i> , <i>Callistemon salignus</i> , <i>Eucalyptus robusta</i> , <i>E. teriticornis</i> , <i>E. intermedia</i> , <i>Cinnamomum camphora</i> , <i>Lophostemon suaveolens</i> , <i>Senna pendula</i> , <i>Duboisia myoporoides</i> , <i>Banksia integrifolia</i> , <i>Alphitonia excelsa</i> , <i>Acronychia imperforata</i> , <i>Litsea australis</i> , <i>Polyscias elegans</i> , <i>Excocarpus latifolius</i> , <i>Melicope elleryana</i> , <i>Littoral</i> and other <i>R.f. spp.</i> ,	<i>Cupaniopsis anacardioides</i> , <i>Juncus kraussii</i> , <i>J. usitatus</i> , <i>J. polyanthemus</i> , <i>J. continuus</i> , <i>Fimbristylis ferruginea</i> , <i>Sporobolus virginicus</i> , <i>Viola hederacea</i> , <i>Digitaria didactyla</i> , <i>Phragmites australis</i> , <i>Bacopa monnieri</i> , <i>Gahnia clarkii</i> , <i>Hypolepis muelleri</i> , <i>Baumea juncea</i> , <i>Acrostichum speciosum</i> , <i>Clerodendrum inerme</i> , <i>Flagellaria indica</i> , <i>Zoysia macrantha</i> , <i>Eriochloa procerca</i> , <i>Baumea juncea</i> , <i>B. rubiginosa</i> , <i>Acrostichum speciosum</i> , <i>Suaeda australis</i> , <i>Phragmites australis</i> , <i>Sarcocornia quinqueflora</i> , <i>Setaria sphacelata</i> , <i>Panicum maximum</i> , <i>Chrysanthemoides monnifera</i> , <i>Parsonsia straminea</i> , <i>Paspalum conjugatum</i> , <i>P. orbiculare</i> , <i>P. vaginatum</i> , <i>P. westeini</i> , <i>P. notatum</i> , <i>P. urvillei</i> , <i>Ipomoea cairica</i> , <i>Cyperus lucidus</i> , <i>C. polystachyos</i> , <i>Eleocharis species</i> , <i>Erydra fluctans</i> , <i>Baccharis halimifolia</i> , <i>Orinum pedunculatum</i> , <i>Ischaemum australe</i> , <i>Schoenoplectus littoralis</i> , <i>Oplismenus aemulus</i> , <i>O. imbecillis</i> , <i>Ottocloa gracillima</i> , <i>Entolasia stricta</i> , <i>E. marginata</i> , <i>Imperata cylindrica</i> , <i>Axonopus communis</i> , <i>Hypolepis muelleri</i> , <i>Ageratina riparia</i> , <i>Silene gallica</i> , <i>Lepironia articulata</i> , <i>Lantana camara</i> , <i>Hydrocotyle bonariensis</i> , <i>Apium</i>	<i>Urochloa decumbens</i> , <i>Gomphocarpus fruticosus</i> , <i>Andropogon virginicus</i> , <i>Pteridium esculentum</i> , <i>Chloris gayana</i> , <i>Urochloa mutica</i> , <i>Paspalidium distans</i> , <i>Leersia hexandra</i> , <i>Cyclosorus interruptus</i> , <i>Smilax australis</i> , <i>Hemarthria uncinata</i> , <i>Maclura cochinchinensis</i> , <i>Cynanchum carnosum</i> , <i>Cotula species</i> , <i>Blechnum indicum</i>	Develops on Holocene intertidal sediments where soils are saline or sub-saline.
501	Dry Heathland to Shrubland	Heathlands	<i>Banksia aemula</i> , <i>Banksia obongifolia</i> , <i>Homoranthus virgatus</i> , <i>Leptospermum whitei</i> , <i>Leptospermum polygalifolia</i> , <i>Leptospermum trinervium</i> , <i>Aotus ericoides</i> , <i>Baeckea stenophylla</i> , <i>Leucopogon parviflorus</i> , <i>Leucopogon ericoides</i> , <i>Leucopogon leptospermoides</i> , <i>Phyllota phytocoides</i> , <i>Monotoca elliptica</i> , <i>Personna virgata</i> , <i>Allocasuarina littoralis</i> , <i>Leptospermum laevigatum</i> , <i>Banksia integrifolia</i> , <i>Corymbia intermedia</i> , <i>Acacia aulacocarpa</i> , <i>Acacia sophorae</i> , <i>Pteridium esculentum</i> , <i>Dillwynia retorta</i> , <i>Melaleuca quinquevenaria</i>	<i>Corymbia intermedia</i> , <i>Allocasuarina littoralis</i> , <i>Platysace ericoides</i> , <i>Lomandra longifolia</i> , <i>Lomandra elongata</i> , <i>Pteridium esculentum</i> , <i>Austromyrtus dulcis</i> , <i>Acacia ulicifolia</i> , <i>Eragrostis interrupta</i> , <i>Digitaria ciliaris</i> , <i>Digitaria didactyla</i> , <i>Casuarina equisetifolia</i> , <i>Chrysanthemum monnifera</i> , <i>Acacia ulicifolia</i> , <i>Causis recurvata</i>	<i>Melinis minutiflora</i> , <i>Urochloa decumbens</i> , <i>Digitaria didactyla</i> , <i>Ipomoea cairica</i> and <i>Lantana camara</i> , <i>Dodonaea triquetra</i> , <i>Acronychia imperforata</i> , white flowered form of <i>Banksia ericifolia</i> and <i>Melaleuca armillaris</i> , <i>Eucalyptus tereticornis</i> , <i>Avicennia marina</i> , <i>Themeda australis</i> , <i>Spinifex sericeus</i>	Develops on flats of shallow Pleistocene barrier sands of marine-aeolian origin, typically on sand podzol soils of low fertility.	
502	Wet Heathland to Shrubland	Heathlands	<i>Banksia robur</i> , <i>Baeckea stenophylla</i> , <i>Aotus lanigera</i> , <i>Conospermum taxifolium</i> , <i>Leptospermum trinervium</i> , <i>Leptospermum polygalifolia</i> , <i>Leptospermum laevigatum</i> , <i>Leptospermum whitei</i> , <i>Leptospermum liversidgei</i> , <i>Leptospermum juniperinum</i> , <i>Callistemon pachyphyllus</i> , <i>Xanthorrhoea fulva</i> , <i>Aotus ericoides</i> , <i>Gahnia clarkii</i> , <i>Lepyrodia muelleri</i> , <i>Phebalium squameum</i> , <i>Sprengelia interrupta</i> , <i>Leptocarpus tenax</i>	<i>Banksia aemula</i> , <i>Melaleuca quinquevenaria</i> , <i>Leptospermum polygalifolia</i> , <i>Elaeocarpus reticulatus</i>	<i>Melaleuca quinquevenaria</i> , <i>Pinus elliotii</i> , <i>Digitaria didactyla</i> , <i>Axonopus communis</i> , <i>Causis recurvata</i> , <i>Lepyrodia interrupta</i> , <i>Xanthorrhoea fulva</i> , <i>Xanthorrhoea macronema</i> , <i>Restio pallens</i> , <i>Leptocarpus tenax</i> , <i>Eucalyptus robusta</i> , <i>Lepironia articulata</i> , <i>Blechnum indicum</i> , <i>Hypolepis muelleri</i> , <i>Restio tetraphyllus</i> , <i>Gahnia clarkii</i> , <i>Lomandra longifolia</i> , <i>Pteridium esculentum</i> , <i>Austromyrtus dulcis</i>	Typically on sand podzol soils of low fertility and poorly drained.	
503	Montane Heathland/Scrub	Heathlands	<i>Blackwood Wattle</i> (<i>A. melanoxylon</i>), <i>Steelhead</i> (<i>Callitris monticola</i>), <i>Slender Beard Orchid</i> (<i>Calochilus gracillimus</i>), <i>Comesperma ericinum</i> form B, <i>Spear Lily</i> (<i>Doryanthes palmeri</i>), <i>Gahnia insignis</i> , <i>Grevillea linsmithii</i> , <i>Leucopogon cicatricatus</i> , <i>Phebalium elatius</i> ssp. <i>beckleri</i> , <i>Pomadouris notata</i> , <i>Thelionema grande</i> , <i>Westringea blakeana</i> , <i>W. sericea</i> and <i>Zeria adenomata</i>		<i>Blue Mountains Mahogany</i> (<i>E. notabilis</i>) and <i>She-oak</i> (<i>Allocasuarina rigida</i>) possible emergents		A closed community of small shrubs up to 2m that usually occur on shallow soils of low fertility on exposed ridgetops
602	Mangrove Open Forest to Woodland	Estuarine Complexes	Grey Mangrove (<i>Avicennia marina</i>), River Mangrove (<i>Aegiceras corniculatum</i>), Salt Marsh (<i>Sarcocornia quinqueflora</i>), <i>Sapphire Meadow</i> (<i>Suaeda australis</i>), Salt Grass (<i>Sporobolus virginicus</i>), <i>Casuarina glauca</i> , <i>Rhizophora stylosa</i> , <i>Bruguiera gymnorhiza</i> , <i>Excoecaria agallocha</i> , <i>Hibiscus tiliaceus</i> , <i>Callistemon salignus</i> ,	<i>Tuckeroo</i> (<i>Cupaniopsis anacardioides</i>), <i>Swamp Sheoak</i> (<i>C. glauca</i>), <i>Bruguiera gymnorhiza</i> , <i>Cynanchum carnosum</i> , <i>Rhizophora stylosa</i> ,	<i>Cotton Tree</i> (<i>Hibiscus tiliaceus</i>), <i>Acrostichum speciosum</i> , <i>Juncus kraussii</i> , <i>Cyperus laevigatus</i> , <i>Sporobolus virginicus</i>		In tidal estuaries on mud banks of the intertidal zone.
603	Saltmarsh Communities	Estuarine Complexes	<i>Sporobolus virginicus</i> , <i>Sarcocornia quinqueflora</i> , <i>Bacopa monnieri</i> , <i>Phragmites australis</i> , <i>Fimbristylis ferruginea</i> , <i>Suaeda australis</i> , <i>Juncus kraussii</i> , <i>Eriochloa procerca</i> , <i>Zoysia macrantha</i> , <i>Baumea juncea</i> , <i>Triglochin striata</i>	<i>Schoenoplectus validus</i> , <i>Phragmites australis</i> , <i>Ischaemum triticeum</i> , <i>Sporobolus indicus</i> , <i>Isolepis nodosa</i> , <i>Capillidedium spicigerum</i> .	<i>Hibiscus tiliaceus</i> , <i>Flagellaria indica</i> , <i>Cupaniopsis anacardioides</i> , <i>Eriochloa procerca</i> , <i>Banksia integrifolia</i> , <i>Acacia sophorae</i> , <i>Chrysanthemoides monnifera</i> , <i>Casuarina glauca</i> , <i>Schinus terebinthifolia</i> , <i>Ipomoea cairica</i> , <i>Baccharis halimifolia</i> , <i>Acrostichum speciosum</i> , <i>Excoecaria agallocha</i> , <i>Baumea juncea</i>		On interbedded estuarine sediments.
701	Sedgeland / Rushland (Murray & James 1998 Study Area Only)	Sedgelands and Related Communities	<i>Baumea rubiginosa</i> , <i>Eleocharis equisetina</i> , <i>Restio tetraphyllus</i> , <i>Gahnia clarkii</i> , <i>Gahnia sieberiana</i> , <i>Xanthorrhoea fulva</i> , <i>Cyperus lucidus</i> , <i>Ischaemum australe</i> , <i>Cladium procerum</i> , <i>Schoenoplectus littoralis</i> , <i>Juncus kraussii</i> , <i>Baumea juncea</i> , <i>Phragmites australis</i> , <i>Juncus usitatus</i> , <i>Fimbristylis ferruginea</i> , <i>Digitaria didactyla</i> , <i>Rhyncospora corymbosa</i> , <i>Typha orientalis</i> , <i>Urochloa mutica</i> , <i>Bacopa monnieri</i> , <i>Lepironia articulata</i> , <i>Sporobolus virginicus</i> , <i>Blechnum indicum</i> , <i>Axonopus communis</i> , <i>Triglochin striata</i> , <i>Setaria sphacelata</i> , <i>Typha spp.</i> ,	<i>Casuarina glauca</i> , <i>Avicennia marina</i> , <i>Chrysanthemoides monnifera</i> , <i>Baumea rubiginosa</i> , <i>Lygodium microphyllum</i> , <i>Blechnum indicum</i> , <i>Leptocarpus tenax</i> , <i>Philydrium lanuginosum</i> , <i>Paspalum orbiculare</i> , <i>Sacciolepis indica</i> , <i>Axonopus compressus</i> , <i>Zoysia macrantha</i> , <i>Rhyncospora brownii</i> , <i>Fimbristylis nutans</i> , <i>Gahnia clarkii</i> , <i>Hemarthria uncinata</i> , <i>Gleichenia dicarpa</i> , <i>Digitaria didactyla</i> , <i>Acrostichum speciosum</i> ,	<i>Blechnum indicum</i> , <i>Cladium procerum</i> , <i>Schoenoplectus littoralis</i> , <i>Casuarina glauca</i> , <i>Rhyncospora corymbosa</i> , <i>Lepidosperma longitudinale</i> , <i>Philydrium lanuginosum</i> , <i>Nymphaea capensis</i> , <i>Chrysanthemoides monnifera</i> , <i>Avicennia marina</i> , <i>Lygodium microphyllum</i> , <i>Melaleuca quinquevenaria</i>	<i>E1</i> occurs in low-lying open depressions on acid peat soils derived from Pleistocene backbarrier deposits of estuarine origin. <i>E2</i> occurs in open depressions on Holocene tidal delta sand of estuarine origin. Others occur in low-lying open depressions on acid peat soils derived from backbarrier deposits of estuarine origin	

Vegetation Types - Floristic Composition							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Dominant or Co-dominant Species	Sub-dominant or Locally Dominant Species	Other Species	More Other Species	Favoured Environment and Comments
Vegcode	Vegtype	MajVegCom	Dom_spp	Subdom_spp	Other_spp	MoOtherspp	Favenviron
702	Fernland / Forbland (Murray & James 1998 Study Area Only)	Sedgeland and Related Communities	<i>Blechnum indicum</i> , <i>Acrostichum speciosum</i> , <i>Gleichenia dicarpa</i> , <i>Gahnia sieberi</i> , <i>Nymphaea capensis</i> , <i>Typha orientalis</i> , <i>Schoenoplectus littoralis</i> , <i>Phytidium lanuginosum</i> , <i>Baumea rubiginosa</i> , <i>Baumea articulata</i> , <i>Leersia hexandra</i> , <i>Leptonia articulata</i> , <i>Hemarthria uncinata</i> , <i>Phragmites australis</i> , <i>Ischaemum australe</i> , <i>Triglochin procerum</i> (in Pressey and Griffith)	<i>Pteridium esculentum</i> , <i>Histiopteris incisa</i> , <i>Gahnia clarkei</i> , <i>Casuarina glauca</i> , <i>Melaleuca quinquenervia</i> , <i>Imperata cylindrica</i> , <i>Baccharis halimifolia</i>	<i>Casuarina glauca</i> , <i>Melaleuca quinquenervia</i> , <i>Ricinus communis</i> , <i>Setaria sphacelata</i> , <i>Paspalum urvillei</i> , <i>Pennisetum purpureum</i> , <i>Conyza bonariensis</i> , <i>Lepironia articulata</i> , <i>Hemarthria uncinata</i> , <i>Phragmites australis</i> , <i>Ischaemum australe</i> , <i>Restio tetraphyllus</i> , <i>Leersia hexandra</i> , <i>Imperata cylindrica</i> , <i>Baumea rubiginosa</i>		Forblands occur in open depressions on acid peat soils derived from Pleistocene backbarrier deposits of estuarine origin. Fernlands occur in basins of the coastal floodplain on alluvial soils and below the 10-metre contour.
703	Freshwater Wetlands	Sedgeland and Related Communities	<i>Crinum pedunculatum</i> , <i>Phragmites australis</i>		<i>Acrostichum speciosum</i> , <i>Blechnum indicum</i> ?, <i>Doodia aspera</i> ?, <i>Cyperus lucidus</i> ?, <i>Lastreopsis munita</i> ?, <i>Solanum mauritanium</i> , <i>Cassia</i> spp., <i>Acacia melanoxylon</i> , <i>Pinus elliotti</i> , <i>Cinnamomum camphora</i> , exotic grasses		Occur in basins of the coastal floodplain on alluvial soils and below the 10-metre contour. These basins occasionally or regularly hold water and are not associated with dune formations or significantly influenced by tidal action.
801	Foredune Complex	Foredune Complex	<i>Spinifex sericeus</i> , <i>Carex pumila</i> , <i>Vigna marina</i>				Occur on the exposed foredunes and can occur on exposed parts of dunes further inland.
901	Rock Faces	Miscellaneous Map Units	Rock Lily (<i>Dendrobium speciosum</i>), Tongue Orchid (<i>D. linguiforme</i>), Pink Rock Orchid (<i>D. kingianum</i>), Spear Lily (<i>Doryanthes palmeri</i>), Grass spp., <i>Plectranthus</i> spp., <i>Peperomia</i> spp. and weed species including Mist Flower (<i>Ageratina riparia</i>)	Sweet Pittosporum (<i>Pittosporum undulatum</i>), Lance Beard-heath (<i>Leucopogon lanceolatus</i>), Tree Heath (<i>Trochocarpa laurina</i>), Cut-leaf Mini Bush (<i>Prostanthera incisa</i>), <i>Xanthorrhoea latifolia</i> subsp. <i>maxima</i> , <i>Acomis acoma</i> , Tall Cassinia (<i>Cassinia compacta</i>), <i>Olearia vagans</i> and Sticky Daisy Bush (<i>Olearia elliptica</i>).			Occur in conjunction with sheet rock formations such as rhyolite and associated with volcanic soils and formations in the ranges.
903	Open Water	Miscellaneous Map Units					
998	Not Assessed	Miscellaneous Map Units					
999	Remnant Vegetation Outside LGA	Miscellaneous Map Units					
902	Native Grasslands (Murray & James 1998 Study Area Only)	Highly Modified / Disturbed	<i>Andropogon virginicus</i> , <i>Imperata cylindrica</i> , <i>Paspalum urvillei</i> , <i>P. notatum</i> , <i>P. urvillei</i> , <i>P. wettsteinii</i> , <i>P. vaginatum</i> , <i>Ischaemum australe</i> , <i>Phragmites australis</i> , <i>Blechnum indicum</i> , <i>Digitaria didactyla</i> , <i>D. ciliaris</i> , <i>Setaria sphacelata</i> , <i>Stenotaphrum secundatum</i> , <i>Eriochloa procerum</i> , <i>Leersia hexandra</i> , <i>Pteridium esculentum</i> , <i>Rhynchelytrum repens</i> , <i>Schoenus brevifolius</i> , <i>Restio pallens</i> , <i>Aristida warburgii</i> , <i>Baumea juncea</i> , <i>Sporobolus virginicus</i> , <i>Zoysia macrantha</i> , <i>Axonopus communis</i> , <i>Juncus kraussii</i> , <i>Fimbristylis nutans</i> , <i>Selaginella uliginosa</i> , <i>Hemarthria uncinata</i> , <i>Sacciolepis indicus</i> , <i>Urochloa mutica</i> , <i>Cyclosorus interruptus</i> , <i>Panicum simile</i> , <i>Typha orientalis</i>		<i>Lophostemon suaveolens</i> , <i>Banksia integrifolia</i> , <i>Castanospermum australe</i> , <i>Melaleuca quinquenervia</i> , <i>Ficus macrophylla</i> , <i>Casuarina glauca</i> , <i>Avicennia marina</i> , <i>Aegiceras corniculatum</i> , <i>Triglochin procerum</i> , <i>Bacopa monnieri</i> , <i>Baumea juncea</i> , <i>Hibiscus tiliaceus</i> , <i>Eucalyptus</i> spp.		Cleared land that includes urban areas, agricultural use, orchards, etc.
1001	Mowed Heathland (Murray & James 1998 Study Area Only)	Highly Modified / Disturbed	<i>Leucopogon</i> spp., <i>Pteridium esculentum</i> , <i>Leptospermum</i> spp., <i>Callistemon pachyphyllus</i> , <i>Acacia ulicifolia</i> , <i>Caustis recurvata</i>				
1002	Early Regrowth Rainforest	Highly Modified / Disturbed	Blackwood Wattle (<i>A. melanoxylon</i>), <i>Macaranga</i> (<i>Macaranga tanarius</i>), <i>Camphor Laurel</i> (<i>C. camphora</i>), <i>Hickory Wattle</i> (<i>A. aulacocarpa</i>), <i>Brush Box</i> (<i>L. confertus</i>), <i>Lantana</i> (<i>L. camara</i>), <i>Mollasses Grass</i> (<i>Melinis minutiflora</i>), <i>Blady Grass</i> (<i>Imperata cylindrica</i>), <i>Crofton Weed</i> (<i>Eupatorium adenophorum</i>), <i>Mist Weed</i> (<i>Eupatorium riparium</i>), <i>Wild Tobacco</i> (<i>Solanum mauritanium</i>), <i>Ficus coronata</i> , <i>Glochidion sumatranum</i> , <i>Elaeocarpus obovatus</i> , <i>Commersonia bartramia</i> , <i>Glochidion ferdinandii</i> , <i>Melaleuca quinquenervia</i> , <i>Jagera pseudorhus</i>	<i>Straw Treefern</i> (<i>C. cooperi</i>), <i>Cheese tree</i> (<i>G. ferdinandii</i>), <i>Guloo</i> (<i>G. semiglaucum</i>), <i>Rough-leaved Elm</i> (<i>A. philippensis</i>), <i>Red Kamala</i> (<i>M. philippensis</i>), <i>Cudgerie</i> (<i>F. schottiana</i>), <i>Foambark</i> (<i>J. pseudorhus</i>), <i>Blue Quandong</i> (<i>E. angustifolius</i>), <i>White Fig</i> (<i>F. virens</i>), <i>Red Ash</i> (<i>A. excelsa</i>), <i>Bleeding Heart</i> (<i>Omalanthus populifolius</i>), <i>White Nettle</i> (<i>Pipturus argenteus</i>), <i>Brown Kurrajong</i> (<i>C. bartramia</i>), <i>occas</i> , <i>Euc. spp.</i> , <i>Slash Pine</i> (<i>P. elliottii</i>), <i>Senna/Cassia</i> spp., <i>Jacaranda</i> (<i>Jacaranda mimosifolia</i>), <i>Rhodomyrtus psidiodes pseudorhus</i>	<i>Lantana camara</i> , <i>Digitaria didactyla</i> , <i>Eragrostis</i> species, <i>Casuarina glauca</i>		Early succession rainforest species that occur on soils of better fertility often where rainforest has been cleared.
1003	Acacia / Other Sclerophyll Regrowth Open Forest to Woodland	Highly Modified / Disturbed	Blackwood Wattle (<i>A. melanoxylon</i>), <i>Hickory Wattle</i> (<i>A. aulacocarpa</i>), <i>Macaranga</i> (<i>M. tanarius</i>), <i>Camphor Laurel</i> (<i>C. camphora</i>),	<i>Flooded Gum</i> (<i>E. grandis</i>), <i>Tallowwood</i> (<i>E. microcoris</i>), <i>Brush Box</i> (<i>L. confertus</i>), <i>Pink Bloodwood</i> (<i>C. intermedia</i>), <i>Sydney Blue Gum</i> (<i>E. saligna</i>), <i>Forest Red Gum</i> (<i>E. tereticornis</i>), <i>Grey Ironbark</i> (<i>E. siderophloia</i>), <i>Bracken Fern</i> (<i>Pteridium esculentum</i>), <i>weed spp.</i> , <i>Lantana</i> (<i>L. camara</i>), <i>Sweet Pittosporum</i> (<i>P. undulatum</i>),	<i>Golden Pea</i> (<i>D. arborea</i>), <i>Slash Pine</i> (<i>P. elliottii</i>),		Regeneration sclerophyll species that may include some rainforest species generally occurring adjacent to areas of existing sclerophyll forest or where soils and aspect favour sclerophyll development.

Vegetation Types - Floristic Composition							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Dominant or Co-dominant Species	Sub-dominant or Locally Dominant Species	Other Species	More Other Species	Favoured Environment and Comments
Vegcode	Vegtype	MajVegCom	Dom_spp	Subdom_spp	Other_spp	MoOtherspp	Favenvirom
1004	Camphor Laurel Dominant Closed to Open Forest	Highly Modified / Disturbed	Camphor Laurel (<i>Cinnamomum camphora</i>), Blackwood Wattle (<i>A. melanoxylon</i>), Brush Box (<i>L. confertus</i>), Broad-leaved Paperbark (<i>M. quinquenervia</i>), Hoop Pine (<i>A. cunninghamii</i>), River Sheoak (<i>C. cunninghamiana</i>), Macaranga (<i>M. tanarius</i>) + rainforest and W/Sf elements incl. Water Gum (<i>T. laurina</i>), Bangalow Palm (<i>A. cunninghamiana</i>), Tree fern spp.,	Flooded Gum (<i>E. grandis</i>), Swamp Box (<i>L. suaveolens</i>), Black Bean (<i>C. australe</i>), Red Ash (<i>A. excelsa</i>), Guioa (<i>G. semiglaucula</i>), Brown Kurrajong (<i>C. bartramia</i>), Pencil Cedar (<i>P. murrayi</i>), Cudgerie (<i>F. schottiana</i>), Blue Quandong (<i>E. angustifolius</i>), Black Teatree (<i>M. bracteata</i>), Hickory Wattle (<i>A. aulacocarpa</i>), Weeping Lilly Pilly (<i>W. floribunda</i>) and other forest and weed species incl., Lilly Pilly (<i>A. smithii</i>), Grey Myrtle (<i>B. myrtifolia</i>), <i>Syzygium</i> spp., <i>Ficus</i> spp., <i>Lantana</i> (<i>L. camara</i>), Large-leaf Privet (<i>L. lucidum</i>), Small-leaf Privet (<i>L. sinense</i>), Cat's-claw Creeper (<i>M. unguis-cati</i>), Umbrella Tree (<i>Schefflera actinophylla</i>), Wild Tobacco (<i>S. mauritianum</i>)	Tallowwood (<i>E. microcorys</i>), Sydney Blue Gum (<i>E. saligna</i>), Pink Bloodwood (<i>C. intermedia</i>), White Mahogany (<i>E. acmenoides</i>), Rough-leaved Apple (<i>A. subvelutina</i>), Grey Ironbark (<i>E. siderophloia</i>), Forest Sheoak (<i>A. torulosa</i>), Golden Pea (<i>D. arborea</i>), Rose Myrtle (<i>A. beckerlii</i>), Bennett's Ash (<i>Flindersia bennettiana</i>), Native Tamarind (<i>D. australis</i>), Foambark (<i>J. pseudorhus</i>), Sweet Pittosporum (<i>P. undulatum</i>), Tuckeroo (<i>C. anacardioides</i>), native epiphyte spp., exotic <i>Erythrina</i> and <i>Pinus</i> spp., grasses and other u/storey weed spp.		Often occurring in areas that have been heavily cleared in the past, these areas may have supported rainforest in the past and are generally of a higher fertility and a higher moisture holding capacity. "Red" volcanic soils are a particular favourite.
1005	Native Plantation	Highly Modified / Disturbed	Hoop Pine (<i>Araucaria cunninghamii</i>) and/or Eucalypt species		Grasses		
1006	Exotic Plantation	Highly Modified / Disturbed	Caribbean Pine (<i>Pinus caribaea</i>), Slash Pine (<i>P. elliottii</i>) or other exotic spp., incl. <i>Paulownia</i> sp.		Leptospermum spp., <i>Baeckea stenophylla</i> , <i>Leptospermum trinervium</i> , <i>L. whitei</i> , <i>L. polygalifolia</i> , <i>Banksia aemula</i> , <i>Melaleuca quinquenervia</i> , <i>Lophostemon suaveolens</i> , <i>Lomandra longifolia</i> , <i>Themeda australis</i> , <i>Pteridium esculentum</i> , <i>Restio tetraphyllus</i> , <i>Pteridium esculentum</i> , <i>Gahnia clarkii</i>		
1007	Urban Bushland	Highly Modified / Disturbed	A mix of remnant vegetation and planted exotic and native species.				Mixed native and exotic trees associated with domestic gardens
1008	Post-mining Regeneration	Highly Modified / Disturbed	<i>Casuarina equisetifolia</i> , <i>Banksia integrifolia</i> , <i>Leptospermum laevigatum</i> , <i>Acacia sophorae</i> , <i>Melaleuca quinquenervia</i>	<i>Chrysanthemum monilifera</i> , <i>Melaleuca quinquenervia</i>	<i>Digitaria didactyla</i> , <i>Spinifex sericeus</i> , <i>Eucalyptus</i> spp. (planted)		Occurring exclusively along the coastal strip adjacent to the beaches within the Shire and resulting from replanting after mining of mineral sands.
1099	Substantially Cleared of Native Vegetation	Highly Modified / Disturbed					

Camphor Laurel Dominance Codes	
Camphcode	Camphdesc
NA	Not Applicable (non-bush)
ND	Not Determined
D	Dominant
N	Not Detected from API
C	Co-dominant
S	Occasional/ Patchy or Edges

Data Source Codes	
Datacode	Datadesc
NA	Not Applicable (non-bush)
ECO98	Ecograph 1998
CEC98	CEC - Murray & James 1998
WIL86	Wilson 1986
SF96	State Forests 1996
NPWS00	NPWS 2000
ECO01	Ecograph 2001
AKF96	AKF-Philips & Callaghan 1996
ND	Not Determined

Reliability of Vegetation Typing Codes	
Relcode	Reldesc
Sit	On Site Traversal and API
ND	Not Determined
NA	Not Applicable (non-bush)
Oth	Other Information Source and API
Rem	Limited On Site and/or Remote Field Obse
API	API only

Structural Classification Codes			
Code	Description	Projective Foliage Cover of Tallest Stratum	Life Form of Tallest Stratum
Strucode	Strudesc	StrucPFC	StrucForm
T3	Tall open-forest	70-30%	Trees >30m.
T2	Tall woodland	30-10%	Trees >30m.
M4	Closed-forest	100-70%	Trees 10-30m.
M3	Open-forest	70-30%	Trees 10-30m.
M2	Woodland	30-10%	Trees 10-30m.
M1	Open-woodland	<10%	Trees 10-30m.
L4	Low closed-forest	100-70%	Trees <10m.
L3	Low-open forest	70-30%	Trees <10m.
L2	Low woodland	30-10%	Trees <10m.
L1	Low open-woodland	<10%	Trees <10m.
S4	Closed-scrub	100-70%	Shrubs >2m.
S3	Open-scrub	70-30%	Shrubs >2m.
S2	Tall shrubland	30-10%	Shrubs >2m.
S1	Tall Open Shrubland	<10%	Shrubs >2m.
Z	Heathland	<10%-100%	Shrubs 0.25 - 2m.
G	Grassland	<10%-100%	Herbaceous Layer
F	Fernland / Forbland / Herb	30%-100%	Herbaceous Layer
Y	Sedgeland / Rushland	<10%-100%	Herbaceous Layer
NA	Not Applicable (non-bush)		
ND	Not Determined		

Vegetation Condition Codes	
Conddesc	Conddesc
Ex	Excellent
RN	Relatively Natural
HD	Highly Disturbed/ Early Regeneration
ND	Not Determined
NA	Not Applicable (non-bushland)

Appendix 6

Vegetation Type Descriptions

Vegetation Type Descriptions for Tweed Shire VMS - 2004

The rainforest type descriptions below (Types 101- 105 and 107) are sourced mainly from Floyd (1990).

Vegetation Type **Littoral Rainforest**

Vegetation Code **101**

This type forms a low closed to closed forest, and usually occurs as a narrow strip of vegetation occupying the lee side of the hind or barrier sand dunes of the coast where the soils are composed of siliceous sands. Where wind exposure is more extreme it forms as a low, wind-moulded scrub. Both the *Cupaniopsis anacardioides* and *Syzygium luehmannii* - *Acmena hemilampra* suballiances of Floyd (1990) have been incorporated in this vegetation type. Dominant canopy species include Tuckeroo (*Cupaniopsis anacardioides*), Riberry (*Syzygium luehmannii*), Broad-leaved Lilly Pilly (*Acmena hemilampra*), Coastal Acronychia (*Acronychia imperforata*), Hickory Wattle (*Acacia aulacocarpa*), Blue Lilly Pilly (*Syzygium oleosum*), Ribbonwood (*Euroschinus falcatus*), Pearwood (*Mischocarpus pyriformis*), Hard Quandong (*Elaeocarpus obovatus*), Thin-leaved Coondoo (*Planchonella chartacea*), Fig species and occasional emergent Coast Banksia (*Banksia integrifolia* var. *integrifolia*).

Although considered to be relatively well conserved over its range, only a small proportion of its original extent remains within Tweed Shire due to mineral sand mining in the 1960's that destroyed extensive areas. Limited areas are reserved in Ukerebagh Nature Reserve, and areas outside reserves are protected under State Environmental Planning Policy (SEPP) 26. Many of these areas however are at risk from weed degradation and fire.

This type grades into Banksia Dry Sclerophyll Open Forest to Shrubland Type - 310 on elevated sites and Broad-leaved Paperbark Closed Forest to Woodland – Type 401, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 as soils become more waterlogged.

This type is a Dunal System and exhibits High Biodiversity of species.

Significant species

Stinking Cryptocarya (*Cryptocarya foetida*), Scented Acronychia (*Acronychia littoralis*), Xylosma (*Xylosma terrae-reginae*), *Cynanchum elegans* and White Lace Flower (*Archidendron hendersonii*). (For a full list of significant species consult Appendix 8).

Vegetation Type **Sub-tropical / Warm Temperate Rainforest**

Vegetation Code **102**

This type comprises components from three of Floyd's (1990) major rainforest sub-formations, Sub-tropical, Warm Temperate and Dry rainforest and are all categorised as closed tall forest to closed forest.

These sub-formation components were mapped as a single type due to the intergradations that occur between them making accurate in-field identification by floristic composition difficult.

Thus this type includes five different alliances incorporating several different sub-alliances as defined by Floyd (1990) within the major sub-formations of Sub-tropical and Warm Temperate rainforest.

Although mapped as a single type, these components are described individually below.

Sub-tropical Rainforests are the most complex sub-formations within NSW, occurring in warm sites with a high annual rainfall. Typically comprising two or three vegetation strata and forming an uneven canopy with strangling figs, palms, plank buttresses, large epiphytes and woody vines (Floyd 1990). These forests occur at low altitudes on fertile lowland krasnozems soils near sea level or on basaltic soils up to 600m.

Within Tweed Shire the sub-tropical rainforest sub-alliances of Floyd (1990) that occur include: No. 1 - *Argyrodendron trifoliolatum*; No. 2 - *Toona* - *Flindersia* spp.; No. 5 - *Castanospermum* - *Dysoxylum muelleri*; No. 6 - *Archontophoenix* - *Livistona*; No. 7 - *Argyrodendron actinophyllum*; No. 9 - *Argyrodendron actinophyllum* - *Dysoxylum muelleri* - *Syzygium francisii* and No. 11 - *Caldcluvia* - *Cryptocarya erythroxylon* - *Orites* - *Melicope octandra* - *Acmena ingens*.

Lowland sites include areas towards the head of Oxley Creek, and small remnant patches along the Tweed River and its tributaries including Stott's Island Nature Reserve. Elevated sites include the base of rhyolite cliffs in the north and north-west sectors of the Shire, such as the heads of Pat Smiths, Couchy and Crystal Creeks within Numinbah Nature Reserve; Hidden Valley and Cockscomb Point in Limpinwood Nature Reserve; the southeast rim in the Black Scrub of Nullum State Forest and on the south to east lower slopes of Mt. Warning including Cedar Creek.

Main canopy species of this component include White Booyong (*Argyrodendron trifoliolatum*), Red Carabeen (*Geissois benthamii*), Marara (*Pseudoweinmannia lachnocarpa*), Pepperberry Ash (*Cryptocarya obovata*), Cudgerie (*Flindersia schottiana*), Yellowwood (*F. xanthoxyla*), Red Cedar (*Toona ciliata*), Tulipwood (*Harpullia pendula*), Blue Quandong (*Elaeocarpus angustifolius*), Hard Quandong (*E. obovatus*), Myrtle Ebony (*Diospyros pentamera*), Black Bean (*Castanospermum australe*), Red Bean (*Dysoxylum muelleri*), Purple Cherry (*Syzygium crebrinerve*), Bangalow Palm (*Archontophoenix cunninghamiana*), Cabbage Palm (*Livistona australis*), Black Booyong (*Argyrodendron actinophyllum*), Giant Stinging Tree (*Dendrocnide excelsa*), Yellow Carabeen (*Sloanea woollsii*), Rosewood (*Dysoxylum fraserianum*), Giant Water Gum (*Syzygium francisii*), Soft Corkwood (*Caldcluvia paniculosa*), Pigeonberry Ash (*Cryptocarya erythroxylon*), Prickly Ash (*Orites excelsa*), Doughwood (*Melicope octandra*) and Red Apple (*Acmena ingens*).

Warm Temperate Rainforests contain fewer species than sub-tropical and dry rainforests and forms a more uniform canopy with typically two vegetation strata (Floyd 1990). They occur in cool, moist areas and tend to lack epiphytes, orchids and tropical features such as stranglers, plank buttresses, woody vines and palms (Floyd 1990). The occurrences of this suballiance within Tweed Shire are among the most floristically diverse in NSW due to their geographical location and mixed nature (Floyd 1990). They occur on less fertile metasediments, basaltically enriched metasediments and on rhyolite with basaltic enrichment on alluvial flats. Specific occurrences are Hogan's Scrub Wildlife Refuge (containing a State record for different tree species present (Floyd 1990)), lower Couchy Creek and Christies Creek in Mooball State Forest. Within Tweed Shire the sub-alliances of Floyd (1990) that occur include No. 33. *Ceratopetalum* - *Schizomeria* - *Argyrodendron* / *Sloanea* - No. 34 *Ceratopetalum* - *Diploglottis* - *Acmena* and No. 39 *Schizomeria* - *Doryphora* - *Caldcluvia* - *Orites*.

Main canopy species of this component include Jackwood (*Cryptocarya glaucescens*), Sassafras (*Doryphora sassafras*), Mango Bark (*Canarium australasicum*), Yellow Carabeen (*Sloanea woollsii*), Durobby/Coolamon (*Syzygium moorei*), Coachwood (*Ceratopetalum apetalum*),

Callicoma (*Callicoma serratifolia*), Water Gum (*Tristaniaopsis laurina*), Bennet's Ash (*Flindersia bennettiana*) and some sub-tropical species.

Sub-tropical and *Warm Temperate rainforests* contain many rare and endangered species that in a large number of cases are confined to a small geographic range between the Gold Coast and the Richmond River or are at the limits of their geographical range (see Appendix 8). Many are also not well represented in existing reserves but occur on private land.

This broad type may intergrade with Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Blackbutt Open Forest Complex – Type 201, Sydney Blue Gum Open Forest – Type 205, Brush Box Open Forest to Woodland Type – 207, Tallowwood Open Forest to Woodland Type – 208, Flooded Gum Open Forest to Woodland Type – 206, Turpentine +/- Pink Bloodwood Open Forest Type – 211, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003, Early Regrowth Rainforest – Type 1002, River She-oak Open Forest – Type 106, Myrtaceous Riparian Low Closed Forest to Woodland – Type 105 and Camphor Laurel Dominant Open to Closed Forest – Type 1004.

This type occurs as a Riparian Community and exhibits High Biodiversity of species.

Significant Species

Milk Bush (*Neisosperma powerii*), Sweet Myrtle (*Austromyrtus fragrantissima*), Ball Nut (*Floydia praealta*), Red Lilly Pilly (*Syzygium hodgkinsoniae*), Marblewood (*Acacia bakeri*), Heart-leaved Bosistoa (*Bosistoa selwynii*), Velvet Laurel (*Endiandra hayseii*), Red-fruited Ebony (*Diospyros mabacea*), Southern Fontainea (*Fontainea australis*), Small-leaved Tamarind (*Diploglottis campbellii*), Fine-leaved Tuckeroo (*Lepiderema pulchella*), Brush cassia (*Cassia marksiana*), Three-leaved Bosistoa (*Bosistoa transversa*), Thorny Pea (*Desmodium acanthocladum*), Southern Ochrosia (*Ochrosia moorei*), Durobby / Coolamon (*Syzygium moorei*), Corokia (*Corokia whiteana*), Green-leaved Rose Walnut (*Endiandra muelleri* subsp. *bracteata*), Narrow-leaf Finger Fern (*Grammitis stenophylla*), *Lindsea brachypoda*, *Senna acclinis* and Minyon Quandong (*Elaeocarpus* sp. Rocky Creek) (For a full list of significant species consult Appendix 8).

Vegetation Type **Dry Rainforest**

Vegetation Code **103**

This type occupies areas that have a low rainfall (for rainforest development) and/or that have a marked spring drought. It commonly occurs on fertile, shallow, well-drained soils that experience periods of low soil moisture. It is classified structurally as a closed forest or low closed forest to scrub. This type relates to Floyd's suballiance No. 21 and generally forms two distinct strata with an emergent layer dominated by Hoop Pine (*Araucaria cunninghamii*) and a lower, dense, main stratum. Woody vines and stranglers are common but other tropical features such as buttressing and epiphytes are rare (Floyd 1990). Often a prickly shrub layer and a sparse herbaceous layer forms (Floyd 1990).

Common canopy species for this type include Yellow Tulipwood (*Drypetes australasica*), Brush Bloodwood (*Baloghia lucida*), Lacebark (*Brachychiton discolor*), Shiny-leaved Stinging Tree (*Dendrocnide photinophylla*), Myrtle Ebony (*Diospyros pentamera*), Black Plum (*D. australis*), Python Tree (*Austromyrtus bidwillii*), Silver Basswood (*Polyscias elegans*) and *Flindersia* spp. Other indicator and scrub species include Yellow Laurel (*Cryptocarya bidwillii*), Native Ixora (*Ixora beckleri*), Shiny-leaved Canthium (*Canthium odoratum*), Whalebone Tree (*Streblus*

brunonianus), *Actephila* (*Actephila lindleyi*) and Narrow-leaved Tuckeroo (*Cupaniopsis foveolata*).

Within the Tweed examples of this type occur where soil enrichment (mainly basalt) coincides with areas either lying in rain shadows or on steep, stony northern and western slopes and ridges. These are located to the west and north-west of Mt. Warning at Brays Creek; west of Toenail Point on Limpinwood Nature Reserve; along Bog Onion Rd. and Forty Spurs Rd. in Mebbin State Forest; and as isolated occurrences on slopes above riparian areas throughout the Shire. One significant remnant was located to the west of Bilambil and north of the Carool Road in which several significant species were recorded. This remnant did not possess Hoop Pine (*Araucaria cunninghamii*) as part of its composition and was low in structural height. Many forests in the region have been logged for Hoop Pine (a valuable timber), juveniles will persist after logging as an understorey species, along with regenerating Eucalypts. Additionally these areas suffer from weed invasion by *Lantana* (*Lantana camara*).

Associated Types include Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Blackbutt Open Forest Complex – Type 201, Sydney Blue Gum Open Forest – Type 205, Flooded Gum Open Forest to Woodland Type – 206, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003 and Early Regrowth Rainforest – Type 1002. Additionally areas shown within Mebbin State Forest as Native Plantation – Type 1005 are areas of Hoop Pine (*Araucaria cunninghamii*) forest that contain many dry rainforest species. These areas have suffered understorey disturbance in the past associated with logging operations and the dry rainforest elements are currently regenerating.

This type exhibits a High Biodiversity of species.

Significant Species

Onion Cedar (*Owenia cepiodora*), Marblewood (*Acacia bakeri*), Spiny Gardenia (*Randia moorei*), *Acalypha* (*Acalypha eremorum*), *Cynanchum elegans*, Fine-leaved Tuckeroo (*Lepiderema pulchella*), Tinospora Vine (*Tinospora smilacina*) and *Senna acclinis*. (For a full list of significant species consult Appendix 8).

Vegetation Type **Lowland Rainforest on Floodplain**

Vegetation Code **104**

This type occurs as a tall closed to closed forest and is characterised by high species diversity and a rich invertebrate fauna (Williams 1993). It is located on well-drained, fertile, basaltically enriched alluvial lowland floodplains. This type, covering less than 1000 hectares in NSW, with only 35 hectares in Tweed Shire, has historically been largely cleared for agriculture. The largest remnant in the Tweed is reserved within Stotts Island Nature Reserve. Other stands are small isolated fragments that are vulnerable to weed invasion, further clearing, grazing and competing landuses.

Lowland rainforest on floodplain relates to Floyd's (1990) suballiance No. 3 but in any individual stand more than one of his suballiances may be present and separation of these may be difficult as complex intergradations occur. Tree species of the canopy include Bangalow Palm (*Archontophoenix cunninghamiana*), Giant Water Gum (*Syzygium francisii*), Hoop Pine (*Araucaria cunninghamii*), *Cryptocarya triplinervis*, Moreton Bay Fig (*Ficus macrophylla*), Small-leaved Fig (*F. obliqua*), White Fig (*F. virens*), Maidens Blush (*Sloanea australis*), Black Bean (*Castanospermum australe*), Blue Quandong (*Elaeocarpus angustifolius*), Pigeonberry

Ash (*Cryptocarya obovata*), Rough-leaved Elm (*Aphananthe philippinensis*), Red Cedar (*Toona ciliata*), Red Bean (*Dysoxylum muelleri*).

This type may intergrade with the Broad-leaved Paperbark Closed Forest to Woodland – Type 401, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 and Swamp She-oak Open Forest to Woodland Type 601.

This type can occur as a Riparian Community and exhibits a High Biodiversity of species.

Significant Species

Peanut Tree (*Sterculia quadrifida*), White Lace Flower (*Archidendron hendersonii*), Small-leaved Tamarind (*Diploglottis campbellii*), Red-fruited Ebony (*Diospyros mabacea*), Durobby (*Syzygium moorei*) and Brush Cassia (*Cassia marksiana*). (For a full list of significant species consult Appendix 8).

Vegetation Type **Myrtaceous Riparian Low Closed Forest to Woodland**

Vegetation Code **105**

This type comprises a low closed riparian forest to woodland community. Within Tweed Shire it is found in a relatively narrow band fringing coastal creeks or in gully sites within sclerophyll forests. It occupies very shallow and dry soils over rock on hillsides and within riparian zones composed of rock. This type is capable of surviving bushfires due to the coppicing nature of the major tree species.

Myrtaceous riparian low closed forest to woodland relates to Floyd's suballiance No. 29, and major canopy species include Grey Myrtle (*Backhousia myrtifolia*), Lily Pily (*Acmena smithii*), Water Gum (*Tristaniopsis laurina*), Weeping Bottlebrush (*Callistemon viminalis*) with occasional emergent species of Brush Box (*Lophostemon confertus*), Flooded Gum (*Eucalyptus grandis*), *Melaleuca bracteata* and occasional rainforest species.

Some of the occurrences of this type in the Nightcap and Mt. Jerusalem National Parks, particularly at higher elevations are likely to be more closely related to Dry Rainforest - Type 103. However, as these areas have been coded as Forest Type 23 in NSW NPWS (and State Forests) mapping no attempt has been made to revise this classification.

This type may intergrade with Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Flooded Gum Open Forest to Woodland Type – 206, Brush Box Open Forest to Woodland Type – 207, Tallowwood Open Forest to Woodland Type – 208, Turpentine +/- Pink Bloodwood Open Forest Type – 211, Sub-tropical / Warm Temperate Rainforest Type – 102, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003, Early Regrowth Rainforest – Type 1002, River She-oak Open Forest – Type 106, and Camphor Laurel Dominant Open to Closed Forest – Type 1004.

This type occurs as a Riparian Community.

Significant Species

Not determined

Vegetation Type River She-oak Open Forest**Vegetation Code 106**

This type is classified as a tall open forest to open forest. It is predominantly associated with flowing water, usually developing as a fringing forest along riparian zones on stony or sandy soils and upstream of tidal influences.

River She-oak (*Casuarina cunninghamiana*) is the most common canopy dominant, and has no regular associates. Within Tweed Shire this type contains a mid-stratum of rainforest and other water-loving species, and *Lomandra* spp. as a common dominant ground layer. It is often subjected to invasion by Camphor Laurel (*Cinnamomum camphora*), which becomes a canopy species, and Small-leaved Privet (*Ligustrum sinense*), Maderia Vine (*Anredera cordifolia*), Cat's Claw Creeper (*Macfadyena unguis-cati*), Morning Glory (*Ipomoea purpurea*) and other exotic species that grow in the lower and mid stratum.

Mid stratum and occasionally upper stratum associates include:

Sclerophyll species: Silky Oak (*Grevillea robusta*), Brush Box (*Lophostemon confertus*), Black Tea-tree (*Melaleuca bracteata*), Water gum (*Tristaniopsis laurina*), Flooded Gum (*Eucalyptus grandis*), Blackwood Wattle (*Acacia melanoxylon*), Broad-leaved Apple (*Angophora subvelutina*) and Weeping Bottlebrush (*Callistemon viminalis*).

Rainforest species: Black Bean (*Castanospermum australe*), Blue Quandong (*Elaeocarpus angustifolius*) and Weeping Lilly Pilly (*Waterhousea floribunda*).

This type may intergrade with Brush Box Open Forest to Woodland Type – 207, Tallowwood Open Forest to Woodland Type – 208, Flooded Gum Open Forest to Woodland Type – 206, Sub-tropical / Warm Temperate Rainforest Type – 102, Lowland Rainforest on Floodplain – Type 104, Early Regrowth Rainforest – Type 1002, Myrtaceous Riparian Low Closed Forest to Woodland – Type 105 and Camphor Laurel Dominant Open to Closed Forest – Type 1004.

This type occurs as a Riparian Community.

Significant Species

Not determined

Vegetation Type Cool Temperate Rainforest**Vegetation Code 107**

A floristically simple forest community with a significant proportion of the stands composed of large trees of one to three species forming a dense, even canopy layer. Leaves are usually simple, toothed and are generally smaller than in the Warm-Temperate Rainforest type. Non-vascular epiphytes are very common and lianes and buttressing are usually rare. This type occurs either as extensive areas or in small stands along creeksides and other mesic sites above 450-900m and extending up to 1500m. Reliable moisture favours the characteristic development of a dense growth of mosses, orchids and lichens on tree trunks and branches as well as a moist ground layer of ferns and tree ferns.

Floyd (1990) has recognised five sub-alliances in New South Wales; all have Antarctic Beech (*Nothofagus moorei*) as the dominant species. The following three sub-alliances are recorded within Tweed Shire;

- Sub-alliance No. 47: *Nothofagus – Quintinia sieberi – Doryphora*, occurs above 1000m either on protected escarpments or in sheltered gully heads to the west such as on the McPherson and Tweed Range rim from Bar Mountain and Warrazambil Creek to Mt. Durigan, Mt. Hobwee and Springbrook. It is dominated by Antarctic Beech (*Nothofagus moorei*) with a lower tree layer of Rough Possumwood (*Quintinia sieberi*) and Sassafras (*Doryphora sassafras*). Blackwood Wattle (*Acacia melanoxylon*) may also be common at more disturbed sites. Understorey and other species include Dorrigo Waratah (*Oreocallis pinnata*), Southern Marara (*Vesselowskya rubifolia*), Mountain Wineberry (*Aristotelia australasica*), Tasman Flax Lily (*Dianella tasmanica*), Orange Berry (*Drymophila moorei*), the vine species *Berberidopsis beckleri*, Beech Orchid (*Dendrobium falcorostrum*), Dagger Orchid (*D. pugioniforme*) and Filmy Ferns (*Fieldia australis*).
- Sub-alliance No. 48: *Nothofagus – Ceratopetalum*, occurs in gully heads at approximately 800 – 1150m with similar climatic conditions but on poorer soils than the preceding sub-alliance. The summit of Mt. Throakban in the McPherson Range supports a small remnant. Antarctic Beech (*Nothofagus moorei*) dominates with a lower tree layer of Coachwood (*Ceratopetalum apetalum*) and other common species include Soft Corkwood (*Caldcluvia paniculosa*), Sassafras (*Doryphora sassafras*), Prickly Ash (*Orites excelsa*), Crabapple (*Schizomeria ovata*) and Callicoma (*Callicoma serratifolia*).
- Sub-alliance No. 49: *Nothofagus – Callicoma – Tristaniopsis*, in the Tweed it occurs as a depauperate, low, dense forest in cool wet mountain areas on shallow, skeletal, moderately fertile soils overlying rock. It is found along the exposed cliff tops of the caldera rim of the McPherson Range and Limpinwood Nature Reserve, including Mt. Wagawn, Mt. Merino, Wanungara, Toolona, Mt. Bithongabel, Cominan, Echo Point, Mt. Durigan and Mt. Throakban. It is dominated by Antarctic Beech (*Nothofagus moorei*), Callicoma (*Callicoma serratifolia*) and Hill Kanuka (*Tristaniopsis collina*) with smaller trees of Native Hydrangea (*Abrophyllum ornans*) and Featherwood (*Polyosma cunninghamii*). This sub-alliance may merge on the rocky outcrops into a scrub of Sweet Pittosporum (*Pittosporum undulatum*), Lance Beard-heath (*Leucopogon lanceolatus*), Tree Heath (*Trochocarpa laurina*), Cut-leaf Mint Bush (*Prostanthera incisa*), Xanthorrhoea *latifolia* subsp. *maxima*, *Acomis acoma*, Tall Cassinia (*Cassinia compacta*), *Olearia vagans* and Sticky Daisy Bush (*Olearia elliptica*).

This type may intergrade with New England Blackbutt Open Forest – Type 213, Sub Tropical / Warm Temperate Rainforest – Type 102, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Brush Box Open Forest – Type 207, Montane Heathland – Type 503 and Rock Faces – Type 901 at cooler and higher elevations of the ranges.

This type can occur as a Riparian Community.

Significant Species

Pittosporum oreillyanum, *Euphrasia bella*, *Dicksonia youngiae*, *Aristolochia deltantha* var. *laheyana*, *Olearia vagans*.

Vegetation Type Blackbutt Open Forest Complex**Vegetation Code 201**

This is a "moist" or "dry" sclerophyll open forest community, depending on the understorey vegetation composition that is influenced by soil fertility and aspect. The "moist" type usually occurs in relatively sheltered sites, south facing and lower slopes and has an understorey of rainforest and mesophytic species. The "dry" type occurs on ridges and more exposed sites and has a more open and sclerophyll-dominated understorey. These two types have been combined for mapping purposes as they often intergrade without a clearly defined boundary.

Blackbutt (*Eucalyptus pilularis*) may be present as a dominant or sub-dominant, in conjunction with a variety of other co-dominant or sub-dominant Eucalypt species. It occurs on soils of varying fertility; highly fertile sites support the best developed stands and include co- or sub-dominant species such as Tallowwood (*E. microcorys*), Flooded Gum (*E. grandis*), Sydney Blue Gum (*E. saligna*), Brush Box (*L. confertus*), and Turpentine (*Syncarpia glomulifera*). Less fertile sites are shared with co- and sub-dominant species including White Mahogany (*E. acmenoides*), Red Mahogany (*E. resinifera*), Pink Bloodwood (*Corymbia intermedia*), Grey Ironbark (*E. siderophloia*), Grey Gum (*E. propinqua*) and Broad-leaved White Mahogany (*E. umbra*).

This is one of the most important hardwood species of the North Coast region.

The understorey in both types is substantially altered by fire.

This type may intergrade with the Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, the Scribbly Gum / Pink Bloodwood Type – 204, Brush Box Open Forest to Woodland Type - 207, Tallowwood Open Forest to Woodland Type - 208, Turpentine +/- Pink Bloodwood Open Forest Type – 211, Dry Rainforest – Type 103, Sub-tropical / Warm Temperate Rainforest Type – 102, Early Regrowth Rainforest – Type 1002, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003 and Camphor Laurel Dominant Open to Closed Forest – Type 1004.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex**Vegetation Code 202**

This is a dry sclerophyll "mixed hardwood" open forest complex. It comprises a number of "sub-types" that were identified from field survey throughout the Tweed but for the purposes of mapping were combined due to their high level of intergradation and the difficulty involved in reliably detecting their boundaries from aerial photos. The open forest "sub-types" identified were –

- White Mahogany - Tallowwood - Brush Box;

- Grey Gum with Grey Ironbark and/or Turpentine and/or Pink Bloodwood and/or Tallowwood and/or White Mahogany;
- Pink Bloodwood and/or Tallowwood and/or Flooded Gum and/or Brush Box; and
- Grey Ironbark and/or Pink Bloodwood and/or Tallowwood and/or Sydney Blue Gum and/or Red Mahogany.

The dominant or co-dominant species of this type include Grey Ironbark (*E. siderophloia*), White Mahogany (*E. acmenoides*), Grey Gum (*E. propinqua*), Pink Bloodwood (*Corymbia intermedia*), Tallowwood (*E. microcorys*) and Brush Box (*Lophostemon confertus*).

Sub-dominant species of this type include Forest Red Gum (*E. tereticornis*), Sydney Blue Gum (*E. saligna*), Red Mahogany (*E. resinifera*), Flooded Gum (*E. grandis*), Turpentine (*Syncarpia glomulifera*) and Thick-leaved Mahogany (*E. carnea*). The mid-story layer varies from a closed association of rainforest species to a more open association of sclerophyll species; Forest She-oak is a commonly occurring species throughout.

This type commonly occurs between the Blackbutt Open Forest Complex - Type 201 on the upper slopes and the Flooded Gum Open Forest - Type 206 in the gullies on moister sites or as an upper slope and ridge community where soils do not favour Blackbutt (*E. pilularis*). Other associated types include Brush Box Open Forest to Woodland Type - 207, Tallowwood Open Forest to Woodland Type - 208, Sub-tropical / Warm Temperate Rainforest Type – 102, Dry Rainforest – Type 103, Early Regrowth Rainforest – Type 1002, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003 and Camphor Laurel Dominant Open to Closed Forest – Type 1004.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Broad-leaved Apple Open Forest

Vegetation Code 203

The Broad-leaved Apple (*Angophora subvelutina*) type is a moist open forest, occurring particularly on alluvial soils and areas underlain by sandstone.

This forest is characterised by association with several other tree species including, Pink Bloodwood (*Corymbia intermedia*), Tallowwood (*E. microcorys*), Brush Box (*Lophostemon confertus*), White Mahogany (*E. acmenoides*), Coastal Banksia (*Banksia integrifolia* var. *integrifolia*) and Grey Ironbark (*E. siderophloia*).

This Type associates with Tallowwood Open Forest – Type 208, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003 and Camphor Laurel Dominant Open to Closed Forest – Type 1004.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Scribbly Gum / Pink Bloodwood Open Forest**Vegetation Code 204**

This type typically forms as a mid height dry sclerophyll open forest on infertile, well drained soils, often adjoining and mixing with tall forests that form on soils of higher fertility.

The main canopy species include Scribbly Gum (*E. signata/racemosa*) and Pink Bloodwood (*Corymbia intermedia*) with locally dominant species including, Grey Ironbark (*E. siderophloia*), Grey Gum (*E. propinqua*), White Mahogany (*E. acmenoides*) and Turpentine (*Syncarpia glomulifera*).

This type has an open ground layer of mostly xeromorphic shrubs such as Grass Trees (*Xanthorrhoea* spp.), Black She-oak (*Allocasuarina littoralis*), Burrawangs (*Macrozamia* spp.) and grasses. Pink Bloodwood (*Corymbia intermedia*) is a common component of other *Eucalyptus* Types.

Examples of Scribbly Gum / Pink Bloodwood open forest are located on the upper slopes within Nullum State Forest.

Associated types within Tweed Shire include Blackbutt Open Forest to Woodland Type - 201, Flooded Gum Open Forest to Woodland Type - 206, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Early Regrowth Rainforest – Type 1002 and Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Sydney Blue Gum Open Forest**Vegetation Code 205**

This type forms as a tall open to open, wet sclerophyll forest. It occurs in relatively moist sites with clay soils of moderate to high fertility. Found on valley floors and the moister upper slopes often with an understorey of rainforest species.

Sydney Blue Gum (*Eucalyptus saligna*) is usually the dominant species, but this type displays considerable variation as a result of the local dominance or co-dominance of species within associated types.

Co-dominant species include Flooded Gum (*Eucalyptus grandis*) and Tallowwood (*E. microcorys*).

Sub-dominant and locally dominant species include Brush Box (*Lophostemon confertus*), Grey Gum (*E. propinqua*), Blackbutt (*E. pilularis*), Turpentine (*Syncarpia glomulifera*), White Mahogany (*E. acmenoides*) and Grey Ironbark (*E. siderophloia*).

This type often associates with or occurs alongside the Blackbutt Open Forest to Woodland Type - 201, Flooded Gum Open Forest to Woodland Type - 206, Tallowwood Open Forest to Woodland Type - 208, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Sub-tropical / Warm Temperate Rainforest Type – 102, Early Regrowth Rainforest – Type 1002 and Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003 and Dry Rainforest – Type 103.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type **Flooded Gum Open Forest**

Vegetation Code **206**

This type forms as a tall open to open, wet sclerophyll forest on moderate to fertile soils, often in sheltered moist locations such as valley floors along watercourses. Flooded Gum (*Eucalyptus grandis*) is generally the clear dominant species but this species often occurs with one or two associates. Typically associated canopy species, which occur as co-dominants include Brush Box (*Lophostemon confertus*) and Tallowwood (*E. microcorys*).

Flooded Gum open forest frequently occurs with a rainforest understorey, which may in time replace this type.

This species is known to require a major disturbance event such as fire to regenerate, forming as small even-aged stands.

Species that occur as locally or sub-dominant species include Sydney Blue Gum (*E. saligna*), Turpentine (*Syncarpia glomulifera*), White Mahogany (*E. acmenoides*), Pink Bloodwood (*Corymbia intermedia*), Hoop Pine (*Araucaria cunninghamii*) and Silky Oak (*Grevillea robusta*).

This type is often associated with Blackbutt Open Forest to Woodland Type - 201, Tallowwood Open Forest to Woodland Type - 208, Brush Box Open Forest Type – 207, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Sydney Blue Gum Open Forest – Type 205, Myrtaceous Riparian Low Closed Forest to Woodland – Type 105, River She-oak Open Forest – Type 106, Sub-tropical / Warm Temperate Rainforest Type – 102, Early Regrowth Rainforest – Type 1002 and Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003 and Camphor Laurel Dominant Open to Closed Forest – Type 1004.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type **Brush Box Open Forest**

Vegetation Code **207**

This type occurs as a wet sclerophyll open forest over a range of terrains from wetter sheltered gullies to sites with fertile soils extending to the ridgetops. Frequently this type colonises lower slopes that have been cleared or rainforest areas that have been disturbed by fire. This type is considered to be an intermediate stage that will eventually revert to a rainforest community and frequently possesses a well-developed rainforest understorey. Emergent Brush Box (*Lophostemon confertus*) can be observed within older rainforest stands of the Shire.

Brush Box (*L. confertus*) is often the major dominant but also occurs as a co-dominant with a range of Eucalypt species including, Tallowwood (*E. microcorys*) which may represent up to 50% of the type in some situations, Flooded Gum (*E. grandis*) and Camphor Laurel (*Cinnamomum camphora*).

Occasionally rainforest species occur as canopy co-dominants including, Red Ash (*Alphitonia excelsa*), Cudgerie (*Flindersia schottiana*) and Bangalow Palm (*Archontophoenix cunninghamiana*).

Sub-dominant canopy species include Pink Bloodwood (*Corymbia intermedia*), Sydney Blue Gum (*E. saligna*), Turpentine (*Syncarpia glomulifera*), White Mahogany (*E. acmenoides*), Grey Ironbark (*E. siderophloia*), Grey Gum (*E. propinqua*), Broad-leaved Apple (*Angophora subvelutina*) and Hoop Pine (*Araucaria cunninghamii*).

This type is often associated with Blackbutt Open Forest to Woodland Type - 201, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Flooded Gum Open Forest to Woodland Type - 206, Tallowwood Open Forest to Woodland Type - 208, Sub-tropical / Warm Temperate Rainforest Type – 102, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003 and Camphor Laurel Dominant Closed to Open Forest Type - 1004.

This type contains Koala food tree species

Significant Species

Not determined

Vegetation Type Tallowwood Open Forest

Vegetation Code 208

This type forms as a tall open or open, wet or dry sclerophyll forest. It is found on sheltered to exposed moist sites on soils of moderate to high fertility. Tallowwood (*Eucalyptus microcorys*) is usually the major dominant species but throughout the Tweed regularly formed associations with other species as a sub- or co-dominant.

Considered by State Forests (Research Note No. 17 1994) to be a variant of their type No. 47 – Tallowwood – Sydney Blue Gum that developed as the result of local circumstances during regeneration.

Associated species include White Mahogany (*E. acmenoides*), Pink Bloodwood (*Corymbia intermedia*), Brush Box (*Lophostemon confertus*), Sydney Blue Gum (*E. saligna*) and Red Mahogany (*E. resinifera*).

While sub-dominant or locally dominant species include Grey Ironbark (*E. siderophloia*), Turpentine (*Syncarpia glomulifera*), Flooded Gum (*E. grandis*), Grey Gum (*E. propinqua*) and Forest Red Gum (*E. tereticornis*).

Associated Types include: Brush Box Open Forest – Type 207, Flooded Gum Open Forest – Type 206, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Blackbutt Open Forest Complex – Type 201, Sub-tropical / Warm Temperate Rainforest – Type 102, Myrtaceous Riparian Low Closed Forest to Woodland – Type 105, River She-oak Open Forest – Type 106, Early Regrowth Rainforest – Type 1002 and Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Turpentine +/- Pink Bloodwood Open Forest**Vegetation Code 211**

This type forms as a wet sclerophyll forest occupying a wide range of sites but particularly in sheltered gullies. Turpentine (*Syncarpia glomulifera*) typically represents 50% or more of the stand and associates with a wide range of other species, particularly Pink Bloodwood (*Corymbia intermedia*). It freely regenerates within adjoining community types.

Other associated species include Brush Box (*Lophostemon confertus*), Flooded Gum (*E. grandis*), White Mahogany (*E. acmenoides*) and Tallowwood (*E. microcorys*).

Occurrences within the Shire include parts of Wollumbin and Nullum State Forests and at the start and to the east of Couchy Creek Rd.

Associated Types include Blackbutt Open Forest Complex – Type 201, Brush Box Open Forest – Type 207, Flooded Gum Open Forest – Type 206, Sydney Blue Gum Open Forest – Type 205, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202 and Sub-tropical / Warm Temperate Rainforest – Type 102.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type New England Blackbutt Open Forest**Vegetation Code 213**

This type varies from a wet sclerophyll forest to 55m to dry sclerophyll forest less than 25m and tends to replace the Grey Gum – Ironbark league as the vegetation of shallow-soiled ridges in generally moist, but higher altitude, sites in northern NSW.

The main dominant species of this type is New England Blackbutt (*E. campanulata*) other species may occur in sufficient numbers to achieve co-dominance and include Grey Gum (*E. propinqua*), White Mahogany (*E. acmenoides*), Blackbutt (*E. pilularis*), Tallowwood (*E. microcorys*), Sydney Blue Gum (*E. saligna*), Blue Mountains Ash (*E. oreades*), Scribbly Gum (*E. signata/racemosa*), Brush Box (*Lophostemon confertus*), Turpentine (*Syncarpia glomulifera* subsp *glomulifera*) and Thin-leaved Stringybark (*E. eugenioides*).

Species that occur as sub-dominants include Red Bloodwood (*C. gummifera*), Queensland White Stringybark (*E. tindaliae*) and Rough-barked Apple (*Angophora floribunda*).

Understorey species include Blackwood Wattle (*A. melanoxydon*), Nightcap Wattle (*A. orites*), Rose-leaf Marara (*Caldcluvia paniculosa*), Blueberry Ash (*Elaeocarpus reticulatus*), Bolly gum (*Litsea reticulata*), Hill Kanuka (*Tristaniopsis laurina*), Tree-heath (*Trochocarpa laurina*), She-oaks (*Allocasuarina* spp.), Woolly Tea-tree (*Leptospermum lanigerum*) and other *Leptospermum* species, *Quintinia* spp., sclerophyllous shrubs and other rainforest species. Grass Tree (*Xanthorrhoea* sp. aff. *X. media*), *Hibbertia hexandra*, Elderberry Panax (*Polyscias*

sambucifolius), Rough Tree Fern (*Cyathea australis*), Gristle Fern (*Blechnum cartilagineum*), Snow Grass (*Poa sieberiana*), Wiry Ricegrass (*Tetrarrhena juncea*), *Dianella caerulea*, *Gahnia insignis*, Dogwood (*Jacksonia scoparia*), Fern-leaved Lomatia (*Lomatia silaifolia*), *Oxylobium ilicifolium*, Five-leaf Water Vine (*Cissus hypoglauca*), Headache Vine (*Clematis glycinoides*), Austral Sarsaparilla (*Smilax australis*) and many more.

New England Blackbutt (*E. campanulata*) was recorded during field survey from two sites. On private property at the rear of the 'Pretty Gully' community in Byrriil Creek, on a ridge top called Peter's Leap, which overlooks Cedar Creek, where it occurred as a line of trees not more than two wide and at Brummies Lookout. The majority of this community type is restricted to areas within the National Parks of the Border Ranges such as Brummies Lookout, which are not under the jurisdiction of Tweed Shire Council.

This type may intergrade with Montane Heathland – Type 503, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex - Type 202, Sub-tropical /Warm Temperate Rainforest – Type 102, Cool Temperate Rainforest – Type 107,

This type may contain Koala food species.

Significant species

Nightcap Wattle (*A. orites*), *Gahnia insignis*, *Hibbertia hexandra*, Large-leaved Wonga Vine (*Pandorea baileyana*) and *Rulingia salviifolia*.

Vegetation Type Coastal Pink Bloodwood Open Forest to Woodland

Vegetation Code 301

This type occurs as a wet or dry sclerophyll open forest to woodland on relatively fertile sand substrates in estuarine areas, on Quaternary coastal dunes and beaches and on sand islands. It has been extensively cleared in the past resulting in scattered coastal occurrences. Pink Bloodwood (*Corymbia intermedia*) is usually the dominant species, other associated species include Brush Box (*Lophostemon confertus*), Swamp Box (*L. suaveolens*), Forest Red Gum (*E. tereticornis*), Swamp Mahogany (*E. robusta*), Cypress Pine (*Callitris columellaris*) and Scribbly Gum (*E. signata/racemosa*). This species is a common component of other Eucalyptus types along the coast and inland.

Sub dominant and locally dominant associates include Blackwood Wattle (*Acacia melanoxylon*), Coast banksia (*Banksia integrifolia* var. *integrifolia*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Hard Corkwood (*Endiandra sieberi*) and Black She-oak (*Allocasuarina littoralis*).

Within the Shire it is reserved in Ukerebagh Nature Reserve.

Associated Types include Broad-leaved Paperbark Closed Forest / Woodland Type 401 and Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Coastal Pink Bloodwood / Brush Box Open Forest to Woodland**Vegetation Code 302**

This type occurs as a wet or dry sclerophyll open forest to woodland on relatively fertile sand substrates in estuarine areas, on Quaternary coastal dunes and beaches and on sand islands. Pink Bloodwood (*Corymbia intermedia*) and Brush Box (*Lophostemon confertus*) are the main dominant species and this type associates with Hickory Wattle (*Acacia aulacocarpa*) as an occasional dense mid-stratum.

This type has a more restricted distribution than the related Brush Box Open Forest Type – 207 and Coastal Brush Box Open Forest / Woodland Type - 303 and has similar distribution and occurrences to the Coastal Pink Bloodwood Open Forest / Woodland Type – 301.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Coastal Brush Box Open Forest to Woodland**Vegetation Code 303**

This type occurs as a wet sclerophyll open forest to woodland on Pleistocene barrier sands of marine-aeolian origin but also extends onto sheltered bedrock slopes.

Brush Box (*Lophostemon confertus*) is the main dominant and can occur with co-dominant species including: Pink Bloodwood (*Corymbia intermedia*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Swamp Box (*L. suaveolens*), Swamp Mahogany (*E. robusta*), Grey Ironbark (*E. siderophloia*), Swamp She-oak (*Casuarina glauca*), Bangalow Palm (*Archontophoenix cunninghamiana*) and Water Gum (*Tristaniopsis laurina*).

Sub-dominant and locally dominant species include Blackwood Wattle (*Acacia melanoxylon*), Umbrella Cheese Tree (*Glochidion sumatranum*), Black She-oak (*Allocasuarina littoralis*), Blackbutt (*E. pilularis*), Tallowwood (*E. microcorys*) and Grey Gum (*E. propinqua*).

This type grades into Broad-leaved Paperbark Closed Forest / Woodland Type 401, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 and Swamp She-oak Open Forest to Woodland Types - 601 downslope as soil waterlogging increases.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Coastal Forest Red Gum Open Forest to Woodland**Vegetation Code 304**

This type forms a sclerophyll open forest to woodland on poorly drained heavy soil flats of estuarine origin, occasionally extending onto headlands.

Forest Red Gum (*Eucalyptus tereticornis*) usually occurs as the dominant species but also associates with other canopy dominants including, Swamp Box (*Lophostemon suaveolens*), Pink Bloodwood (*Corymbia intermedia*), Broad-leaved Paperbark (*Melaleuca quinquenervia*) and Hoop Pine (*Araucaria cunninghamii*).

Typical sub-dominants include Swamp She-oak (*Casuarina glauca*), Swamp Mahogany (*E. robusta*), Brush Box (*L. confertus*) and Tuckeroo (*Cupaniopsis anacardioides*).

This type grades into Broad-leaved Paperbark (*Melaleuca quinquenervia*) Open Forest to Woodland Types - 401 and Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 downslope as soil waterlogging increases.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Coastal Swamp Mahogany Open Forest to Woodland

Vegetation Code 305

This type usually occurs as an open to closed swamp sclerophyll forest to woodland at low level sites on heavy, poorly drained waterlogged sands and alluvium near the coast that are subject to periods of increased brackishness, it can also be occasionally found further inland. Within Tweed Shire this type displays a degree of disturbance associated with possible clearing and draining projects in the past that have created a more open structure. The majority of the distribution of Coastal Swamp Mahogany occurred within the coastal study area of Murray & James (1998), with a minor occurrence recorded to the west of the Pacific Highway by *Ecograph*.

The main canopy dominant is Swamp Mahogany (*Eucalyptus robusta*) with occasional occurrences of: *E. patentinervis*, a hybrid of Swamp Mahogany (*E. robusta*) and Forest Red Gum (*E. tereticornis*), Swamp She-oak (*Casuarina glauca*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Swamp Box (*Lophostemon suaveolens*), Tallowwood (*E. microcorys*), Pink Bloodwood (*Corymbia intermedia*), Hard Corkwood (*Endiandra sieberi*) and Red Mahogany (*E. resinifera* ssp. *hemilampra*).

Little understorey is present due to pooling of water but where present includes rainforest and water tolerant species.

This type is associated with coastal communities: Swamp She-oak Closed Forest to Woodland – Type 601, Broad-leaved Paperbark Open Forest to Woodland Type – 401 and Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403.

This is a favoured feed species for Koala.

Significant Species

E. patentinervis (*E. robusta* x *E. tereticornis*)

Vegetation Type Coastal Scribbly Gum Open Forest to Woodland**Vegetation Code 306**

This type forms as a sclerophyll open forest to woodland on poorly drained Pleistocene barrier sands of marine-aeolian origin with low fertility.

Scribbly Gum (*Eucalyptus racemosa*) is often the dominant species but it also associates with other species including, Swamp Mahogany (*E. robusta*), Swamp Box (*Lophostemon suaveolens*), Red Mahogany (*E. resinifera*), Red Bloodwood (*Corymbia gummifera*) and Broad-leaved Paperbark (*Melaleuca quinquenervia*).

Sub-dominant associate species include Pink Bloodwood (*C. intermedia*), Forest Red Gum (*E. tereticornis*), Brush Box (*L. confertus*) and Wallum Banksia (*Banksia aemula*).

This type grades into Swamp Mahogany (*E. robusta*) Type – 305 and Wet Heathland / Shrubland Type – 502 downslope as waterlogging increases.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Coastal Blackbutt Open Forest to Woodland**Vegetation Code 307**

This type is a "moist" or a "dry" sclerophyll open forest to woodland community, depending on the understorey vegetation composition, which is influenced by soil fertility and aspect. These two types have been combined for mapping purposes as they often intergrade, with the boundary between the two seldom clearly defined. It has a scattered coastal distribution, occurring on freely draining Pleistocene barrier sands of marine-aeolian origin.

Blackbutt (*Eucalyptus pilularis*) may be present as a dominant or sub-dominant with a variety of other Eucalypt species also present as co-dominants or sub-dominants.

Co-dominant species include Pink Bloodwood (*Corymbia intermedia*), Brush Box (*Lophostemon confertus*), Broad-leaved Paperbark (*Melaleuca quinquenervia*) and Swamp Box (*L. suaveolens*).

Sub-dominant species include Tallowwood (*E. microcorys*) and Black She-oak (*Allocasuarina littoralis*).

This type grades into Broad-leaved Paperbark Open Forest to Woodland Type - 401 and Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 downslope where soil waterlogging occurs.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Coastal Tallowwood Open Forest to Woodland

Vegetation Code 308

This type forms as a sclerophyll open forest to woodland on sand substrates. Tallowood (*Eucalyptus microcorys*) is the clear dominant but also occurs with other co-dominant canopy species including: Swamp Mahogany (*E. robusta*) and Blackbutt (*E. pilularis*)
Sub-dominant species include Pink Bloodwood (*Corymbia intermedia*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Brush Box (*Lophostemon confertus*) and Swamp She-oak (*Casuarina glauca*).

Associated Types include Broad-leaved Paperbark Closed Forest / Woodland – Type 401, Coastal Swamp Mahogany – Type 305 and Coastal Blackbutt Open Forest to Woodland – Type 307.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Coastal Swamp Box Open Forest to Woodland**Vegetation Code 309**

This type forms as a swamp sclerophyll open forest to woodland. It typically occurs on Pleistocene backbarrier deposits of estuarine origin and grades into Broad-leaved Paperbark (*Melaleuca quinquenervia*) Open Forest to Woodland Types downslope as soil waterlogging increases.

Co-dominant canopy species include Swamp Box (*Lophostemon suaveolens*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Swamp She-oak (*Casuarina glauca*), Coast Banksia (*Banksia integrifolia* var. *integrifolia*), Swamp Mahogany (*Eucalyptus robusta*), Pink Bloodwood (*Corymbia intermedia*), Forest Red Gum (*E. tereticornis*), Hickory Wattle (*Acacia aulacocarpa*) and Ribbonwood (*Euroschinus falcatus*).

Sub-dominant species include Brush Box (*L. confertus*), Black She-oak (*Allocasuarina littoralis*), Blueberry Ash (*Elaeocarpus reticulatus*) and White Bottlebrush (*Callistemon salignus*).

Associated Types include: Wet Heathland to Shrubland – Type 502, Broad-leaved Paperbark Closed Forest / Woodland – Type 401, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 and Native Grasslands – Type 902.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Banksia Dry Sclerophyll Open Forest to Shrubland**Vegetation Code 310**

This type forms as an open forest to shrubland on deep sand soils usually within close proximity of the ocean. It comprises numerous small Banksia tree species including Coast Banksia (*Banksia integrifolia* var. *integrifolia*), which is the most prolific species. Other associated canopy species and emergents include Blackwood Wattle (*Acacia melanoxylon*), Hickory Wattle (*A. aulacocarpa*), Horsetail She-oak (*Casuarina equisetifolia* ssp. *incana*), Swamp She-oak (*C. glauca*), Cypress Pine (*Callitris columellaris*), Cottonwood (*Hibiscus tiliaceus*), Swamp Mahogany (*Eucalyptus robusta*), Pink Bloodwood (*Corymbia intermedia*) and Brush Box (*Lophostemon confertus*).

Other sub-dominant species include Coastal Wattle (*Acacia sophorae*), Cheese Tree species (*Glochidion* spp.), Tuckeroo (*Cupaniopsis anacardioides*), Broad-leaved Apple (*Angophora subvelutina*), Coastal Tea-tree (*Leptospermum laevigatum*), Coastal Acronychia (*Acronychia imperforata*) Red Ash (*Alphitonia excelsa*) and Native Guava (*Rhodomyrtus psidioides*).

This type may grade into the Littoral Rainforest Type – 101 toward the lee side of frontal sand dunes. It is often located in proximity to the Post-mining Regeneration Type – 1008 where Horsetail She-oak (*Casuarina equisetifolia* ssp. *incana*) is a planted species and grades into the Foredune Complex Type – 801 along the foreshore.

Significant Species

Not determined

Vegetation Type Coastal Acacia Communities

Vegetation Code 311

This type forms a low closed forest to woodland often fairly monospecific or even-aged stands, which are generally a response to a disturbance event, such as a fire or clearing. These coastal communities form on sand substrates and associate with surrounding vegetation types. They are usually a short-lived stage that will develop into a more lasting floristic community. Some species, such as Coastal Wattle (*Acacia sophorae*) have been actively planted as part of a dune stabilization program.

Species that form these communities include Blackwood Wattle (*Acacia melanoxylon*), Hickory Wattle (*A. aulacocarpa*), Golden Wattle (*A. saligna*) (a non-local native species) and Coastal Wattle (*Acacia sophorae*). Within the Tweed, associated species in this type include Umbrella Cheese Tree (*Glochidion sumatranum*), Cheese Tree (*G. ferdinandii*), Brown Kurrajong (*Commersonia bartramia*), Macaranga (*Macaranga tanarius*), Coast Banksia (*Banksia integrifolia* var. *integrifolia*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Swamp Mahogany (*Eucalyptus robusta*), Pink Bloodwood (*Corymbia intermedia*), Coast Teatree (*Leptospermum laevigatum*) and Camphor Laurel (*Cinnamomum camphora*).

Associated Types include Broad-leaved Paperbark Closed Forest / Woodland – Type 401.

Significant Species

Not determined

Vegetation Type Black She-oak Low Open Forest to Woodland

Vegetation Code 312

This type varies in form from a low dry sclerophyll forest to woodland dominated by Black She-oak (*Allocasuarina littoralis*). It develops on sand substrates near the coast and on dry flats and slopes on rhyolite soils and metasediments further inland where Black She-oak (*A. littoralis*) occurs as an understorey species in Eucalyptus forest types.

Black She-oak (*A. littoralis*) often forms as a pure stand either naturally or as the result of disturbance such as clearing or fire, which produces even aged communities.

Species associated with this type include Wallum Banksia (*Banksia aemula*), Coast Banksia (*Banksia integrifolia* var. *integrifolia*), Wild May (*Leptospermum polygalifolium*), Coast Tea-tree (*L. laevigatum*) and Duboisia (*Duboisia myoporoides*).

Emergent species include Brush Box (*Lophostemon confertus*), Pink Bloodwood (*Corymbia intermedia*), Swamp Box (*L. suaveolens*) and Broad-leaved Paperbark (*Melaleuca quinquenervia*).

Associated Types include Wet Heathland to Shrubland – Type 502 and Broad-leaved Paperbark Closed Forest / Woodland – Type 401.

Significant Species

Not determined

Vegetation Type Cypress Pine Open Forest to Woodland**Vegetation Code 313**

This type occurs as a dry sclerophyll open forest to woodland on Pleistocene barrier sands of marine-aeolian origin slightly inland of the littoral zone. These stands are clearly dominated by Cypress Pine (*Callitris columellaris*) with associated species including, Swamp Box (*Lophostemon suaveolens*), Coast Banksia (*Banksia integrifolia* var. *integrifolia*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Coast Acronychia (*Acronychia imperforata*), Brush Box (*L. confertus*), Scribbly Gum (*Eucalyptus racemosa*), Pink Bloodwood (*Corymbia intermedia*) and Saffron-heart (*Halfordia kendack*).

This type grades into Broad-leaved Paperbark Open Forest to Woodland - Type 401, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 downslope as waterlogging increases and Coastal Scribbly Gum Open Forest to Woodland - Type 306 is an associate in places.

This type is confined to far north NSW and SE Qld.

Significant Species

Basket Fern (*Drynaria rigidula*), White Lace Flower (*Archidendron hendersonii*) and Scented Acronychia (*Acronychia littoralis*).

Vegetation Type Broad-leaved Paperbark Closed Forest to Woodland**Vegetation Code 401**

This type occurs as a swamp sclerophyll closed forest to woodland, largely confined to the coastal plains and subjected to periodic inundation. It occurs in low-lying waterlogged saline depressions, often on Pleistocene sandplains and riverine and estuarine alluvium of moderate fertility.

Broad-leaved Paperbark (*Melaleuca quinquenervia*) often occurs as the sole dominant species in this type. Broad-leaved Paperbark closed forest to woodland is largely confined to the coastal plains and subjected to extensive clearing in the past. Occasional associated canopy species include Forest Red Gum (*Eucalyptus tereticornis*), Swamp She-oak (*Casuarina glauca*), Swamp Mahogany (*E. robusta*), Pink Bloodwood (*Corymbia intermedia*), Swamp Box (*Lophostemon suaveolens*), Bangalow Palm (*Archontophoenix cunninghamiana*), Scribbly Gum (*E. signata/racemosa*), Hoop Pine (*Araucaria cunninghamii*) and Blackbutt (*E. pilularis*).

Other associated species at more open sites include Brush Box (*L. confertus*), Hickory Wattle (*Acacia aulacocarpa*), Blackwood Wattle (*A. melanoxylon*), Cypress Pine (*Callitris columellaris*), White Bottlebrush (*Callistemon salignus*), Umbrella Cheese Tree (*Glochidion sumatranum*), Coast Banksia (*Banksia integrifolia* var. *integrifolia*), Tuckeroo (*Cupaniopsis anacardioides*), Cottonwood (*Hibiscus tiliaceus*) and Camphor Laurel (*Cinnamomum camphora*).

The ground layer usually contains sedgeland species.

This type grades into other Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland – Type 402, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403, the Coastal Swamp Mahogany Open Forest to Woodland - Type 213, and the Swamp She-oak Closed Forest to Woodland - Type 601.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland

Vegetation Code 402

This type is a swamp sclerophyll closed forest to woodland on wet sands and alluvium, and occurs in swamps and around the margins of brackish water bodies.

Broad-leaved Paperbark (*Melaleuca quinquenervia*) and Swamp She-oak (*Casuarina glauca*) may be the only species present or they may form mixed stands with several other species including, Forest Red Gum (*Eucalyptus tereticornis*), Coast Banksia (*Banksia integrifolia* var. *integrifolia*), Swamp Box (*Lophostemon suaveolens*), Swamp Mahogany (*E. robusta*) and Milky Mangrove (*Excoecaria agallocha*).

This type grades into Broad-leaved Paperbark Open Forest to Woodland - Type 401, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403, Coastal Swamp Mahogany Open Forest to Woodland - Type 213, and Swamp She-oak Closed Forest to Woodland - Type 601.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type **Broad-leaved Paperbark + Eucalyptus spp. +/- Swamp Box Closed Forest to Woodland**

Vegetation Code **403**

This swamp sclerophyll closed forest to woodland occurs on wet sands and alluvium, in swamps and around the margins of brackish water bodies. It is also found on low-lying waterlogged saline depressions, often on Pleistocene sandplains and riverine and estuarine areas of moderate fertility. Broad-leaved Paperbark (*Melaleuca quinquenervia*), Swamp She-oak (*Casuarina glauca*) and assorted Eucalyptus species may be the only species present or they may form mixed stands with several other species, most predominantly Swamp Box (*Lophostemon suaveolens*).

Associated canopy species include Swamp Mahogany (*E. robusta*), Forest Red Gum (*E. tereticornis*), Pink Bloodwood (*Corymbia intermedia*), Scribbly Gum (*E. signata/racemosa*), Brush Box (*L. confertus*) and Cypress Pine (*Callitris columellaris*).

This type grades into Broad-leaved Paperbark Open Forest to Woodland - Type 401, Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland – Type 402, Coastal Swamp Mahogany Open Forest to Woodland - Type 213, and Swamp She-oak Closed Forest to Woodland - Type 601.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type **Dry Heathland / Shrubland**

Vegetation Code **501**

This type occurs generally as a dry low closed heathland to open shrubland community, most of the constituent plants possessing small, xeromorphic and frequently sharp-pointed leaves. This type develops on flats of shallow Pleistocene barrier sands of marine-aeolian origin, typically on sandy podzolic soils of low fertility.

The shorter stature of the heathland formation occurs where this type is exposed to prevailing onshore winds and the taller shrubland formation where less exposed to such winds.

Typical species of this type include Wallum Banksia (*Banksia aemula*), Dwarf Banksia (*B. oblongifolia*), *Leptospermum whitei*, Wild May (*L. polygalifolium*), *L. trinervium*, Coast Tea-tree (*L. laevigatum*), Black She-oak (*Allocasuarina littoralis*), *Homoranthus virgatus*, *Aotus ericoides*, Weeping Baeckea (*Baeckea stenophylla*), *Leucopogon parvifolius* and *L. ericoides*. Emergent species may include Coast Banksia (*Banksia integrifolia* var. *integrifolia*), Hickory Wattle (*Acacia aulacocarpa*) and Pink Bloodwood (*Corymbia intermedia*).

This type grades into Wet Heathland to Shrubland - Type 502 where soils become waterlogged.

This type possesses a High Biodiversity of species.

Significant Species

Dark Greenhood (*Pterostylis nigricans*).

Vegetation Type Wet Heathland / Shrubland

Vegetation Code 502

This type occurs as a mid-high to tall closed wet heathland, and is a floristically variable community encompassing a range of dominant species that are not always present together. Species that occur include Swamp Banksia (*Banksia robur*), Weeping Baeckea (*Baeckea stenophylla*), *B. stenomera*, *Aotus lanigera*, *Conospermum taxifolium*, *Leptospermum liversidgei*, *L. juniperinum*, *Callistemon pachyphyllus*, *Xanthorrhoea fulva*, *Phebalium squameum*, *Leptocarpus tenax*, *Lepyrodia interrupta*, *L. muelleri*, *Sprengelia sprengelioides*.

This type grades into the Dry Heathland to Shrubland - Type 501, Coastal Scribbly Gum Open Forest to Woodland - Type 306 and Coastal Swamp Mahogany Open Forest to Woodland - Type 305 upslope as soil drainage improves and into Sedgeland / Rushland - Type 701 where soil waterlogging increases.

This type possesses a High Biodiversity of species.

Significant Species

Not determined

Vegetation Type Montane Heathland

Vegetation Code 503

This type occurs as a closed heathland to tall shrubland community up to 2m that is usually found on shallow soils of low fertility on exposed ridgetops. Most of the constituent plants possess small, xeromorphic and frequently sharp-pointed leaves.

The following species may occur Blackwood Wattle (*A. melanoxydon*), Steelhead (*Callitris monticola*), Slender Beard Orchid (*Calochilus gracillimus*), *Comesperma ericinum* form B, Spear Lily (*Doryanthes palmeri*), *Gahnia insignis*, *Grevillea linsmithii*, *Leucopogon cicatricatus*, *Phebalium elatius* ssp. *beckleri*, *Pomaderris notata*, *Thelionema grande*, *Westringea blakeana*, *W. sericea* and *Zieria adenomata*.

Emergent species may include *E. microcodon* and She-oak (*Allocasuarina rigida*).

This type may intergrade with New England Blackbutt Open Forest – Type 213; Cool Temperate Rainforest – Type 107 and Rock Faces – Type 901.

Significant species

Steelhead (*Callitris monticola*), Spear Lily (*Doryanthes palmeri*), *Melaleuca groveana*.

Vegetation Type Swamp She-oak Closed Forest to Woodland**Vegetation Code 601**

This is a swamp sclerophyll closed forest to woodland, developing on Holocene intertidal sediments where soils are saline or sub-saline.

Swamp She-oak (*Casuarina glauca*) forests usually form as pure stands but do occasionally associate with other species including, Broad-leaved Paperbark (*Melaleuca quinquenervia*), Swamp Mahogany (*Eucalyptus robusta*), Forest Red Gum (*E. tereticornis*), Grey Mangrove (*Avicennia marina* var. *australasica*), Milky Mangrove (*Excoecaria agallocha*), Black mangrove (*Bruguiera gymnorhiza*) and Cottonwood (*Hibiscus tiliaceus*).

This type grades into Saltmarsh Communities - Type 603 downslope towards the high-tide level and into Broad-leaved Paperbark Open Forest to Woodland - Type 401, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 and Coastal Swamp Mahogany Open Forest to Woodland - Type 213 under less saline conditions.

This type contains Koala food tree species.

Significant Species

Not determined

Vegetation Type Mangrove Low Closed Forest to Woodland**Vegetation Code 602**

This type occurs as a low closed forest to woodland in tidal estuaries on mud banks of the intertidal zone.

Within the Shire the majority of its distribution falls within the Tweed River estuary with small areas located in Cudgen Lake, Cudgen Creek, Cudgera Creek and Mooball Creek. The Tweed River estuary is one of only two in NSW that possesses all five mangrove species recorded within the State.

Ukerebagh Nature Reserve contains 15% of the Shire's mangrove communities.

Species that occur are, Grey Mangrove (*Avicennia marina* var. *australasica*), Milky Mangrove (*Excoecaria agallocha*), Black Mangrove (*Bruguiera gymnorhiza*), River Mangrove (*Aegiceras corniculatum*) and Spider Mangrove (*Rhizophora stylosa*). These species are associated with Cottonwood (*Hibiscus tiliaceus*) which occurs at the upper limit of the tidal influence.

Other associated species include: Swamp She-oak (*Casuarina glauca*), Salt Marsh (*Sarcocornia quinqueflora*), Samphire Meadow (*Suaeda australis*) and Salt Grass (*Sporobolus virginicus*).

This type grades with the Saltmarsh Communities - Type 603.

This type possesses great economic significance as a breeding ground for fish and other marine life.

Significant Species

Not determined

Vegetation Type Saltmarsh Communities**Vegetation Code 603**

Pressey and Griffith (1992) identified Saltmarsh communities within the Tweed as occurring as three different community type based on dominant species and structure, all on interbedded estuarine sediments.

The following are their descriptions of those community types.

S1 - *Sporobolus virginicus* – *Sarcocornia quinqueflora* dwarf to mid-high closed tussock grassland/chenopod shrubland. This type is inundated by spring high tides and grades into the Mangrove Low Closed Forest to Woodland Type – 602 downslope and may grade diffusely into the other community types S2 and S3 where seldom inundated by high tides.

S2 – *Juncus kraussii* tall to very tall closed rushland. This type grades sharply or diffusely into community type S1 downslope with more inundation from spring high tides and grades sharply or diffusely into S3 or the Swamp She-oak Closed Forest to Woodland Type – 601 higher above the level of tidal influence.

S3 – *Baumea juncea* tall to very tall closed sedgeland, which grades sharply or diffusely into community type S1 or S2 where occasionally subject to tidal inundation and often grades into the Swamp She-oak Closed Forest to Woodland Type – 601 further upslope.

Species that were identified in this type during field survey Murray & James (1998) include the following dominant or co-dominant species, *Sporobolus virginicus*, *Sarcocornia quinqueflora*, *Juncus kraussii*, *Baumea juncea*, *Suaeda australis*, *Phragmites australis*, *Fimbristylis ferruginea*, *Erichloa procera*, *Zoysia macrantha*, *Triglochin striata* and *Bacopa monniera*.

Emergent species included, Grey Mangrove (*Avicennia marina*), Swamp She-oak (*Casuarina glauca*) and Black Mangrove (*Bruguiera gymnorhiza*).

Significant Species

Not determined

Vegetation Type Sedgeland / Rushland (Murray & James 1998 Study Area Only)**Vegetation Code 701**

Pressey and Griffith (1992) identified Sedgeland / Rushland communities within the Tweed as occurring as two different community type based on dominant species and structure.

The following are their descriptions of those community types.

E1 – *Baumea rubiginosa* tall closed sedgeland. Occurs in low-lying open depressions on acid peat soils derived from Pleistocene backbarrier deposits of estuarine origin. This type grades into the Broad-leaved Paperbark Closed Forest to Woodland Types - 401 – 403 upslope as drainage improves and into the Fernland / Forbland Type - 702.

E2 – *Elocharis equisetina* tall closed sedgeland. Occurs in open depressions on Holocene tidal delta sand of estuarine origin. Many areas are adjacent to land converted to open pasture which was probably previously dominated by Swamp She-oak Closed Forest to Woodland Type – 601.

Other communities of rushland also identified by Pressey & Griffith (1992) but not coded by them associating with dunal areas within the Tweed include:

- *Lepironia articulata* tall closed sedgeland in low-lying open depressions on acid peat soils derived from backbarrier deposits of estuarine origin (sampled by Murray 1989);

- *Phragmites australis* rushland and *Typha orientalis* rushland, which occur as a combined community from the Cobaki Broadwater area (Murray 1987a) in conjunction with *Cyperus lucidus*; and for dunal wetlands north of Cudgen Lake (Murray 1989);
- A variable community including: *Baumea teretifolia*, *Chorizandra sphaerocephala*, *Leptocarpus tenax*, *Restio pallens* and *Schoenus brevifolius*, this is widespread on the north coast in open depressions inundated to a lesser degree than those supporting *Lepironia articulata* or *Baumea rubignosa* (E1) communities.

Other species that occur in this type include *Restio tetraphyllus*, *Bacopa monniera*, *Gahnia clarkii*, *G. sieberiana*, *Ischaemum australe*, *Cladium procerum*, *Juncus kraussii*, *Fimbrisylis ferruginea*, *Urochloa mutica* and *Xanthorrhoea fulva*.

Significant Species

Square-stemmed Spike-rush (*Eleocharis tetraquetra*)

Vegetation Type Fernland / Forbland (Murray & James 1998 Study Area Only)

Vegetation Code 702

This type consists of two vegetation communities identified by previous authors, have been incorporated into a single type for the purposes of mapping.

Pressey and Griffith (1992) identified a Forbland community within the Tweed based on dominant species and structure.

The following is their descriptions of that type.

E3 – *Triglochin procerum* – tall forbland to tall open forbland. Occurs in open depressions on acid peat soils derived from Pleistocene backbarrier deposits of estuarine origin.

This community grades into the Broad-leaved Paperbark Open Forest to Woodland - Type 401, Broad-leaved Paperbark and Eucalyptus species +/- Swamp Box Forest / Woodland - Type 403 upslope as drainage improves and into the *Baumea rubignosa* sedgeland community - E1. This forbland occurs in the vicinity of Cudgen Lake.

Griffith (1993) acknowledges a Fernland community, which has been identified within the Tweed by Murray and James (1998).

This community is *Blechnum indicium*, which occurs in basins of the coastal floodplain on alluvial soils and below the 10-metre contour. These basins occasionally or regularly hold water and are not associated with dune formations or significantly influenced by tidal action. Floodplain wetland communities are found along the lower floodplain of the Tweed River and along the tributaries of the Cobaki and Terranora Broadwater's.

Other species that occur within this type are *Acrostichum speciosum*, *Gleichenia dicarpa*, *Typha orientalis*, *Gahnia sieberiana*, *Baumea articulata*, *Leersia hexandra*, *Lepironia articulata*, *Hemarthria uncinata*, *Philydrum lanuginosum* and *Nymphaea capensis*.

Significant Species

Not determined

Vegetation Type Freshwater Wetlands

Vegetation Code 703

Freshwater wetlands occur in basins of the coastal floodplain on alluvial soils and below the 10-metre contour. These basins occasionally or regularly hold water and are not associated with dune formations or significantly influenced by tidal action. Floodplain wetland communities are found along the lower floodplain of the Tweed River and along the tributaries of the Cobaki and Terranora Broadwaters, these are generally of a size too small to map. Wetlands that were mapped were located on Stotts Island NR and a small area adjacent to the Murwillumbah industrial area that has been seriously degraded by infilling and exotic weed infestation. Species that occur in this type include *Crinum pedunculatum*, *Acrostichum speciosum*, *Phragmites australis* and *Nymphaea capensis*.

This type may intergrade with the Sedgeland / Rushland - Type 701, Fernland / Forbland - Type 702, Swamp She-oak Open Forest to Woodland - Type 601, Broad-leaved Paperbark Open Forest to Woodland - Type 401 or the Lowland Rainforest on Floodplain - Type 104.

Significant Species

Not determined

Vegetation Type Foredune Complex**Vegetation Code 801**

This type occurs as a low to mid-high tussock grassland of variable crown cover, dominated by *Spinifex sericeus* that occurs on the exposed foredunes and can occur on exposed parts of dunes a short distance inland, but still within the coastal dune zone.

Other co-dominant species include *Carex pumila* and *Vigna marina*.

Species present as occasional plants include Coast Wattle (*Acacia sophorae*), Coast Banksia (*Banksia integrifolia* var. *integrifolia*) and the non-endemic species Horsetail She-oak (*Casuarina equisetifolia* ssp. *incana*), Golden Wattle (*Acacia saligna*), Coast Tea-tree (*Leptospermum laevigatum*) and the exotic species Bitou Bush (*Chrysanthemoides monilifera* ssp. *rotundata*).

This type is closely associated with other frontal dune types including Post-mining Regeneration - Type 1008, Coastal Acacia Communities - Type 311 and Banksia Dry Sclerophyll Open Forest to Shrubland - Type 310. In some instances it may grade back into areas containing elements of Littoral Rainforest - Type 101.

Significant Species

Chamaesyce psammogeton

Vegetation Type Rock Faces**Vegetation Code 901**

This type is comprised of rock faces, some of which support sparse vegetation. They are often composed of sheets of rhyolite as can be viewed on the upper slopes of Mt. Warning.

Species that can occur on these rock faces include: Rock Lily (*Dendrobium speciosum*), Tongue Orchid (*D. linguiforme*), Pink Rock Orchid (*D. kingianum*), Spear Lily (*Doryanthes palmeri*), Grass spp., *Plectranthus* spp., *Pepperomia* spp. and weed species including Mist Flower (*Ageratina riparia*).

Cool temperate rainforest species from Suballiance No 49 (see Type 107) may spread onto the rock faces and include the following; Sweet Pittosporum (*Pittosporum undulatum*), Lance Beard-heath (*Leucopogon lanceolatus*), Tree Heath (*Trochocarpa laurina*), Cut-leaf Mint Bush (*Prostanthera incisa*), *Xanthorrhoea latifolia* subsp. *maxima*, *Acomis acoma*, Tall Cassinia (*Cassinia compacta*), *Olearia vagans* and Sticky Daisy Bush (*Olearia elliptica*).

This type occurs in conjunction with Sclerophyll Open Forests on bedrock substrates and with Rainforest communities in the hills and ranges of the Shire. It may intergrade with Cool Temperate Rainforest – Type 107 or Montane Heathland – Type 503.

Significant Species

Spear Lily (*Doryanthes palmeri*), Nightcap Plectranthus (*Plectranthus nitidus*), *Olearia vagans* and *Melaleuca groveana*.

Vegetation Type Native Grasslands (Murray & James 1998 Study Area Only)

Vegetation Code 902

This type consists of grassland areas where at least half the species present are native. These areas may still experience some disturbance such as grazing or burning but whose diversity is unaffected.

Species recorded for these areas include: *Cyclosorus interruptus*, *Panicum simile*, *Selaginella uliginosa*, *Zoysia macrantha*, *Aristida warburgii*, *Fimbristylis nutans*, *Rhynchelytrum repens*, *Digitaria didactyla*, *D. ciliaris*, *Setaria sphacelata*, *Stenotaphrum secundatum*, *Andropogon virginicus*, *Paspalum urvillei*, *P. notatum*, *P. wettsteinii*, *P. vaginatum* and *Axonopus communis*.

This type is associated with Coastal Swamp Box Open Forest to Woodland – Type 309, Broad-leaved Paperbark Open Forest to Woodland - Type 401, Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland – Type 402, and Sedgeland / Rushland – Type 701 and is often adjacent to areas cleared of other vegetation.

Significant Species

Not determined

Vegetation Type Open Water

Vegetation Code 903

This type is mapped as expanses of open water both fresh and saline and with or without floating vegetation or vegetated edges. Typical occurrences in Tweed Shire are Clarrie Hall Dam near Uki and Cudgen Lake.

Vegetation Type Mowed Heathland (Murray & James 1998 Study Area Only)**Vegetation Code 1001**

This vegetation shares the potential species diversity of both the Dry Heathland / Shrubland and Wet Heathland / Shrubland Types – 501 and 502. However this community has been affected by regular long-term disturbance through slashing. It also retains the species diversity to be capable of regeneration into the heathland types mentioned above.

Species recorded for this type include *Leucopogon* ssp., *Pteridium esculentum*, *Leptospermum* ssp., *Callistemon pachyphyllus*, *Acacia ulicifolia* and *Caustis recurvata*.

This type adjoins areas of Sclerophyll Forests / Woodlands on sand substrates and Wet Heathland to Shrubland – Type 502 and Dry Heathland to Shrubland – Type 501

Significant Species

Not determined

Vegetation Type Early Regrowth Rainforest**Vegetation Code 1002**

This type occurs with a mixture of early stage rainforest regeneration and some sclerophyll species often on soils of high fertility where rainforest or wet sclerophyll open forest to woodland types may have previously occurred. Included in this type are areas adjacent to estuarine communities dominated by Macaranga (*M. tanarius*) and Cottonwood (*Hibiscus tiliaceus*) due to their similarity in floristic structure. They are the result of a prior disturbance event, usually clearing and, in time may regenerate rainforest composition and structure.

Species that are typical of this type include Macaranga (*Macaranga tanarius*), Cheese Tree (*Glochidion ferdiandii*), Umbrella Cheese Tree (*G. sumatranum*), Red Ash (*Alphitonia excelsa*), Guioa (*Guioa semiglauca*), Foambark (*Jagera pseudorhus*), Red Kamala (*Mallotus philipensis*), Bleeding Heart (*Omalanthus populifolius*), Brown Kurrajong (*Commersonia bartramia*), Brush Box (*Lophostemon confertus*), White Nettle (*Pipturus argenteus*), Blackwood Wattle (*Acacia melanoxydon*), Hickory Wattle (*A. aulacocarpa*), Creek Fig (*Ficus coronata*), Hard Quandong (*Elaeocarpus obovatus*), Wild Tobacco (*Solanum mauritianum*) and Rough-leaved Elm (*Aphananthe philippinensis*).

Weed species of this type include Camphor Laurel (*Cinnamomum camphora*), Lantana (*Lantana camara*), Molasses Grass (*Melinis minutiflora*), Blady Grass (*Imperata cylindrica*), Crofton Weed (*Ageratina adenophora*), Mist Flower (*Ageratina riparia*) and *Senna* spp.

Associated vegetation types include Blackbutt Open Forest to Woodland Type - 201, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Flooded Gum Open Forest to Woodland Type - 206, Sydney Blue Gum Open Forest – Type 205, Tallowwood Open Forest to Woodland Type - 208, Brush Box Open Forest – Type 207, Sub-tropical / Warm Temperate Rainforest Type – 102, Dry Rainforest – Type 103, Broad-leaved Paperbark Open Forest to Woodland - Type 401, Swamp She-oak Closed Forest to Woodland - Type 601, River She-oak Open Forest – Type 106, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003 and Camphor Laurel Dominant Closed to Open Forest – Type 1004.

Significant Species

Not determined

Vegetation Type Acacia / Other Sclerophyll Regrowth Forest to Woodland

Vegetation Code 1003

This type is a community that has developed as the result of a prior disturbance event; frequently clearing associated with logging or agriculture or as the result of fire. This type is dominated by early regeneration sclerophyll species and usually develops in areas that previously supported Dry or Wet Sclerophyll open forest to woodlands.

Species common to this type include Blackwood Wattle (*Acacia melanoxylon*), Hickory Wattle (*A. aulacocarpa*), Macaranga (*Macaranga tanarius*), Camphor Laurel (*Cinnamomum camphora*) and Brush Box (*Lophostemon confertus*).

Occasional sub-dominant species include Flooded Gum (*Eucalyptus grandis*), Sydney Blue Gum (*E. saligna*), Grey Ironbark (*E. siderophloia*), Pink Bloodwood (*Corymbia intermedia*), Lantana (*Lantana camara*) and Bracken Fern (*Pteridium esculentum*).

Associated vegetation types include Blackbutt Open Forest to Woodland Type - 201, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Rough-barked Apple Open Forest – Type 203, Flooded Gum Open Forest to Woodland Type - 206, Sydney Blue Gum Open Forest – Type 205, Tallowwood Open Forest to Woodland Type - 208, Brush Box Open Forest – Type 207, Myrtaceous Riparian Low Closed Forest to Woodland – Type 105, Sub-tropical / Warm Temperate Rainforest Type – 102, Eucalyptus species +/- Swamp Box Forest / Woodland – Type 403 and Early Regrowth Rainforest – Type 1002.

Significant Species

Not determined

Vegetation Type Camphor Laurel Dominant Closed to Open Forests

Vegetation Code 1004

This type is dominated by Camphor Laurel (*Cinnamomum camphora*) and often occurs as pure, even-aged stands or where disturbance has been extensive in other vegetation types some emergents or remnants of this type may remain. Other species, such as Brush Box (*Lophostemon confertus*), may occur within this type having established at the same time as the Camphor.

This type occurs on more fertile soils especially those of volcanic origin and in areas of high soil moisture, typically colonising areas that may have previously supported rainforest or wet sclerophyll forest that had been cleared for agriculture.

Extensive stands occur in the Uki – Smiths Creek region, to the west of Tyalgum along the creek and in the Burringbar region.

Co-dominant species recorded within this type include: Blackwood Wattle (*Acacia melanoxylon*), Macaranga (*Macaranga tanarius*), River She-oak (*Casuarina cunninghamiana*), Brush Box (*Lophostemon confertus*), Bangalow Palm (*Archontophoenix cunninghamiana*), Hoop Pine (*Araucaria cunninghamii*) and Broad-leaved Paperbark (*Melaleuca quinquenervia*). Sub-dominant or locally dominant species include: Red Ash (*Alphitonia excelsa*), Guioa (*Guioa semiglaucula*), Foambark (*Jagera pseudorhus*), Red Kamala (*Mallotus phillipensis*), Brown Kurrajong (*Commersonia bartramia*), Black Bean (*Castanospermum australe*), Grey Myrtle

(*Backhousia myrtifolia*), Lilly Pilly (*Acmena smithii*), Water Gum (*Tristanopsis laurina*), Weeping Lilly Pilly (*Waterhousea floribunda*), Lantana (*Lantana camara*), Large-leaf Privet (*Ligustrum lucidum*), Small-leaf Privet (*L. sinense*), Cat's-claw Creeper (*Macfadyena unguis-catii*), Umbrella Tree (*Schefflera actinophylla*) and Wild Tobacco (*Solanum mauritianum*).

Associated vegetation types include Blackbutt Open Forest to Woodland Type - 201, Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex – Type 202, Flooded Gum Open Forest to Woodland Type - 206, Tallowwood Open Forest to Woodland Type - 208, Brush Box Open Forest – Type 207, Sub-tropical / Warm Temperate Rainforest Type – 102, Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland – Type 402, Acacia / Other Sclerophyll Open Forest to Woodland – Type 1003, River She-oak Open Forest – Type 106 and Early Regrowth Rainforest – Type 1002.

Significant Species

Not determined

Vegetation Type Native Plantation

Vegetation Code 1005

This type comprises areas deliberately planted out to native species for the production of timber resources. The largest areas of this type are those planted by Tweed Shire Council on Byrill Creek road and further south adjoining Mebbin State Forest.

Species employed include Hoop Pine (*Araucaria cunninghamii*), Sydney Blue Gum (*Eucalyptus saligna*), Flooded Gum (*E. grandis*), Blackbutt (*E. pilularis*) and Gympie Messmate (*E. cloeziana*).

Significant Species

Not determined

Vegetation Type Exotic Plantation

Vegetation Code 1006

This type comprises areas deliberately planted out to exotic species, mostly Pine, for the production of timber resources. They occur throughout the Shire in generally smaller sized plantings than those for Native Plantations.

The main species used are Slash Pine (*Pinus elliottii*) and Caribbean Pine (*P. caribaea*).

Significant Species

Not determined

Vegetation Type Urban Bushland

Vegetation Code 1007

This type exhibits an array of planted native and exotic species in conjunction with remnant species. They are generally located within close vicinity of urban or rural residential areas and are large enough to have been mapped.

Significant Species

Not determined

Vegetation Type Post-mining Regeneration

Vegetation Code 1008

This type represents substantial areas of foredune along the Tweed Coast that were sand-mined from the 1950's to the 1970's and subsequently replanted with a mixture of local and non-endemic species.

The species employed include endemic species Coast Wattle (*Acacia sophorae*) and Coast Banksia (*Banksia integrifolia* var. *integrifolia*), the non-endemic species; Horse-tail She-oak (*Casuarina equisetifolia* ssp. *incana*), Golden Wattle (*Acacia saligna*) and Coast Tea-tree (*Leptospermum laevigatum*) and the exotic species Bitou Bush (*Chrysanthemoides monilifera* ssp. *rotundata*), which is displacing foredune communities along the entire N. S. W. coastline.

This type is associated with the Foredune Complex Type – 801, Banksia Dry Sclerophyll Open Forest to Woodland Type – 310 and in places with Littoral Rainforest Type – 101.

Vegetation Type Substantially Cleared of Native Vegetation

Vegetation Code 1099

This type forms approximately half of the area of the Shire and includes areas cleared for agriculture, recreation facilities, roads and urban development. Vegetated areas occurring in this type are generally dominated by exotic grass species; if native vegetation is present it is very sparse and highly disturbed. It may include naturally clear areas such as beach sands and associated coastal rocks.

Appendix 7

Ecological Attributes and Look-up Tables

Codes and Classification			Ecological Attributes							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Bushland	Remnant Vegetation Type	Part of High Biodiversity System	Dunal System	Riparian/ Floodplain Community	Estuarine Community	Wetland Community	Communities with Species Utilised by Koala (from AKF 1996)
Vegcode	Vegtype	MajVegCom	Contveg	RemvegType	Biodiv	Dunal	Riparian	Estuarine	Wetland	Koala_spp
101	Littoral Rainforest	Rainforest and Riparian Communities	1	Integral Bushland	R	Y				Unsuitable / Marginal
102	Sub-tropical / Warm Temperate Rainforest on Bedrock Substrates	Rainforest and Riparian Communities	1	Integral Bushland	R		Y?			Unsuitable / Marginal
103	Dry Rainforest	Rainforest and Riparian Communities	1	Integral Bushland	R					Unsuitable / Marginal
104	Lowland Rainforest on Floodplain	Rainforest and Riparian Communities	1	Integral Bushland	R		Y			Unsuitable / Marginal
105	Myrtaceous Riparian Low Closed Forest to Woodland	Rainforest and Riparian Communities	1	Integral Bushland	R		Y			Unsuitable / Marginal
106	River She-oak Open Forest	Rainforest and Riparian Communities	1	Integral Bushland	R		Y			Unsuitable / Marginal
107	Cool Temperate Rainforest	Rainforest and Riparian Communities	1	Integral Bushland	R					Unsuitable / Marginal
201	Blackbutt Open Forest Complex	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Candidate Primary Habitat
202	Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Candidate Primary Habitat
203	Broad-leaved Apple Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Unsuitable / Marginal
204	Scribbly Gum / Pink Bloodwood Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Secondary Habitat
205	Sydney Blue Gum Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Candidate Primary Habitat
206	Flooded Gum Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Candidate Primary Habitat
207	Brush Box Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Candidate Primary Habitat
208	Tallowwood Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Candidate Primary Habitat
211	Turpentine +/- Pink Bloodwood Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Secondary Habitat
212	Swamp Box Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland					Y?	Secondary Habitat
213	New England Blackbutt Open Forest	Sclerophyll Open Forests on Bedrock Substrates	1	Integral Bushland						Unsuitable / Marginal
301	Coastal Pink Bloodwood Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland						Secondary Habitat
302	Coastal Pink Bloodwood / Brush Box Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland						Secondary Habitat
303	Coastal Brush Box Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland						Secondary Habitat
304	Coastal Forest Red Gum Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland			Y			Candidate Primary Habitat
305	Coastal Swamp Mahogany Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland			Y		Y	Candidate Primary Habitat
306	Coastal Scribbly Gum Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland						Secondary Habitat
307	Coastal Blackbutt Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland						Secondary Habitat
308	Coastal Tallowwood Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland						Candidate Primary Habitat
309	Coastal Swamp Box Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland			Y		Y	Unsuitable / Marginal
310	Banksia Dry Sclerophyll Open Forest to Shrubland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland		Y				Unsuitable / Marginal
311	Coastal Acacia Communities	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland		Y?				Unsuitable / Marginal
312	Black She-oak Low Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland						Unsuitable / Marginal
313	Cypress Pine Open Forest to Woodland	Sclerophyll Forests / Woodlands on Sand Substrates and Alluvium	1	Integral Bushland						Unsuitable / Marginal
401	Broad-leaved Paperbark Closed Forest to Woodland	Melaleuca and Swamp Oak Forests	1	Integral Bushland			Y		Y	Unsuitable / Marginal
402	Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland	Melaleuca and Swamp Oak Forests	1	Integral Bushland			Y		Y	Unsuitable / Marginal
403	Broad-leaved Paperbark + Eucalyptus spp. +/- Swamp Box Closed Forest to Woodland	Melaleuca and Swamp Oak Forests	1	Integral Bushland			Y		Y	Secondary Habitat

Codes and Classification			Ecological Attributes							
Vegetation Code	Vegetation Type	Broad Vegetation Community	Bushland	Remnant Vegetation Type	Part of High Biodiversity System	Dunal System	Riparian/ Floodplain Community	Estuarine Community	Wetland Community	Communities with Species Utilised by Koala (from AKF 1996)
Vegcode	Vegtype	MajVegCom	Contveg	RemvegType	Biodiv	Dunal	Riparian	Estuarine	Wetland	Koala_spp
601	Swamp She-oak Closed Forest to Woodland	Melaleuca and Swamp Oak Forests	1	Integral Bushland			Y	Y	Y	Unsuitable / Marginal
501	Dry Heathland to Shrubland	Heathlands	1	Integral Bushland	Y	Y				Unsuitable / Marginal
502	Wet Heathland to Shrubland	Heathlands	1	Integral Bushland	Y	Y	Y		Y	Unsuitable / Marginal
503	Montane Heathland/Scrub	Heathlands	1	Integral Bushland	Y					Unsuitable / Marginal
602	Mangrove Low Closed Forest to Woodland	Estuarine Complexes	1	Integral Bushland			Y	Y	Y	Unsuitable / Marginal
603	Saltmarsh Communities	Estuarine Complexes	1	Other Remnant Vegetation			Y	Y	Y	Unsuitable / Marginal
701	Sedgeland / Rushland (Murray & James 1998 Study Area Only)	Sedgelands and Related Communities	1	Other Remnant Vegetation	Y?		Y		Y	Unsuitable / Marginal
702	Fernland / Forbland (Murray & James 1998 Study Area Only)	Sedgelands and Related Communities	1	Other Remnant Vegetation	Y?		Y		Y	Unsuitable / Marginal
703	Freshwater Wetlands	Sedgelands and Related Communities	1	Other Remnant Vegetation			Y		Y	Unsuitable / Marginal
801	Foredune Complex	Foredune Complex	1	Other Remnant Vegetation		Y				Unsuitable / Marginal
901	Rock Faces	Miscellaneous Map Units	0	Other Remnant Vegetation						Unsuitable / Marginal
903	Open Water	Miscellaneous Map Units	0	Non-Bushland Matrix						Unsuitable / Marginal
998	Not Assessed	Miscellaneous Map Units	1	Integral Bushland						NA
999	Remnant Vegetation Outside LGA	Miscellaneous Map Units	1	Integral Bushland						NA
902	Native Grasslands (Murray & James 1998 Study Area Only)	Highly Modified / Disturbed	0	Other Regeneration						Unsuitable / Marginal
1001	Mowed Heathland (Murray & James 1998 Study Area Only)	Highly Modified / Disturbed	0	Other Regeneration						Unsuitable / Marginal
1002	Early Regrowth Rainforest	Highly Modified / Disturbed	1	Regenerating Bushland			Y?			Unsuitable / Marginal
1003	Acacia / Other Sclerophyll Regrowth Open Forest to Woodland	Highly Modified / Disturbed	1	Regenerating Bushland						Unsuitable / Marginal
1004	Camphor Laurel Dominant Closed to Open Forest	Highly Modified / Disturbed	1	Regenerating Bushland			Y?			Unsuitable / Marginal
1005	Native Plantation	Highly Modified / Disturbed	1	Native Plantation						
1006	Exotic Plantation	Highly Modified / Disturbed	0	Non-Bushland Matrix						Unsuitable / Marginal
1007	Urban Bushland	Highly Modified / Disturbed	1	Integral Bushland						Unsuitable / Marginal
1008	Post-mining Regeneration	Highly Modified / Disturbed	1	Regenerating Bushland		Y				Unsuitable / Marginal
1099	Substantially Cleared of Native Vegetation	Highly Modified / Disturbed	0	Non-Bushland Matrix						Unsuitable / Marginal

Codes and Classification		Regional Conservation Status (based on CRA targets current to Feb. 2002)											
Vegetation Code	Vegetation Type	CRA Forest Ecosystem Code	CRA Forest Ecosystem	R & E Status	Pre 1750 UNE area (ha)	Current UNE area (ha)	Current Tweed area (ha; based on CRA Forest Ecosystem modelling)	Depletion Status (% remaining)	Percent Locally Endemic (Tweed area/UNE area)	target %	Percent Target Met (Feb 2002)	NPWS Private Lands Priority	Derived Regional Vegetation Status Code (based on CRA % Target Met and other info)
Vegcode	Vegtype	CRA_code	CRA_FE	RE_status	1750UNEha	UNE_ha	TWD_CRA_HA	Z_remain	Z_Endem	Target_Z	Z_Target_Met	NPWSPriv	RegVegStat
101	Littoral Rainforest	168	Rainforest	E	-9999.0	159211.0	18648.0	-9999.0	11.7	100.0	68.5	Y	1
102	Sub-tropical / Warm Temperate Rainforest on Bedrock Substrates	168	Rainforest	E	-9999.0	159211.0	18648.0	-9999.0	11.7	100.0	68.5	Y	1
103	Dry Rainforest	168	Rainforest	E	-9999.0	159211.0	18648.0	-9999.0	11.7	100.0	68.5	Y	1
104	Lowland Rainforest on Floodplain	168	Rainforest	E	-9999.0	159211.0	18648.0	-9999.0	11.7	100.0	68.5	Y	1
105	Myrtaceous Riparian Low Closed Forest to Woodland	168	Rainforest	E	-9999.0	159211.0	18648.0	-9999.0	11.7	100.0	68.5	Y	1
106	River She-oak Open Forest	120	River Oak	V	4771.0	3221.0	8.0	67.5	0.2	60.0	10.6	Y	1
107	Cool Temperate Rainforest	168	Rainforest	E	-9999.0	159211.0	18648.0	-9999.0	11.7	100.0	68.5	Y	1
201	Blackbutt Open Forest Complex	95	Northern Moist Blackbutt	-	10897.0	9101.0	3795.0	83.5	41.7	15.0	100.0		4
202	Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex	152	Wet Bloodwood Tallowwood	-	53783.0	33357.0	8720.0	62.0	26.1	15.0	67.3		3
203	Broad-leaved Apple Open Forest	122	Rough-barked Apples	V	3764.0	1683.0	4.0	44.7	0.2	60.0	100.0		2
204	Scribbly Gum / Pink Bloodwood Open Forest	65	Heathy Scribbly Gum Forest	-	10544.0	7758.0	41.0	73.6	0.5	15.0	100.0		4
205	Sydney Blue Gum Open Forest	104	Northern Wet Tallowwood - Blue Gum	-	29607.0	25764.0	496.0	87.0	1.9	15.0	100.0		4
206	Flooded Gum Open Forest	26	Coastal Flooded Gum	-	14910.0	9426.0	1225.0	63.2	13.0	15.0	100.0		3
207	Brush Box Open Forest	103	Northern Wet Brushbox	-	25433.0	16379.0	206.0	64.4	1.3	15.0	100.0		3
208	Tallowwood Open Forest	102	Northern Ranges Dry Tallowwood	-	100595.0	57107.0	1674.0	56.8	2.9	15.0	47.3		2
211	Turpentine +/- Pink Bloodwood Open Forest	147	Turpentine	-	6784.0	2943.0	1734.0	43.4	58.9	15.0	100.0		2
212	Swamp Box Open Forest	112	Paperbark	V	-9999.0	28577.0	1154.0	-9999.0	4.0	60.0	52.1	Y	1
213	New England Blackbutt Open Forest	148	Very Wet New England Blackbutt-Tallowwood	-	1499.0	1498.0	100.0	99.9	6.7	15.0	100.0		4
301	Coastal Pink Bloodwood Open Forest to Woodland	74	Lowlands Scribbly Gum (in Part)	V	6783.0	3496.0	560.0	51.5	16.0	60.0	88.6	Y	1
302	Coastal Pink Bloodwood / Brush Box Open Forest to Woodland	106	Open Coastal Brushbox	-	9549.0	6533.0	489.0	68.4	7.5	15.0	88.6		3
303	Coastal Brush Box Open Forest to Woodland	106	Open Coastal Brushbox	-	9549.0	6533.0	489.0	68.4	7.5	15.0	88.6		3
304	Coastal Forest Red Gum Open Forest to Woodland	73	Lowland Red Gum	-	141011.0	57016.0	2746.0	40.4	4.8	15.0	40.6	Y	1
305	Coastal Swamp Mahogany Open Forest to Woodland	142	Swamp Mahogany	R	695.0	578.0	148.0	83.2	25.6	100.0	45.7	Y	1
306	Coastal Scribbly Gum Open Forest to Woodland	74	Lowlands Scribbly Gum	V	6783.0	3496.0	560.0	51.5	16.0	60.0	88.6	Y	1
307	Coastal Blackbutt Open Forest to Woodland	37	Dry Heathy Blackbutt - Bloodwood	-	75580.0	46630.0	43.0	61.7	0.1	15.0	100.0		3
308	Coastal Tallowwood Open Forest to Woodland	146	Tallowwood	-	9191.0	8430.0	-9999.0	91.7	-9999.0	15.0	100.0		4
309	Coastal Swamp Box Open Forest to Woodland	112	Paperbark	V	-9999.0	28577.0	1154.0	-9999.0	4.0	60.0	52.1	Y	1
310	Banksia Dry Sclerophyll Open Forest to Shrubland	5	Banksia	R	7561.0	2046.0	109.0	27.1	5.3	60.0	25.1	Y	1
311	Coastal Acacia Communities	151	Wattle	#N/A	-9999.0	1314.0	261.0	-9999.0	-9999.0	-9999.0	0.0		2
312	Black She-oak Low Open Forest to Woodland	18	Casuarina Woodland	R	-9999.0	43.0	25.0	-9999.0	58.1	100.0	14.0	Y	1
313	Cypress Pine Open Forest to Woodland	22	Coast Cypress Pine	R	158.0	82.0	19.0	51.9	23.2	100.0	79.3	Y	1
401	Broad-leaved Paperbark Closed Forest to Woodland	112	Paperbark	V	-9999.0	28577.0	1154.0	-9999.0	4.0	60.0	52.1	Y	1
402	Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland	112	Paperbark	V	-9999.0	28577.0	1154.0	-9999.0	4.0	60.0	52.1	Y	1
403	Broad-leaved Paperbark + Eucalyptus spp +/- Swamp Box Closed Forest to Woodland	112	Paperbark	V	-9999.0	28577.0	1154.0	-9999.0	4.0	60.0	52.1	Y	1
501	Dry Heathland to Shrubland	64	Heath	V	-9999.0	9805.0	142.0	-9999.0	1.4	60.0	100.0		2
502	Wet Heathland to Shrubland	64	Heath	V	-9999.0	9805.0	142.0	-9999.0	1.4	60.0	100.0		1
503	Montane Heathland/Scrub	169	Scrub	V	-9999.0	5447.0	351.0	-9999.0	6.4	60.0	91.2	Y	1
601	Swamp She-oak Closed Forest to Woodland	143	Swamp Oak	R	11165.0	2883.0	666.0	25.8	23.1	100.0	30.2	Y	1
602	Mangrove Low Closed Forest to Woodland	77	Mangrove	R	-9999.0	734.0	337.0	-9999.0	45.9	100.0	51.8	Y	1
603	Saltmarsh Communities	77	Mangrove	R	-9999.0	734.0	337.0	-9999.0	45.9	100.0	51.8	Y	1
701	Sedgeland / Rushland (Murray & James 1998 Study Area Only)	141	Swamp	E	-9999.0	24118.0	460.0	-9999.0	1.9	60.0	47.7	Y	1
702	Fernland / Forbland (Murray & James 1998 Study Area Only)	141	Swamp	E	-9999.0	24118.0	460.0	-9999.0	1.9	100.0	47.7	Y	1
703	Freshwater Wetlands	141	Swamp	E	-9999.0	24118.0	460.0	-9999.0	1.9	100.0	47.7	Y	1
801	Foredune Complex	172	Sand Ridges	#N/A	-9999.0	1049.0	1.0	-9999.0	-9999.0	-9999.0	-9999.0		4

Codes and Classification		Regional Conservation Status (based on CRA targets current to Feb. 2002)											
Vegetation Code	Vegetation Type	CRA Forest Ecosystem Code	CRA Forest Ecosystem	R & E Status	Pre 1750 UNE area (ha)	Current UNE area (ha)	Current Tweed area (ha; based on CRA Forest Ecosystem modelling)	Depletion Status (% remaining)	Percent Locally Endemic (Tweed area/UNE area)	target %	Percent Target Met (Feb 2002)	NPWS Private Lands Priority	Derived Regional Vegetation Status Code (based on CRA % Target Met and other info)
Vegcode	Vegtype	CRA_code	CRA_FE	RE_status	1750UNEha	UNE_ha	TWD_CRA_HA	Z_remain	Z_Endem	Target_Z	Z_Target_Met	NPWSPriv	RegVegStat
901	Rock Faces	121	Rock	#N/A	-9999.0	18162.0	-9999.0	-9999.0	-9999.0	15.0	100.0		6
902	Native Grasslands (Murray & James 1998 Study Area Only)	96	Natural Grassland	R	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	Y	1
903	Open Water	171	Water Surfaces	#N/A	-9999.0	-9999.0	2247.0	-9999.0	-9999.0	-9999.0	-9999.0		7
998	Not Assessed	No Equiv	NA	#N/A	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0		6
999	Remnant Vegetation Outside LGA	No Equiv	NA	#N/A	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0		6
1001	Mowed Heathland (Murray & James 1998 Study Area Only)	64	Heath	V	-9999.0	9805.0	-9999.0	-9999.0	-9999.0	60.0	100.0		6
1002	Early Regrowth Rainforest	168	Rainforest	E	-9999.0	159211.0	18648.0	-9999.0	11.7	100.0	68.5		2
1003	Acacia / Other Sclerophyll Regrowth Open Forest to Woodland	151	Wattle	#N/A	-9999.0	1314.0	261.0	-9999.0	-9999.0	-9999.0	-9999.0		4
1004	Camphor Laurel Dominant Closed to Open Forest	201	Camphor Laurel	#N/A	-9999.0	10381.0	2274.0	-9999.0	-9999.0	-9999.0	-9999.0		5
1005	Native Plantation	165	Forestry Plantations	#N/A	-9999.0	18754.0	246.0	-9999.0	-9999.0	-9999.0	-9999.0		6
1006	Exotic Plantation	165	Forestry Plantations	#N/A	-9999.0	18754.0	246.0	-9999.0	-9999.0	-9999.0	-9999.0		6
1007	Urban Bushland	No Equiv	No Equiv	#N/A	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0		6
1008	Post-mining Regeneration	167	Introduced Scrub	#N/A	-9999.0	-9999.0	175.0	-9999.0	-9999.0	-9999.0	-9999.0		5
1099	Substantially Cleared of Native Vegetation	173	Cleared - Partially Cleared	#N/A	-9999.0	-9999.0	657.0	-9999.0	-9999.0	-9999.0	-9999.0		7

Codes and Classification		TVMP 99 Regional Conservation Status										
Vegetation Code	Vegetation Type	Hager & Benson (1994) Conservation Code in Northern Zone	Hager & Benson (1994) Proportion Conserved in Northern Zone (#)	Hager & Benson (1994) Conservation Code in all Zones	Hager & Benson (1994) Proportion Conserved in all Zones (**)	NPWS Coastal Conservation Status Griffith (1993)	Floyd (1990) Sub-alliance Conservation Status (+)	SEQ Conservation Status (Young 1998)	Pressey & Griffith (1992) Status	TVMP99 Derived Regional Vegetation Status (all sources)	TVMP99 Derived Regional Vegetation Status Category (all sources)	TVMP99 Derived Regional Vegetation Status Comments (all sources)
Vegcode	Vegtype	HB94Cons_NZ	HB94Pro_NZ	HB94Conall	HB94Proall	G93_Status	F90_Status	SW98ConSEQ	P&G92Stat	VegStat99	VegStat99_Cat	VegStatcom
101	Littoral Rainforest	4	LT10 - LT25	4	GT25	Well represented in existing reserves but unreserved stands are at high risk of degradation	E - Excellent	Endangered	C. <i>anacardioides</i> suballiance very well reserved over its range, but many areas are extensively disturbed. S. <i>luemannii</i> - A. <i>hemilampra</i> suballiance is present as a limited area on Ukerebagh Is. NR, protected under SEPP 26.	1	1 - Not / Poorly Conserved	Determined due to the extensive depletion of this type, the small size of the remnants reserved and the risk of degradation by fire or weed invasion
102	Sub-tropical / Warm Temperate Rainforest on Bedrock Substrates	RF205 = 1 / rest = 4	RF100, RF106, RF108, RF101 = LT25 - GT25 / RF104, RF105 = LT10 - GT25 / RF110, RF300, RF302, RF306 = GT25 / RF205 = LT5 - LT10	RF205 = 1 / rest = 4	RF104, RF205 = LT10 - GT25 / RF105, RF110, RF306 = LT25 - GT25 / RF302, RF100, RF106, RF108, RF101 = GT25	0002 - Coastal occurrences are typically reserved as small areas	I - Inadequate / A - Adequate / G - Good / E - Excellent / BA - Barely Adequate / NC - Not Conserved	No Concern at Present		4	4 - Adequately Reserved	
103	Dry Rainforest	4	LT10 - LT25	3	LT10 - LT25	Inadequate	A - Adequate	Of Concern		2	2 - Inadequately Conserved Over All Its Range	Determined of concern for SEQ, and Inadequate for coastal NSW, Floyd also states that only one area may be reserved in the region
104	Lowland Rainforest on Floodplain	4	LT25 - GT25	4	GT25	No Equiv	A - Adequate	Of Concern	Statewide conservation is good (after Floyd 1990)	1	1 - Not / Poorly Conserved	Proposed for listing as an endangered ecological community on Part 3 of Schedule 1 of the TSC Act (1995) by the Scientific Committee (Feb. 1999)
105	Myrtaceous Riparian Low Closed Forest to Woodland	3	LT5 - LT10	3	LT10 - GT25	No Equiv	I - Inadequate, not reserved on the north coast	No Equiv		2	2 - Inadequately Conserved Over All Its Range	Not listed by Floyd (1990) as occurring in the Tweed (observed in field) but also that it is not reserved on Nth. Coast.
106	River She-oak Open Forest	2	LT1 - LT5	3	LT10 - LT25	No Equiv	No Equiv	No Concern at Present		2	2 - Inadequately Conserved Over All Its Range	
107	Cool Temperate Rainforest											
201	Blackbutt Open Forest Complex	2, 4	LT5 - LT10, LT10 LT25	3	LT5 - LT10	No Equiv	No Equiv	No Concern at Present / No Concern at Present / Of Concern	No Equiv	2	2 - Inadequately Conserved Over All Its Range	Derived status from first Hager & Benson (1994) code
202	Grey Ironbark / White Mahogany / Grey Gum Open Forest Complex	4	LT10 - LT25	3	LT25-GT25	No Equiv	No Equiv	No Concern at Present	No Equiv	4	4 - Adequately Reserved	
203	Broad-leaved Apple Open Forest	1	LT1	3	LT10-LT25	No Equiv	No Equiv	No Equiv	No Equiv	1	1 - Not / Poorly Conserved	
204	Scribbly Gum / Pink Bloodwood Open Forest	1	LT1	1	LT1	No Equiv	No Equiv	Of Concern	No Equiv	1	1 - Not / Poorly Conserved	
205	Sydney Blue Gum Open Forest	2	LT5 - LT10	3	LT10	No Equiv	No Equiv	No Concern at Present	No Equiv	2	2 - Inadequately Conserved Over All Its Range	
206	Flooded Gum Open Forest	2	LT10	2	LT5 - LT10	Widespread on moist bedrock sites	No Equiv	No Concern at Present / Of Concern / No Concern at Present	No Equiv	2	2 - Inadequately Conserved Over All Its Range	
207	Brush Box Open Forest	4	LT25	3	LT5 - LT10	Widespread on moist bedrock sites	No Equiv	No Concern at Present	No Equiv	4	4 - Adequately Reserved	
208	Tallowood Open Forest	1	LT1	3	LT10 - LT25	Only reserved as limited areas on sand substrates	No Equiv	No Concern at Present	No Equiv	1	1 - Not / Poorly Conserved	
211	Turpentine +/- Pink Bloodwood Open Forest	1	LT1	2	LT1 - LT5	No Equiv	No Equiv	No Equiv	No Equiv	1	1 - Not / Poorly Conserved	
212	Swamp Box Open Forest	ND	ND	ND	ND	Only reserved as minor areas	No Equiv	Of Concern	Adequately reserved state-wide (Benson 1989) but as small proportion of original extent; poorly reserved in Tweed Shire; most unreserved stands protected under SEPP 14.	2	2 - Inadequately Conserved Over All Its Range	Only preserved as minor areas of its original range, with little reservation in Tweed and recently considered of concern for SEQ
213	New England Blackbutt Open Forest											
301	Coastal Pink Bloodwood Open Forest to Woodland	ND	ND	ND	ND	3005 - Minor areas reserved over limited area of its range on sand substrates	No Equiv	No Concern at Present	Adequately reserved state-wide (Benson 1989) but only limited areas are reserved on far north coast.	3	3 - Inadequately Conserved in a Major Part of Its Range	Limited reservation on sand substrates and on north coast

Codes and Classification		TVMP 99 Regional Conservation Status										
Vegetation Code	Vegetation Type	Hager & Benson (1994) Conservation Code in Northern Zone	Hager & Benson (1994) Proportion Conserved in Northern Zone (#)	Hager & Benson (1994) Conservation Code in all Zones	Hager & Benson (1994) Proportion Conserved in all Zones (**)	NPWS Coastal Conservation Status Griffith (1993)	Floyd (1990) Sub-alliance Conservation Status (+)	SEQ Conservation Status (Young 1998)	Pressey & Griffith (1992) Status	TVMP99 Derived Regional Vegetation Status (all sources)	TVMP99 Derived Regional Vegetation Status Category (all sources)	TVMP99 Derived Regional Vegetation Status Comments (all sources)
Vegcode	Vegtype	HB94Cons_NZ	HB94Pro_NZ	HB94Conall	HB94Proall	G93_Status	F90_Status	SW98ConSEQ	P&G92Stat	VegStat99	VegStat99_Cat	VegStatcom
302	Coastal Pink Bloodwood / Brush Box Open Forest to Woodland	ND	ND	ND	ND	Only minor areas of the association are reserved over a limited area of its range	No Equiv	No Concern at Present	Adequately reserved state-wide (Benson 1989) but only limited areas are reserved on far north coast.	3	3 - Inadequately Conserved in a Major Part of Its Range	Minor areas of reservation over limited area of range
303	Coastal Brush Box Open Forest to Woodland	4	LT25	3	LT5 - LT10	Sand-based occurrences are typically reserved as small areas over parts of the association's range.	No Equiv	No Equiv	Inadequately conserved on soils derived from sand; limited areas reserved in Bundjalung and Broadwater National Parks	2	2 - Inadequately Conserved Over All Its Range	Limited reservation on sand substrates as small areas of part of range
304	Coastal Forest Red Gum Open Forest to Woodland	2	LT5 - LT10	2	LT5 - LT10	Poorly reserved over much of its range	No Equiv	Of Concern	Only small areas reserved on North Coast	2	2 - Inadequately Conserved Over All Its Range	
305	Coastal Swamp Mahogany Open Forest to Woodland	2	LT5	3	LT25 - GT25	Well reserved over parts of its range, but not so elsewhere	No Equiv	No Equiv	Adequately reserved state-wide (Benson 1989) but only limited areas are reserved on far north coast.	2	2 - Inadequately Conserved Over All Its Range	
306	Coastal Scribbly Gum Open Forest to Woodland	4	GT25	4	LT10-GT25	Well represented over parts of its range but not so in the far north	No Equiv	No Concern at Present	Adequately reserved in NE NSW, but north of Clarence poorly represented on Pleistocene sands	3	3 - Inadequately Conserved in a Major Part of Its Range	Poor representation on sand based soils and in far north NSW
307	Coastal Blackbutt Open Forest to Woodland	2, 4	LT5 - LT10, LT10 LT25	3	LT5 - LT10	No Equiv	No Equiv	No Concern at Present	Widespread community on the North Coast	2	2 - Inadequately Conserved Over All Its Range	Derived status from first Hager & Benson (1994) code
308	Coastal Tallowwood Open Forest to Woodland	1	LT1	3	LT10 - LT25	Only reserved as limited areas	No Equiv	No Equiv	No Equiv	1	1 - Not / Poorly Conserved	
309	Coastal Swamp Box Open Forest to Woodland	ND	ND	ND	ND	3003 - Only reserved as minor areas.	No Equiv	Of Concern	Adequately reserved state-wide (Benson 1989) but as small proportion of original extent; poorly reserved in Tweed Shire; most unreserved stands protected under SEPP 14.	3	3 - Inadequately Conserved in a Major Part of Its Range	Only preserved as minor areas of its original range, with little reservation in Tweed and recently considered of concern for SEQ
310	Banksia Dry Sclerophyll Open Forest to Shrubland	4	LT25	4	LT25	No Equiv	No Equiv	No Concern at Present	Unreserved in Tweed Shire, well reserved elsewhere on north coast	4	4 - Adequately Reserved	Unreserved in Tweed Shire but well reserved elsewhere on Nth. Coast
311	Coastal Acacia Communities	ND	ND	ND	ND	No Equiv	No Equiv	No Concern at Present	No Equiv	4	4 - Adequately Reserved	Presumed of no concern at present for SEQ
312	Black She-oak Low Open Forest to Woodland	ND	ND	ND	ND	Only reserved as limited areas	No Equiv	No Equiv	No Equiv	3	3 - Inadequately Conserved in a Major Part of Its Range	Presumed of no concern at present in SEQ due to regeneration community status (GCC NCS 1997), however sand-based reservations are limited reservation as limited
313	Cypress Pine Open Forest to Woodland	2	LT5	3	LT5 - LT10	Limited distribution in existing reserves	No Equiv	No Concern at Present	Very limited areas reserved over NE NSW range; Benson (1989) considers it vulnerable in a state context	2	2 - Inadequately Conserved Over All Its Range	
401	Broad-leaved Paperbark Closed Forest to Woodland	4	LT25	4	LT25-GT25	In general, poorly reserved, 5506 - Only reserved as very limited areas	No Equiv	Of Concern	Adequately reserved state-wide (Benson 1989) but as small proportion of original extent; poorly reserved in Tweed Shire; most unreserved stands protected under SEPP 14.	3	3 - Inadequately Conserved in a Major Part of Its Range	Poorly reserved in Tweed and elsewhere only as small proportion of original extent
402	Broad-leaved Paperbark / Swamp She-oak Closed Forest to Woodland	4	LT25	4	LT25-GT25	In general, poorly reserved	No Equiv	No Equiv	Adequately reserved state-wide (Benson 1989) but as small proportion of original extent; poorly reserved in Tweed Shire; most unreserved stands protected under SEPP 14.	3	3 - Inadequately Conserved in a Major Part of Its Range	Poorly reserved in Tweed and elsewhere only as small proportion of original extent
403	Broad-leaved Paperbark + Eucalyptus spp.+/- Swamp Box Closed Forest to Woodland	ND	ND	ND	ND	In general, poorly reserved	No Equiv	Of Concern	Adequately reserved state-wide (Benson 1989) but as small proportion of original extent; poorly reserved in Tweed Shire; most unreserved stands protected under SEPP 14.	3	3 - Inadequately Conserved in a Major Part of Its Range	Poorly reserved in Tweed and elsewhere only as small proportion of original extent
501	Dry Heathland to Shrubland	ND	ND	ND	ND	5402 - Only reserved as very limited areas. 5902 - largely unreserved across its range outside Yuraygir NP	No Equiv	Endangered	Unreserved in Tweed Shire but well reserved elsewhere on north coast.	2	2 - Inadequately Conserved Over All Its Range	Largely unreserved throughout range and endangered in SEQ
502	Wet Heathland to Shrubland	ND	ND	ND	ND	Appear to be well reserved	No Equiv	No Concern at Present	Unreserved in Tweed Shire but well reserved elsewhere on north coast.	4	4 - Adequately Reserved	Appears well reserved but not in the Tweed
503	Montane Heathland/Scrub											

Codes and Classification		TVMP 99 Regional Conservation Status										
Vegetation Code	Vegetation Type	Hager & Benson (1994) Conservation Code in Northern Zone	Hager & Benson (1994) Proportion Conserved in Northern Zone (#)	Hager & Benson (1994) Conservation Code in all Zones	Hager & Benson (1994) Proportion Conserved in all Zones (**)	NPWS Coastal Conservation Status Griffith (1993)	Floyd (1990) Sub-alliance Conservation Status (+)	SEQ Conservation Status (Young 1998)	Pressey & Griffith (1992) Status	TVMP99 Derived Regional Vegetation Status (all sources)	TVMP99 Derived Regional Vegetation Status Category (all sources)	TVMP99 Derived Regional Vegetation Status Comments (all sources)
Vegcode	Vegtype	HB94Cons_NZ	HB94Pro_NZ	HB94Conall	HB94Proall	G93_Status	F90_Status	SW98ConSEQ	P&G92Stat	VegStat99	VegStat99_Cat	VegStatcom
601	Swamp She-oak Closed Forest to Woodland	4	LT25	4	LT25	Inadequately reserved in the study area	No Equiv	No Concern at Present	Inadequately reserved state-wide (Benson 1989); only minor areas reserved in Tweed Shire.	2	2 - Inadequately Conserved Over All Its Range	Inadequately reserved statewide and in the Tweed and subject to clearing pressure.
602	Mangrove Low Closed Forest to Woodland	ND	ND	4	ND	Only limited areas are reserved	No Equiv	No Concern at Present	Protected under SEPP 14.	2	2 - Inadequately Conserved Over All Its Range	Only limited areas reserved
603	Saltmarsh Communities	ND	ND	ND	ND	Only reserved as limited areas over large parts of its range	No Equiv	No Concern at Present	Limited areas reserved on far north coast. S1, S2 are inadequately reserved state-wide (Benson 1989). S3 reservation is fair; all protected by SEPP 14.	2	2 - Inadequately Conserved Over All Its Range	Reserved as limited areas over large parts of range
701	Sedgeland / Rushland (Murray & James 1998 Study Area Only)	ND	ND	ND	ND	6405 - only reserved as limited areas over large parts of its range / 6413 - is widespread on floodplains in NE NSW. A limited area occurs on sandy estuarine deposits on the southern Fingal Peninsula / 6503 - less than 1 ha, reported for lower Tweed flo	No Equiv	No Concern at Present	E1 - Unreserved within Tweed Shire but well reserved elsewhere on the north coast; near coastal occurrences are protected under SEPP 14 although some could occur inland of SEPP 14 mapping limit (Adam 1991, pers. comm.). E2 - Only known to be reserved in	3	3 - Inadequately Conserved in a Major Part of Its Range	Detailed derivation from Pressey and Griffith (1992).
702	Fernland / Forbland (Murray & James 1998 Study Area Only)	ND	ND	ND	ND	6602 - Only reserved as a minor area in Yuragir NP and not reserved in Tweed Shire. 6702 - Only known to be reserved in Crowdy Bay NP and possibly Lake Inness NR	No Equiv	No Equiv	E3 - A very small area occurs in Yuragir NP (Griffith 1984); present elsewhere only as very small areas on the floodplains of the north coast (Pressey 1989a, b). <i>Blechnum indicum</i> no available status	2	2 - Inadequately Conserved Over All Its Range	Limited reservation of a limited vegetation occurrence
703	Freshwater Wetlands	ND	ND	ND	ND		No Equiv	No Concern at Present	No Equiv	4	4 - Adequately Reserved	Presumed to be of no concern at present for SEQ
801	Foredune Complex	ND	ND	ND	ND	Considered to be adequately reserved	No Equiv	No Concern at Present	Statewide this complex is considered to be adequately conserved (Benson 1989), on the north coast all are subject to displacement by Bitou Bush (<i>Chrysanthemoides monnifera</i> ssp. <i>rotundata</i>)	4	4 - Adequately Reserved	Considered adequately conserved in NSW and no concern at present for SEQ
901	Rock Faces	ND	ND	ND	ND		No Equiv	No Equiv	No Equiv	ND	Not Determined	
902	Native Grasslands (Murray & James 1998 Study Area Only)	No Equiv	No Equiv	No Equiv	No Equiv	Only reserved as very limited areas <5 ha	No Equiv	No Equiv	No Equiv	ND	Not Determined	Only limited areas conserved
903	Open Water	No Equiv	No Equiv	No Equiv	No Equiv		No Equiv	No Equiv	No Equiv	NA	Not Applicable	
998	Not Assessed	NA	NA	NA	NA	NA	NA	NA	No Equiv	ND	Not Determined	
999	Remnant Vegetation Outside LGA	NA	NA	NA	NA	NA	NA	NA	No Equiv	ND	Not Determined	
1001	Mowed Heathland (Murray & James 1998 Study Area Only)	ND	ND	ND	ND		No Equiv	No Equiv	No Equiv	ND	Not Determined	Highly Modified / Disturbed
1002	Early Regrowth Rainforest	ND	ND	ND	ND		No Equiv	No Equiv	No Equiv	4	4 - Adequately Reserved	Assumed to be adequately represented
1003	Acacia / Other Sclerophyll Regrowth Open Forest to Woodland	ND	ND	ND	ND		No Equiv	No Equiv	No Equiv	4	4 - Adequately Reserved	Assumed to be adequately represented
1004	Campbor Laurel Dominant Closed to Open Forest	ND	ND	ND	ND		No Equiv	No Equiv	No Equiv	ND	Not Determined	Highly Modified / Disturbed
1005	Native Plantation	No Equiv	No Equiv	No Equiv	No Equiv		No Equiv	No Equiv	No Equiv	ND	Not Determined	Highly Modified / Disturbed
1006	Exotic Plantation	No Equiv	No Equiv	No Equiv	No Equiv		No Equiv	No Equiv	No Equiv	ND	Not Determined	Highly Modified / Disturbed
1007	Urban Bushland	No Equiv	No Equiv	No Equiv	No Equiv		No Equiv	No Equiv	No Equiv	ND	Not Determined	Highly Modified / Disturbed
1008	Post-mining Regeneration	No Equiv	No Equiv	No Equiv	No Equiv		No Equiv	No Equiv	No Equiv	ND	Not Determined	Highly Modified / Disturbed
1099	Substantially Cleared of Native Vegetation	No Equiv	No Equiv	No Equiv	No Equiv		No Equiv	No Equiv	No Equiv	NA	Not Applicable	Highly Modified / Disturbed

Appendix 8

Significant Flora of the Tweed

No.	Family	Scientific Name	Common Name	STATUS					DISTRIBUTION			Notes	Other Sources and other Status records	NPWS Recovery Plan Status 2003 [®]	Tweed Significant Trees Register 1991
				TSC Act 1995 #	ROTAP Briggs & Leigh 1995 *	NPWS F & F Atlas 2001 ⁴	S & W - 1995 - NRAC - NSW ¹⁴	Rare and Threat. Adam 1987 ^{7c}	Confined to Tweed region	South. limit	North. limit				
1	Mimosaceae	<i>Acacia bakeri</i>	Marblewood	V		V						Tall tree in or near lowland STRf, in adjacent eucalypt forest and in regrowth of both, from Brunswick Heads to Maryborough, mostly on private property (Floyd 1989; NSW NPWS 2002). Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004 16.)	P & G 1992; Floyd 1990		Y
2	Mimosaceae	<i>Acacia baueri</i> ssp. <i>baueri</i>							Y			Dwarf to small shrub from coastal, damp to dry heath (Kingscliff -P & G 1992; Beadle 1982); In danger of extinction in extreme SE Qld. (Stanley & Ross 1983); also from adjacent tablelands, N from Robertson to Qld. (Harden 1991). Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992 (Pressey & Griffith 1987); Harden 1991.		
3	Mimosaceae	<i>Acacia leucoclada</i> ssp. <i>argentifolia</i>										Tree on a variety of soils, usually in sclerophyll communities, western slopes and north coast into Qld. (Harden 1991); Byrill Ck., Mt. Warning (SFHerc in Sheringham & Westaway 1995).	Sheringham & Westaway 1995; Harden 1991.		
4	Mimosaceae	<i>Acacia orites</i>	Nightcap Wattle		2RC-				Y			Medium to tall tree in WTRf on acidic volcanic soils from Rosebank to Springbrook; restricted to the Mt. Warning and Focal Peak shield volcanoes (Floyd 1989). Nightcap, Mt. Warning and Border Ra. NP. (Sheringham & Westaway 1995). Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
5	Euphorbiaceae	<i>Acalypha eremorum</i>	Acalypha	E								Open-branched shrub in STRf, DRf and vine thickets. In NSW in only a few localities including, Chaelundi, Lismore and Burringbar areas, widespread and moderately common in SE Qld (NSW NPWS 2002). DRf near Lismore. NC; Qld (Harden 1993). These records may prove to be a separate species <i>A. sp. nov.</i> (B. Stewart pers. comm. Aug 2004) but are considered as one species here. Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)			
6	Orchidaceae	<i>Acianthus amplexicaulis</i>	Lobed Gnat Orchid		3RC-	R						Terrestrial orchid in moist coastal scrub on the lee side of stabilised dunes and in LRF. N from Coffs Harbour to Qld. (Harden 1993); Rare in Coastal NSW (Beadle 1987); Border Ranges NP (Sheringham & Westaway 1995). While assigned as coastal in the literature it is also recorded in Border Ranges, Richmond Range and Koonyum Range (B. Stewart pers. comm. July 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
7	Asteraceae	<i>Acomis acoma</i>			3RC-	R		Y				Annual / perennial herb growing on forest edge and roadsides, N from Nambucca to Qld. (Harden 1992); Coast in north of NSW in tall forests (Beadle 1980). Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1992; Sheringham & Westaway 1995; Harden 1992.		
8	Rutaceae	<i>Acronychia bauerlenii</i>	Byron Bay Acronychia		3RC-	R		Y	Y			Small tree in STRf & WTRf, Lismore-Byron Bay to McPherson Range (Williams et al. 1984); also recorded from Iluka to Qld. (Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1991.		
9	Rutaceae	<i>Acronychia littoralis</i>	Scented Acronychia	E	3ECi	E						Small bushy tree; endangered, inadequate reservation; found Iluka to Kingscliff (Williams et al. 1984); rare in LRF on sand close to the sea or in WSF on the sandy coastal plain, Clarence to Tweed Rivers (Floyd 1989); Fraser Island to Port Macquarie (NSW NPWS 2002). Two forms recognised, distribution inadequately characterised (B. Stewart pers. comm. July 2004); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Hunter 1991; Sheringham & Westaway 1995	I	Y
10	Simaroubaceae	<i>Ailanthus triphysa</i>	White Bean									Uncommon tree in DRf, LRF and STRf north from Iluka into Qld. (Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
11	Proteaceae	<i>Alloxylon pinnatum</i> (<i>Oreocallis pinnata</i>)	Dorrigo Waratah		3RCa	R		Y		Y		Tree in WTRf or STRf from Dorrigo, Tweed and McPherson Ranges (Williams et al. 1984); WTRf and rarely in WSF on escarpment ranges above 700m. Missabotti, Dorrigo & Mt. Hyland areas and McPherson Ranges into Qld. (Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1991.		
12	Rhamnaceae	<i>Alphitonia petriei</i>	White Ash									Tree in regrowth and on margins of STRf N from Terania Ck. to Qld., not common in NSW (Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
15	Angiopteridaceae	<i>Angiopteris evecta</i>	Giant Fern	E			Rare			Y		Arborescent fern with a broad, massive trunk, recorded in STRf (Burringbar Range near Murwillumbah NSW NPWS 2002) from Tweed Valley, v. rare in NSW into Qld. (Harden 1990); Rare, reservation unknown, confined to Tweed (see Williams <i>et al.</i> 1984); on Fraser Island & Canarvon Gorge (R. Storey pers. comm.); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; (Harden 1990, Floyd 1990); Hunter 1991; Sheringham & Westaway 1995	F	Y
16	Mimosaceae	<i>Archidendron hendersonii</i>	White Lace Flower	V								Tree in riverine, LSTRf and LRF from Richmond R. to Windsor Tableland, NQ on a variety of soils (Floyd 1989; Harden 1991; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Hunter 1991; Harden 1991.		Y
17	Mimosaceae	<i>Archidendron muellerianum</i>	Veiny Lace Flower		3RCa	R		Y	Y			Medium tree in STRf, LRF, DRf and Riverine Rf from Richmond, Brunswick and Tweed rivers NSW to Upper Tallebudgera (Floyd 1989). Border Ra. & Mt. Warning NP (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Schenk & Wallace 1996; Sheringham & Westaway 1995		Y
18	Myrsinaceae	<i>Ardisia bakeri</i>	Ardisia		2RC-	R		Y	Y	Y		Tall shrub to small tree in WTRf and STRf in the Tweed valley and McPherson Range (Williams <i>et al.</i> 1984; Harden 1990); rare on north coast, extends to Qld. (Harden 1990); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1990.		Y
19	Escalloniaceae	<i>Argophyllum nullumense</i>	Silver Leaf		3RCa	R		Y				Tall shrub or small tree in STRf and WTRf in the Nightcap, Tweed and McPherson Ranges to Springbrook and Mt. Perry near Bundaberg (Williams <i>et al.</i> 1984; Harden 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Sheringham & Westaway 1995; Harden 1992.		Y
20	Scrophulariaceae	<i>Artanema fimbriata</i>					Rare					Possibly to be listed soon. Records Yabba, Mt. Jerusalem, Cudgen, Brunswick R, Bunjalung, apparently sparse in Qld also; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)			

No.	Family	Scientific Name	Common Name	STATUS					DISTRIBUTION			Notes	Other Sources and other Status records	NPWS Recovery Plan Status 2003 [®]	Tweed Significant Trees Register 1991	
				TSC Act 1995 #	ROTAP Briggs & Leigh 1995 *	NPWS F & F Atlas 2001 ⁴	S & W - 1995 - NRAC - NSW ¹⁴	Rare and Threat. Adam 1987 ^{7c}	Confined to Tweed region	South. limit	North. limit					
21	Poaceae	<i>Arthraxon hispidus</i>		V	3VC+	E							Uncommon perennial creeping grass growing in or on edges of Rf. and WSF often near creeks or swamps (NSW NPWS 2002). N from Gibraltar Ra. to Qld. (Harden 1993). Coast and Tablelands (Beadle 1987)	Hunter 1991; Harden 1993.		
22	Aspleniaceae	<i>Asplenium harmanii</i>					Rare		Y				Epiphytic fern on rocks in Rf. in higher parts of Border Ranges and into Qld. (Harden 1990); from The Pinnacle (QldHerbrec); Couchy Ck. Numinbah NR (NRAC) in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Harden 1990.		
23	Sapindaceae	<i>Atalaya multiflora</i>	Broad-leaved Whitewood										Tree in STRf and DRf N from Richmond R. rare and endangered in NSW (Harden 1991); uncommon in SE Qld. (Williams <i>et al.</i> 1984); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Harden 1991.		
24	Euphorbiaceae	<i>Austroboxus swainii</i>	Pink Cherry		3RCa	R		Y					A large tree on poorer sedimentary soils with Coachwood from Bellinger R. to Tallegudgera Ck. (Floyd 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
25	Myrtaceae	<i>Austromyrtus fragrantissima</i>	Sweet Myrtle	E	3EC-	E			Y				Shrub or small tree in dry STRf and riverine Rf of coastal districts and DRf, N from Lismore to Tallegudgera Valley (Williams <i>et al.</i> 1984; NSW NPWS 2002); rare, (Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Harden 1991.	I	
26	Proteaceae	<i>Banksia robur</i>	Broad-leaved Banksia							Y			Shrub in woodland and heath in sandy and damp sites on coastal swamps (Beadle 1982). Two disjunct populations; Tweed records are regionally significant due to occurrence of southern limit record of northern disjunct population (Pressey & Griffith 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992 (Gilmore <i>et al.</i> 1985; Murray 1989); Harden 1991.		
27	Cyperaceae	<i>Baumea nuda</i>					Uncommon						Slender perennial in swamps or along streams, N from Jervis Bay, sporadic on north coast (Harden 1993); Collection from sedgeland near Pottsville in 1985 was the third record for the State (Gilmore <i>et al.</i> 1985)	P & G 1992; Harden 1993.		
28	Cyperaceae	<i>Bolboschoenus caldwellii</i>					Uncommon						Rhizomatous perennial, occasionally in swamps or along bore drains, inland, in all States (Harden 1993). Tweed R. floodplain (Sheringham & Westaway 1995).	Sheringham & Westaway 1995; Harden 1993.		
29	Rutaceae	<i>Bosistoa selwynii</i>	Heart-leaved Bonewood	V		V							A crooked, medium tree in lowland STRf to 300m altitude of the white booyong alliance on deep, moist basaltic soil, prefers alluvial (creek) flats in NSW, from Richmond River (Nightcap Range) to Maryborough (Floyd 1989; NSW NPWS 2002); This species is now considered to be the same as Yellow Satinheart (<i>Bosistoa transversa</i>).	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
30	Rutaceae	<i>Bosistoa transversa</i>	Yellow Satinheart	V		V							Small to medium tree in LSTRf. to 150m. altitude (Harden 1991); Reservation unknown; in STRf north from Mullumbimby to Qld. (Williams <i>et al.</i> 1984); This species is now considered to be the same as Heart-leaved Bonewood (<i>Bosistoa selwynii</i>) (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1991.		Y
31	Rutaceae	<i>Bouchardatia neurococca</i>	Union Nut										Usually a small tree or shrub, particularly along streams in STRf and DRf N from Lismore (Richmond R.) to Eumundi, S Qld. (Harden 1991; Floyd 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
32	Asteraceae	<i>Brachyscome ascendens</i>	Border Ranges Daisy	E	2RC-				Y	Y			Perennial herb to 30cm of montane shrubland of clifftops in Border Ranges/Lamington NP area (Stanley & Ross 1986; ROTAP 1995); not in Flora of NSW. Known from only 1 location in NSW on Tweed Escarpment in Border Ranges NP (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991		
33	Orchidaceae	<i>Bulbophyllum globuliforme</i>	Hoop Pine Orchid	V	3VC-				Y	Y			Epiphytic orchid forming spreading patches of pseudobulbs on Rf trees, particularly Hoop pine in Rf. of McPherson range from 300 -600m. (Beadle 1987; Harden 1993)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
34	Orchidaceae	<i>Bulbophyllum weinthalii</i>			3RCi								Epiphytic orchid forming small dense patches, usually on Hoop Pine, N from Dorrigo at altitudes between 600 - 1000m. (Beadle 1987; Harden 1993)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
35	Caesalpinoideae	<i>Caesalpinia scortechinii</i>	Large Prickle Vine, Mother-in-law Vine										Sprawling shrub on margin of Rf. from Richmond R. northward (Beadle 1982); In STRf and DRf into Qld. (Williams & Harden 1988); Uncommon in NSW (Williams 1985 pers. comm.); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992		
36	Myrtaceae	<i>Callistemon montanus</i>	Mountain Bottlebrush				Uncommon						Erect shrub or small tree in shallow soils near cliffs in coastal ranges, N from Mullumbimby to Qld. (Harden 1991); Mt. Warning NP (QldHerbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Harden 1991.		
37	Caesalpinoideae	<i>Cassia brewsteri</i> var. <i>marksiana</i>	Brush Cassia	E	2RCi	V			Y	Y			Tree in LRF and riverine Rf, and in regrowth in farmland and along roadsides, N from the Brunswick Heads, around Murwillumbah and N to SE Qld around Beenleigh, rare (Harden 1991; NSW NPWS 2002); Inadequately reserved, Crabbes Ck. to Currumbin (Pressey & Griffith 1992; Floyd 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1991.		
38	Vitaceae	<i>Cayratia acris</i>											Vine from depauperate Rf. from Clarence R. N into Qld (Beadle 1980); Woody climber from STRf & DRf, N from Lismore to Qld. (Harden 1992); Uncommon in NSW (Williams 1985 pers. comm.); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Floyd 1990; Harden 1992.		Y
116	Rutaceae	<i>Citrus australasica</i>	Finger Lime						Y				Shrub in Riverine, DRf and STRf N from Woodburn to Qld., can be common in regrowth (Harden 1991). Cudgen, Border Ra., Nullum & Mebbin SF, Mt. Warning NP and Limpinwood NR; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
39	Cyperaceae	<i>Cladium procerum</i>	Leafy Twig Rush				Depleted						Tall perennial herb of coastal swamps, lake margins and moist areas, Aust. wide (Jones & Elliott 1984; Harden 1993); Tweed floodplain (P & G 1992) in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		

No.	Family	Scientific Name	Common Name	STATUS					DISTRIBUTION			Notes	Other Sources and other Status records	NPWS Recovery Plan Status 2003 [®]	Tweed Significant Trees Register 1991
				TSC Act 1995 #	ROTAP Briggs & Leigh 1995 *	NPWS F & F Atlas 2001 ⁴	S & W - 1995 - NRAC - NSW ¹⁴	Rare and Threat. Adam 1987 ⁷	Confined to Tweed region	South. limit	North. limit				
40	Ranunculaceae	<i>Clematis fawcettii</i>	Lobed-leaf or Northern Clematis	V	3VC-			Y	Y			Small to medium climber of upper drier rainforest canopy usually near streams, rare in mountainous areas in NE NSW north of Lismore and SE Qld. (Beadle 1982; NSW NPWS 2002). Rf N of Richmond River (Harden 1990). Limpinwood NR and Border Ranges NP (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
41	Agavaceae	<i>Cordyline congesta</i>	Narrow Palm Lilly		2RC-	R				Y		Small to medium herbaceous, clumping plant; reservation status unknown; from Rf. in Border Ranges (Stanley & Ross 1989). N of Clarence R. into Qld (Harden 1993). Ukerabagh NR (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Williams et al. 1984; Hunter 1991; Floyd 1990; Sheringham & Westaway 1995		
42	Escalloniaceae	<i>Corokia whiteana</i>	Corokia	V	2VCi	V		Y	Y			Shrub or small tree to 4m in three distinct populations, Nightcap Range, Tweed Valley and near Brunswick Heads. Inland populations in boundaries between WSF and WTRF on poorer soils at altitudes up to 800m; on coast found in Brush Box (<i>Lophostemon confertus</i>) forest associated with LRF species, rare (Harden 1992; NSW NPWS 2002). Recorded from Hogans Scrub (Floyd), Tumbulgum (ROTAP), Nullum SF and Uki (SF Herbec) in Sheringham & Westaway 1995, prev. known only from the Nightcap Range (Williams et al. 1984; Harden 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1992.		
43	Myrtaceae	<i>Corymbia trachyphloia</i>	Brown (White) Bloodwood									Tree to 25m, locally abundant but sporadic, in DS woodland on shallow fertile soils. N from Goulburn R. to Qld. (Harden 1991). Sighting at Cudgen the only location for coastal NSW (pers. comm. Cameron McNamara 1982)	Gilmore 1983		
44	Corynocarpaceae	<i>Corynocarpus rupestris</i> ssp. <i>arborescens</i>			3RC-							A glabrous shrub or small tree of DRF on steep stony slopes from Wardell, Lennox Head, Rocky Ck., Whian Whian SF and Upper Coopers Ck. (Floyd 1989); recorded in Lismore district, very rare. NC; Qld. (Harden 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1989,1990; Hunter 1991; Harden 1991.		
45	Crassulaceae	<i>Crassula colorata</i> var. <i>acuminata</i>					Uncommon					Erect annual herb mostly from western districts in sheltered temporarily wet areas, not recorded for NC by Harden 1990. Mt. Wagawn, Limpinwood NR (SFHerbec in Sheringham & Westaway 1995)	Sheringham & Westaway 1995; Harden 1990.		
46	Euphorbiaceae	<i>Croton stigmatosus</i>	White Croton									Small tree in drier Rf. N from Hastings R. to Qld. (Harden 1990); In DRF and semi-DRF from the Hastings River to Imbil in Qld. In the Border ranges and Mt. Warning NP (Adam 1987); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Adam 1987; Harden 1990.		
47	Lauraceae	<i>Cryptocarya foetida</i>	Stinking Cryptocarya	V	3VCi	V						Small to medium sized tree in LRF, usually on sandy soils, mature trees known to occur on basalt from Iluka to Fraser Is. (Floyd 1989; NSW NPWS 2002). Ukerabagh and Inner Pocket NR. (Sheringham & Westaway 1995); rare due to coastal clearing (Harden 1990); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1990.		Y
48	Sapindaceae	<i>Cupaniopsis newmannii</i>	Long-leaved Tuckeroo		2RC-				Y			Shrub to small tree in and on the margin of WTRF (STRF Floyd) from Mullumbimby to Mt. Tamborine (Williams et al. 1984; Harden 1991); . Border Ra. & Mt. Warning NP., Limpinwood, Inner Pocket & Numinbah NR. (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Floyd 1989; Williams et al. 1984; Schenk & Wallace 1996; Sheringham & Westaway 1995; Hunter 1991; Harden 1991		
49	Sapindaceae	<i>Cupaniopsis serrata</i>	Smooth Tuckeroo	E			Rare; Uncommon			Y		Small tree in warm STRF and DRF N from Springbrook, one old record from Tweed River valley (Williams et al. 1984); more records in Sheringham & Westaway 1995; from Tweed Valley to Qld., v. rare in NSW (Harden 1991). Reaches its southern distributional limit in NSW, there are no specimen-backed records in NSW, although there have been unconfirmed reports of the species (NSW NPWS website 2004).	Sheringham & Westaway 1995; Hunter 1991?		
50	Asclepiadaceae	<i>Cynanchum elegans</i>		E	3ECi							Small climber with twining stems usually in DRF, LRF or STRF and occasionally in scrub or woodland. In coastal localities from NSW-Qld border south to Woolongong, most commonly found south of Kempsey (NSW NPWS 2002). Rare from Gloucester district to Woolongong, rainforest gullies, scrub and scree slopes (Harden 1992).			
51	Cyperaceae	<i>Cyperus haspan</i> ssp. <i>juncoides</i>										Perennial on margins of coastal swamps and creeks, N from Evans Head to Qld. (Harden 1993); Collected from dune near Pottsville, third record for State (Gilmore et al. 1985)	P & G 1992; Harden 1991		
52	Cyperaceae	<i>Cyperus rupicola</i>		V	2RC-	R		Y	Y	Y	Y	Tussock forming perennial amongst rocks or on exposed cliff faces near forest (Harden 1993). Rocky sites on Mt. Warning and Nightcap Range (Beadle 1987)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1995		
53	Cyperaceae	<i>Cyperus scaber</i>					Rare			Y		Tufted perennial with short, thick rhizome in heath on coastal dunes N from Pottsville into Qld. (Harden 1993); Records from Pottsville and Kingscliff in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
54	Cyperaceae	<i>Cyperus subulatus</i>					Depleted					Slender perennial with slender, creeping rhizomes, on coastal dunes, woodland and open sandy areas on coast N from Red Rock into Qld and Vic. (Beadle 1987; Harden 1993); S of Pottsville (NSWHerbec) in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
55	Goodeniaceae	<i>Dampiera sylvestris</i>					Uncommon					Perennial subshrub in sclerophyll forest of coastal ranges, N from Buladelah to Qld. (Harden 1992); Chillingham, Tweed R. 1933 (QLDHerbec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Harden 1992		

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56	Davidsoniaceae	Davidsonia jerseyana	Davidson's Plum	E	2ECi	E				Y		Y	Slender tree confined to STRf and WSf at low altitudes (below 300m) in coastal areas, rare (Harden 1990; NSW NPWS 2002); Basaltic soils and Riverine Rf. From Brunswick and Tweed rivers (Floyd 1989); considered of State significance (J. Hunter pers. comm.). Metamorphic-derived soils, not on basalt (B. Stewart pers. comm. July 2004); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Hunter 1992; Harden 1990	D	
57	Davidsoniaceae	Davidsonia johnsonii (D. sp.1 (A) Mullumbimby-Currumbin Ck.; A. G. Floyd 1995)	Smooth Davidson's Plum	E	2ECi	E				Y			Bushy tree in disturbed STRf, LSTRf or on margin with WSf at low altitude (below 300m) from Tintenbar-Broken Head district to Currumbin Valley, rare (Harden 1990; NSW NPWS 2002); Margin of lowland STRf and Wet sclerophyll forest from Richmond R. to Currumbin Ck. (Floyd 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Schenk & Wallace 1996; Sheringham & Westaway 1995; Harden 1990	I	Y
58	Orchidaceae	Dendrobium dolichophyllum	A Rat's Tail Orchid				Rare						Epiphyte on trees and rocks in Rf between 800 - 1200m. N from Dorrigo into Qld (Harden 1993); Mt. Warning NP (NSWHerbrec in Sheringham & Westaway 1995)	Sheringham & Westaway 1995		
59	Orchidaceae	Dendrobium schneiderae			3RC-	R							Epiphyte in upper branches of Rf frequently on Hoop pine, from Clarence R. or Kyogle north to Qld. (Beadle 1987; Harden 1993)	Floyd 1990; Hunter 1991; Harden 1993		
60	Urticaceae	Dendrocnide moroides	Gympie Stinger	E			Rare						Shrub extremely rare in NSW, in STRf, DRf and LRF north from Drake or Clarence River to North Qld. (Williams <i>et al.</i> 1984; Harden 1990); Mt. Nullum (Hunter & McLachlan 1991; and others in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Williams <i>et al.</i> 1984; Sheringham & Westaway 1995; Harden 1990		
61	Faboideae	Desmodium acanthocladum	Spiny Trefoil; Thorny Pea	V	2VC-	V						Y	Shrub mainly along rivers in Lismore - Grafton district, not common (Harden 1991); Inadequate conservation; Clarence River to Tweed on edge of STRf, DRf (Williams <i>et al.</i> 1984); Occurs only in NE NSW found in Lismore area, records also from near Grafton, Coraki, Casino and Mt. Warning area on fringes of riverine STRf and DRf on basalt-derived soils at low elevations (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Floyd 1990 ; Hunter 1991; Sheringham & Westaway 1995; Harden 1991		
62	Liliaceae	Dianella crinoides					Uncommon						Perennial herb in maritime habitats on sandy to loamy soils; N from Bermagui to Qld. (Harden 1993); Tweed Heads (undated), Bogangar, Hastings Pt. (QLDHerbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Harden 1993.		
63	Dicksoniaceae	Dicksonia youngiae	Bristly Tree Fern; Red-bristle Tree Fern					Y					Slender tree fern in sheltered situations in warmer Rf. or in OF to Qld. (Harden 1990); uncommon in STRf, WTRf and LRF north from Bellinger R. (Williams <i>et al.</i> 1984); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Harden 1990		
64	Gleicheniaceae	Dicranopteris linearis					Uncommon						Fern often straggling and forming dense thickets in open, damp situations, widespread but now rare NSW to Qld and tropics (Harden 1990); SW of Pigabean (NSWHerbrec); Crabbes Ck. (QLDHerbrec) in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Harden 1990.		
66	Ebenaceae	Diospyros ellipticifolia var. ebenus	Shiny-leaved Ebony	E						Y		Y	Tall shrub to small tree in riverine or lowland STRf from lower Tweed R. to Gympie, considered as rare (Williams <i>et al.</i> 1984); v. rare, confined to Tweed area, ? Qld. (Harden 1990); Found only in Hogan's Scrub at North Tumbulgum and on Mt Cougal in Tweed, also in SE Qld. (NSW NPWS 2002). Also Brunswick R (B. Stewart pers. comm. July 2004); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Williams <i>et al.</i> 1984; Sheringham & Westaway 1995		
65	Ebenaceae	Diospyros mabacea	Red-fruited Ebony	E	2ECi	E				Y		Y	Small tree in LSTRf & riverine Rf often close to rivers, on basalt derived or alluvial soils, found in a few stands on the Tweed and Oxley Rivers, upstream from Murwillumbah, on Stotts Island, west of Mullumbimby on the Brunswick River, largest population in Limpinwood NR rare (Williams <i>et al.</i> 1984; Floyd 1989; Harden 1990; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Hunter 1991; Sheringham & Westaway 1995; Harden 1990	I	Y
67	Sapindaceae	Diploglottis campbellii	Small-leaved Tamarind	E	2E	E				Y			Large tree in riverine Rf, STRf and Brush Box forest from Tintenbar on the Richmond River and Tweed River to Upper Tallebudgera Valley SE Qld., found at only a small number of locations (Floyd 1989; Harden 1991; NSW NPWS 2002). Also from Mudgeeraba, SE Qld (B. Stewart pers. comm. July 2004); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Schenk & Wallace 1996; Sheringham & Westaway 1995; Harden 1991	I	Y
68	Sapindaceae	Dodonea megazyga											Erect shrub or small tree in DSf or on Rf margins on sandstone, not common, N of Wollemi NP to just over Border into SEQld. (Harden 1991); In Rare tree register from Tweed 1991 (recorded M. Healey pers. comm. 1997)	Harden 1991		Y
69	Agavaceae	Doryanthes palmeri	Spear Lilly	V			Rare			Y		Y	Tall perennial herb forming on exposed rock outcrops in WSf of Mt. Warning Caldera and into Qld (Harden 1993); Mt. Warning NP (NSWHerbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
70	Polypodiaceae	Drynaria rigidula	Basket Fern	E									Fern occurring as an epiphyte or growing on rocks, creeping or clump-forming sp. found in Rf, rare in NSW, N from Clarence R. to Qld. (Harden 1990); Located at Maclean, Bogangar, Mullumbimby, in the Tweed Valley and at Woodenbong (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Harden 1990.		
71	Asteraceae	Eclipta prostrata					Depleted						Perennial, usually prostrate herb on creek banks in wet areas and disturbed sites, N from Richmond River to Northern tropics (Harden 1993; Beadle 1980); Coastal lowlands of Tweed (P & G 1992) other recs. in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		

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72	Elaeocarpaceae	Elaeocarpus williamsianus	Hairy Quandong	E	2ECi	E				Y		Y	Small to medium tree in STRf, WTRf or disturbed Rf of Upper Burringbar Creek, Very rare (Williams <i>et al.</i> 1984; Harden 1990); Limited specimens recorded from Burringbar in Tweed (Floyd 1989); Known from very few sites between Goonengerry and Burringbar in NE NSW (NSW NPWS 2002). Recorded from Broken Head (B. Stewart pers. comm. July 2004); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
73	Cyperaceae	Eleocharis dulcis	Chinese Water Chestnut; Tall Spike-rush									Y	Perennial in permanent, more or less still freshwater, N from Murwillumbah area (Harden 1993); Wetlands or dunal areas on floodplain (P & G 1992) Herbarium record for a drain in Murwillumbah (K.Wilson Nat. Herb. NSW 1985 pers. comm.)	P & G 1992; Sheringham & Westaway 1995; Harden 1993		
74	Cyperaceae	Eleocharis tetraquetra	Square-stemmed Spike Rush	E									Tufted perennial, found in damp locations on stream edges and in and on the margins of freshwater swamps. Thought extinct in NSW until found at Boambee near Coffs Harbour in 1997, since found near Copmanhurst and Murwillumbah, also found in SE Qld. (NSW NPWS 2002)		F	
75	Poaceae	Elyonurus citreus		E									Loosely caespitose perennial grass; Grows in sandy soils near rivers or along the coast; N from Grafton. NC, Qld, N.T., W.A., N.G. (Harden 1993); not recorded by Murray and James for Tweed coast.			
76	Lauraceae	Endiandra floydii	Crystal Creek Walnut	E	2VC-	V				Y		Y	A medium to small tree in WTRf & STRf with Brush Box overstorey, and in regrowth Rf and Camphor Laurel forest on moderately steep slopes below 430m. From Couchy, Crystal and Nobby's Cks., Urlup and Tomewin on S side of McPherson Range (Harden 1993; NSW NPWS 2002); Also Brunswick Heads (pers. comm. M. Healey 1997); Confined to Tweed and Brunswick Valleys and Byron Bay area and one or two locations in SE Qld. (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Sheringham & Westaway 1995	I	Y
77	Lauraceae	Endiandra globosa	Black Walnut		2RC-	R				Y		Y	Medium to large tree restricted to riverine Rf. on rich alluvial soils and on moist slopes in STRf (Harden 1990); In Tweed & Brunswick Valleys to Tallebudgera Qld.; reservation adequacy unknown; (Floyd 1989). Often in Brush Box and WSF on metasediments (B. Stewart pers. comm. July 2004); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992 (Floyd 1990); Schenk & Wallace 1996; Sheringham & Westaway 1995; Harden 1990		Y
78	Lauraceae	Endiandra hayesii	Rusty Rose Walnut	V	3VC-	V				Y			Small to medium sized tree, locally abundant in sheltered moist gullies in LSTRf and WTRf on alluvium, basaltic and sedimentary soils from Clarence River (or Richmond River) to Burling Heads, locally abundant in some parts of its range in NSW (Floyd 1989; Harden 1990; NSW NPWS 2002). Reservation adequacy not known (P & G 1992). Inner Pocket NR, Nightcap NP (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992 (Floyd 1990); Hunter 1991; Schenk & Wallace 1996; Sheringham & Westaway 1995; Harden 1990	I	Y
79	Lauraceae	Endiandra muelleri subsp. bracteata	Green-leaved Rose Walnut	E									A tree from STRf or WSF, chiefly at lower altitudes, sparsely distributed from Maclean N to Qld, rare in NSW (Harden 2000; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Source?		
80	Scrophulariaceae	Euphrasia bella	Pretty or Mt. Merino Eyebright	V	2VCit	V				Y		Y	Dwarf perennial herb restricted to exposed sites in CTRf (Harden 1992). Recorded only from Mc Pherson Range on NSW-Qld. Border along cliff edges in Antarctic Beech forest (Beadle 1984). Mt. Merino in Limpinwood NR, wet but well drained. Closely related species on The Pinnacle (NSW NPWS 2002)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 199?		
81	Proteaceae	Floydia praealta	Ball Nut	V	3VC-	V				Y			Small to medium sized tree chiefly in riverine and STRf, Clarence River to Gympie, not common (Floyd 1989; Harden 1991). Mt. Warning & Nightcap NP and Limpinwood NR (Sheringham & Westaway 1995); Also at Mt Barney (NPWS pers com); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1991.		
82	Euphorbiaceae	Fontainea australis	Southern Fontainea	V	3VCi	V				Y		Y	Shrub or small tree in LSTRf, usually on basaltic alluvial flats and also in cooler STRf in the Nightcap Range, restricted to the Tweed Valley and a few locations in the upper reaches of the Richmond Valley recorded from Oxley R. in Tweed Shire (Harden 1990; NSW NPWS 2002); Northern distributional limit in lowland STRf of the Tweed (Floyd 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1990.		
83	Pandanaceae	Freycinetia excelsa	Climbing Pandan									Y	Small woody climber in STRf only recorded in NSW from Tweed Valley (Harden 1993); Southern distribution limit in Tweed; from Rf. at Hogan's Scrub (Beadle 1987); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Forster, G.R. 1978**; Sheringham & Westaway 1995		
84	Cyperaceae	Gahnia insignis			3RCa	R							Decumbent perennial on slopes in forests and occasionally in heath often on volcanic soils in the ranges N from Lismore to Qld. (Harden 1993); Rock crevices on slopes, heaths, some <i>Eucalyptus</i> forests; Numinbah NR (Beadle 1987); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Harden 199?		
85	Ericaceae	Gaultheria viridicarpa subsp. merinoensis		V	2VCit					Y		Y	Erect or creeping shrub from Limpinwood NR and Lamington NP only (ROTAP 1995); Population recorded from Mt. Merino on NSW/Qld has smaller, broader leaves than <i>G. species A</i> and has been treated as a different taxon. Border and into Qld, rare (Harden 1992).	Sheringham & Westaway 1995; Harden 1992.		
86	Rutaceae	Geijera paniculata	Scrub Wilga / Axebreaker	E									Small to medium sized tree in STRf & DRf and vine scrub, often along rivers, rare in NSW (Harden 1991); occasional tree from Rivertree, Lismore, Wardell and N to Brisbane R. and Cumberland Islands (Floyd 1989); Known from Tweed, Lismore and Wardell areas in NE NSW, moderately common in restricted habitat in Qld (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Schenk & Wallace 1996; Harden 1991.		

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87	Orchidaceae	<i>Geodorum densiflorum</i>		E			Uncommon					Terrestrial orchid in DSF often on coastal sands, at lower altitudes (Harden 1993); Uncommon in NSW, coast (eg Norries Head, Tweed Shire (Griffith 1986)) N from Macleay R. (Beadle 1987). Some doubt as to reliability of record (p. C-i, Sheringham & Westaway 1995). Fewer than 10 populations in NSW, all N from Bundjalung NP also in Qld (NSW NPWS 2002). Several records in Byron Shire and on Tweed Coast (B. Stewart pers. comm. July 2004); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992 (B. Wallace, pers. comm 1986); Harden 1993.		
88	Grammitaceae	<i>Grammitis stenophylla</i>	Narrow-leaf Finger Fern	E								An uncommon little fern growing in small colonies in moist places on rocks and trees in Rf and WSF usually near streams with hanging or erect fronds 1 - 5cm. Know from only a few sites between Gibraltar Range NP and Nightcap NP and in Sherwood NR south of Grafton (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)			
89	Proteaceae	<i>Grevillea hilliania</i>	White Yiel Yiel	E								Tree in STRF often on basic igneous substrates (basalt) N from Brunswick Heads to Qld., rare, only populations currently known in NSW are in the Brunswick Heads and Tweed Heads areas, in small remnant patches of habitat (Williams <i>et al.</i> 1984; Harden 1991; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Harden 1991.		
90	Asteraceae	<i>Gynura drymophila</i> var. <i>drymophila</i>					Rare		Y	Y		Herb in Sf. usually on skeletal, volcanic soils, apparently rare, N from Ballina (Harden 1992); on rocky escarpments of SEQld & NE NSW (Jones & Elliott 1990); Mt. Nullum 1896 (NSWHerbrec) in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Harden 1992.		
91	Haloragaceae	<i>Haloragis exalata</i> subsp. <i>velutina</i>		V	3VCi							A shrub to 1.5m that grows mostly in damp places near watercourses also in woodland on the steep rocky slopes of gorges. Found in north coastal NSW and SE Qld (NSW NPWS 2002).			
92	Rubiaceae	<i>Hedyotis galioides</i> (<i>Oldenlandia galioides</i>)		E			Rare					Prostrate or ascending annual recorded only from Gunterbooka Mts. S of Bourke, rare, also in Qld., NT and WA (Harden 1993); S of Norries Head (H. James pers. comm.) in Sheringham & Westaway 1995. Whiporie SF south of Casino (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
93	Asteraceae	<i>Helichrysum</i> sp.1 (Mt. Merino; S. T. Blake 21554)			2RC-				Y	Y		Perennial herb to c. 40cm., from cliff edges near Antarctic Beech forests in McPherson Range (Stanley & Ross 1986); not in Flora of NSW	Hunter 1991		
94	Proteaceae	<i>Helicia ferruginea</i>	Rusty Oak									Shrub or small tree in riverine, STRf and WTRf from Richmond R. or Woolgoolga Ck. to McPherson Range and into Qld.(Williams <i>et al.</i> 1984; Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Harden 1991.		
95	Philydraceae	<i>Helmholtzia glaberrima</i>	Stream Lilly		2RCa	R		Y				Perennial of mountain Rf. near wet gullies, streams and waterfalls and along rocky creek gullies N of Richmond R. or Nightcap Ra. (Beadle 1987; Harden 1993); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1993		
96	Dilleniaceae	<i>Hibbertia hexandra</i>		E	3RC-	R		Y	Y	Y		Tall shrub or small tree chiefly in heath, open or xeromorphic forests or rainforest of Mt. Warning NP, Nightcap NP and the McPherson Range and separate occurrence in Wauchope-Kendall area (Beadle 1982; Harden 1990; NSW NPWS 2002); Nightcap Range (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Harden 1990		
97	Proteaceae	<i>Hicksbeachia pinnatifolia</i>	Red Bopple Nut	V	3RC-							Small tree in STRf, WSF and Brush Box forest on basalt soils in coastal areas from Nambucca Valley to Tamborine Mt., often regenerates by suckering (Floyd 1989; Harden 1991; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Schenk & Wallace 1996; Sheringham & Westaway 1995; Harden 1991		
98	Poaceae	<i>Hierochloa rariflora</i>	Scented Holygrass				Uncommon					Scrambling perennial on rocky slopes and hillsides in the eastern states (Harden 1993); Mt. Warning NP (NSWHerbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
99	Menispermaceae	<i>Hypserpa decumbens</i>					Rare					Twiner in LRF from near Kingscliff to Qld. (Harden 1990); Very rare in NSW, from Cudgen Lake, Mooball and Brunswick Heads (Williams, 1991, pers.comm.) Tweed coast lowlands (P & G 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Sheringham & Westaway 1995; Harden 1990		
100	Acanthaceae	<i>Isoglossa eranthemoides</i>		E	2E				Y		Y	Herb to 50cm from herbaceous, stony ground stratum of STRf, rare (Harden 1992); Only recorded from Tweed R. (Beadle 1984); Booyong (near Lismore) and Inner Pocket NR, Burringbar (Sheringham & Westaway 1995). Restricted distribution from Tweed to Lismore in moist situations in lowland STRf (NSW NPWS 2002). Mt Warning, Cedar Creek, Amaroo FR, Oxley R (B. Stewart pers. comm. July 2004); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991	I	
101	Myrtaceae	<i>Kunzea bracteolata</i>			3RC-			Y				Shrub in DSF on granite N of Glen Innes to Qld. (Harden 1991); Limpinwood NR often in crevices; on granite hills and Tablelands in N of NSW (Beadle 1982) to Darling Downs (Stanley & Ross 1986)	Hunter 1991; Sheringham & Westaway 1995; Harden 1991		
102	Dryopteridaceae	<i>Lastreopsis silvestris</i>	Mountain Shield Fern		2RCa	R		Y	Y	Y		Fern in Rf at high altitudes of Border Ranges, rare in NSW (Harden 1990); McPherson Range at higher altitude in Rf. (Beadle 1982); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1990.		
103	Dryopteridaceae	<i>Lastreopsis smithiana</i>	Smooth Shield Fern						Y	Y		Fern along creek banks in Rf in Border Ranges, not common in NSW (Harden 1990); McPherson Range in very wet places in Rf. (Beadle 1982); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Harden 1990.		

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104	Sapindaceae	<i>Lepiderema pulchella</i>	Fine-leaved Tuckeroo	V	2RC-	R		Y	Y			Small tree from riverine, LSTRf and LRF from Brunswick River to Tallebudgera Ck., Qld., in NSW largely confined to infertile metasediments in the Tweed Valley, the majority occur on private property (Floyd 1989; Harden 1991; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Schenk & Wallace 1996; Sheringham & Westaway 1995		Y
105	Myrtaceae	<i>Leptospermum whitei</i>	White's Tea-tree									Shrub to 3m. of heath in sandy, swampy coastal soils from Coffs Harbour to Wide Bay in Qld. (Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
106	Epacridaceae	<i>Leucopogon</i> sp.5 (Echo Point; M. Olsen 801)			2RC-				Y			Limpinwood NR and Echo Point, Lamington NP (ROTAP 1995); Not in Flora of NSW, possibly <i>Leucopogon</i> sp. C, which is now <i>L. trichostylus</i> . No further information available at this time (Aug 2004).	Hunter 1991		
108	Lindseaceae	<i>Lindsaea fraseri</i>		E			Rare		Y	Y		Terrestrial fern with creeping underground root, locally common in one area on Tweed coast in swamp forest-dry sclerophyll forest ecotone, Bogangar (Griffith 1986); rare in NSW (Harden 1990); Four records for NSW all in this locality (Nat. Herb. NSW 1986)	P & G 1992; Sheringham & Westaway 1995		
107	Lindseaceae	<i>Lindsea brachypoda</i>		E								Small terrestrial fern of very moist habitats in STRf or WTRf or Palm Forest on ground or rocks up to 30cm tall, but usually smaller. North from Minyon Falls in Nightcap NP. Records for Tumbulgum, Mullumbimby and Mooball			
109	Lycopodiaceae	<i>Lycopodium phlegmaria</i> (L. myrtifolium)	Coarse Tassel Fern									Epiphyte of Rf. (Beadle 1982); In rock crevices on rhyolite or as an epiphyte on Rf. Trees; rare in NSW also in Q. NT, WA (Harden 1990)	Hunter 1991		
110	Proteaceae	<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut	V	2VC-	V		Y	Y			Medium-sized tree in STRf, usually near the coast N of Clarence R., confined chiefly to the Tweed and Richmond Rivers (Floyd 1989; Harden 1991); extends into S Qld.; Mt. Warning NP, Numinbah and Inner Pocket NR (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Floyd 1990; Hunter 1991; Schenk & Wallace 1996; Sheringham & Westaway 1995		Y
111	Thelypteridaceae	<i>Macrothelypteris torresiana</i>					Rare		Y			Terrestrial fern in Rf. near creeks, rare in NSW, N from Wiangarie SF into Q and OS (Harden 1990); Mt. Cougal, Numinbah NR (Floyd) in Sheringham & Westaway 1995; NE NSW to NE Qld in Rf., WSf and moist forests (Jones & Elliott 1993); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
190	Asclepiadaceae	<i>Marsdenia hemiptera</i>	Rusty Water Vine			V		Y		Y		Twining climber in LRF and rarely STRf north from Iluka on Clarence R. to S Qld. (Beadle 1984; Harden 1992); reservation status unknown (P & G 1992); recorded from Round Mt. (Hunter 1985 pers. comm.); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Hunter 1991; Floyd 1990; Sheringham & Westaway 1995		
112	Asclepiadaceae	<i>Marsdenia longiloba</i>	Slender Marsdenia	E	3RC-							Slender climber in scattered sites of STRf, WTRf and lowland moist eucalypt forest adjoining Rf. north from Coffs Harbour (Barrington Tops), rare; also in SE Qld. (Beadle 1984; Harden 1992; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991	I	
113	Juncaginaceae	<i>Maundia triglochinosoides</i>										Perennial herb in swamps or shallow freshwater on heavy clay (Harden 1993); coastal swamps from Wyong to SE Qld (near Pottsville, Gilmore et al. 1985); Status poorly known poss. rare (Pressey 1989 a,b.)	P & G 1992		
114	Rutaceae	<i>Medicosma cunninghamii</i>	Pink Heart / Bonewood									Shrub to small tree in LSTRf. and LRF N from Richmond R. to Qld., rare in NSW. (Harden 1991). Cudgera, Burringbar and Crabbes Cks., Chillingham, Terranora, Mt. Warning NP; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
115	Rutaceae	<i>Melicope vitiflora</i>	Coast Euodia	E			Rare					Small tree in LRF and STRf N from Broken Head, rare in NSW, also in Qld. (Williams <i>et al.</i> 1984; Harden 1991); Upper Eungella and Tweed R. (QldHerbrec from Sheringham & Westaway 1995); considered of State significance (J. Hunter pers. comm.); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995; Hunter 1997+H55		
117	Hymenophyllaceae	<i>Microtrichomanes vitiense</i>					Rare					Tiny epiphytic or lithophytic fern from NE Qld to NE NSW in moist, humid riparian zones, forms mats on logs and trees in Rf., N from Richmond R. (Harden 1993); Wollumbin, near Uki (NSWHerbrec) in Sheringham & Westaway 1995.	Sheringham & Westaway 1995		
118	Faboideae	<i>Millettia australis</i>	Blunt-leaved Native Wistaria		3RC+	V		Y				Tall, twining, woody climber from coastal N NSW and Rf. near sea (Williams <i>et al.</i> 1984); Coast and adj. Ranges N from Port Macquarie into Qld (Harden 1990); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991		
120	Sapindaceae	<i>Mischocarpus anodontus</i>	Pear-fruited Tamarind									Tree in DRf N from the Lismore district into Qld., not common. (Harden 1991). Stotts Is. NR, Nullum SF, Terranora and Border Ra.; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
119	Loganiaceae	<i>Mitrasacme pygmaea</i>		E					Y	Y		Annual herb, erect to 20 cm high, found in Qld & NSW. The species reaches its southern limit in NSW, and is known from only one location within Mount Warning NP, a population of about 20 plants was recorded in 1995, but the species has not been found there since (A Benwell, 2003 pers. com.); NPWS web site (12 Aug 2004).			
121	Curcubitaceae	<i>Momordica balsamina</i>	Balsam Apple				Uncommon					Annual trailing herb, usually grows in riverine woodland in sandy soil, Q., NT, WA and OS (Harden 1990); Murwillumbah 1969 (NSWHerbrec in Sheringham & Westaway 1995)	Sheringham & Westaway 1995		
122	Faboideae	<i>Mucuna gigantea</i>	Burny Bean				Depleted					Tall, woody climber with slender stems in coastal Rf. N from Bundagen to Qld. & NT (Harden 1993); Banora Pt. (Floyd) and others in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
123	Loranthaceae	<i>Muellera myrtifolia</i>	Myrtle-leaf Mistletoe	E	3RC-					Y		Parasitic mistletoe on Rf spp. in DRf on fertile soils, N from Legume area, rare in NSW and SE Qld (Harden 1993; NSW NPWS 2002); known only from Wilson Peak FR on NSW-Qld border NW of Woodenbong, sometimes at high altitude, where it grows on Rf shrubs and vines (NSW NPWS 2002); In Rf. of Range along Qld. Border (Beadle 1980); extends into NSW (Jones & Elliott 1993); from Border Ranges (Sheringham & Westaway 1995)	Floyd 1990; Sheringham & Westaway 1995		

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124	Myoporaceae	Myoporum boninense ssp. australe	Boobialla				Depleted						Shrub in coastal heath, on coast cliffs and dunes or in <i>Casuarina</i> woodland near estuarine inlets, N from Eden to Qld (Harden 1993); Fingal Pt., Uki (NSWHerbrec) and others in Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
125	Apocynaceae	Neosperma poweri	Milkbush				Depleted						Shrub to small tree in STRf N from Alstonville to N.Q., rare in NSW (mostly in Tweed R. and Richmond R. districts) as infrequent groups of trees (Floyd 1989; Williams <i>et al.</i> 1984; Harden 1992) for other records see Sheringham & Westaway 1995; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Sheringham & Westaway 1995		
13	Sapotaceae	Niemeyera antiloga (Amorphospermum antilogum)	Plum Boxwood				Rare			Y			Medium tree of LSTRf on stony slopes on red basaltic loam, from Tweed R. to Olive R., NQ restricted to four sightings in Tweed (Floyd 1989) from Terranora (Gilmore 1983; Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Sheringham & Westaway 1995		
14	Sapotaceae	Niemeyera whitei (Amorphospermum whitei)	Rusty Plum	V	3RCa	R		Y					Small to medium tree in gully Rf, LRF & WTRf and adjacent WSf from upper Macleay R. and Port Macquarie to Tallebudgera Ck. (Floyd 1989; Harden 1991; NSW NPWS 2002); Nightcap & Border Ra. NP (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995; Harden 1991.		Y
126	Oleaceae	Notelaea johnsonii	Veinless Mock-olive					Y					Shrub or small tree in lowland STRf & DRf N from Clarence R. to Gladstone on basaltic soils (Floyd 1989; Harden 1992); Limpinwood NR, Mt. Warning and Nightcap NP (% Adam 1987); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Adam 1987		
127	Fagaceae	Nothofagus moorei	Antarctic Beech; Negrohead Beech										Large tree, significant species of CTRf above 600m. where rainfall is high and mists are common, from Barrington Tops to Mt. Mistake in S Qld. (Floyd 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Kingston <i>et al.</i> 1997		
128	Orchidaceae	Oberonia complanata		E			Rare; Uncommon						Epiphytic orchid in Rf. also in mangroves, coast scrub and sclerophyll forest in gorges, N from Coffs Harbour to Qld. (Harden 1993); Within NSW there are several historical collections (all pre 1917) from Byron Bay and Lismore, and from Coffs Harbour in 1961, searches over the last decade have not been able to confirm the presence of the species at any locations (NSW NPWS website 2004).	Sheringham & Westaway 1995		
129	Orchidaceae	Oberonia titania		V			Rare						Epiphytic orchid in STRf & LRF in <i>Melaleuca</i> swamps, mangroves and Sclerophyll forest in gorges, N from Kendall to Qld. (Harden 1993)	Sheringham & Westaway 1995; P & G 1992		
130	Apocynaceae	Ochrosia moorei	Southern Ochrosia	E	2ECi	E		Y					Erect shrub to small tree in riverine and lowland STRf from Richmond R. and Tweed R. to Springbrook and Currumbin Ck., not common, sparsely distributed in its range (Floyd 1989; Harden 1992; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991		Y
131	Asteraceae	Olearia heterocarpa	Nightcap Daisy Bush		2RCa	R		Y	Y				Shrub from WSF and woodland, OF, fringing mallee scrub on obsidian and WTRf margins from Nightcap Range to Springbrook (Williams <i>et al.</i> 1984); Nullum SF (Sheringham & Westaway 1995); Gibbergunyah Range in Whian Whian area and Qld. also (Harden 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Sheringham & Westaway 1995		
132	Meliaceae	Owenia cepiodora	Onion Cedar	V	2VCi	V		Y	Y				Tree in STRf and DRf on or near soils derived from basalt from Bangalow (Richmond River) to the McPherson Range in Qld., very rare (Harden 1991; NSW NPWS 2002); Confined to dry Hoop pine forests of N NSW and Qld Border regions (Floyd 1989); Mebin SF, Mt. Warning and Border Ra. NP (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Schenk & Wallace 1996; Sheringham & Westaway 1995	I	
133	Asteraceae	Ozothamnus vagans			2RCa	R			Y	Y			Straggling, spindly shrub in and around Rf. from Qld., McPherson Range and on Mt. Warning; rare (Stanley & Ross 1986; Harden 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Sheringham & Westaway 1995		
134	Asteraceae	Ozothamnus whitei			3RC-	R			Y	Y			Straggly shrub in forest on rocky hillsides in the McPherson, Gibraltar, Tweed and Nightcap Ranges and Qld.; rare (Harden 1992); From McPherson Range border region (Stanley & Ross 1986); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Sheringham & Westaway 1995		
135	Orchidaceae	Papillilabium beckerli				R							Small epiphytic orchid in Rf. especially along creeks, coast and coastal ranges, N from Royal NP to Qld. (Harden 1993); On trees in Rf. or associated communities (e.g. <i>C. cunninghamiana</i>) S NSW to SE Qld. (Beadle 1987)	Floyd 1990		
136	Aristolochiaceae	Pararistolochia deltantha var. laheyana			2RC+				Y	Y			Vine in high altitude Rf. of McPherson Range (Stanley & Ross 1983). CTRf N from Nightcap Ra. (Harden 1990). Border Ra. NP (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Stanley & Ross 1983; Sheringham & Westaway 1995		
137	Apocynaceae	Parsonsia lilacina	Crisped Silkpod			R							Weak twiner, rare in drier STRf (Beadle 1984; Harden 1992); in warmer Rf. North from Lismore to Qld. (Williams & Harden 1980)	Floyd 1990; Hunter 1991		
138	Apocynaceae	Parsonsia tenuis	Slender Silkpod		2RC-t	R		Y	Y	Y			Slender-stemmed twiner growing in Antarctic Beech Rf. and in CSTRf to 1250m. only recorded from McPherson Range in both NSW and Qld. (Harden 1992; Williams & Harden 1980; Beadle 1984)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
139	Orchidaceae	Peristeranthus hillii		V									Small pendent epiphytic orchid; grows on trees and woody climbers in Rf. particularly LowlandRf on floodplains and LRF; N from Port Macquarie, at or near sea level. NC, Qld (Harden 1993; NSW NPWS website); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)			
140	Orchidaceae	Phaius australis	Swamp Orchid	E	3VCa	V							Terrestrial orchid from open, swampy areas near coast NE NSW into Qld. (Beadle 1987); chiefly N from Evans Head and as far south as Coffs Harbour in <i>Melaleuca</i> forest, Rf, eucalypt forest, swampy areas mostly on coast (Harden 1993; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991	I	

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141	Thymelaeaceae	Phaleria chermsideana	Scrub Daphne										Shrub to small tree in DRF and STRF, especially on margins, N from Dorrigo to Qld. (Harden 1990). Mebbin SF, Tweed and Border Ra.; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
142	Euphorbiaceae	Phyllanthus microcladus	Brush Sauropus	E			Rare		Y				Rare small shrub in disturbed STRF recorded only from Tweed Valley and Range (Williams <i>et al.</i> 1984); Upper Main Arm, Mullumbimby Ck.-Southern limit (NSWHerbrec. in Sheringham & Westaway 1995); extends into Qld (Harden 1990). Found on banks of creeks and rivers, in streamside rainforest at localities in Tweed, Brunswick, Richmond and Wilson River Valleys and near Grafton (NSW NPWS 2002).	Hunter 1991; Sheringham & Westaway 1995		
143	Thymelaeaceae	Pimelea umbratica			2RC-		Rare; Uncommon		Y	Y			Much branched shrub to 1m. in shrubland on stony soil, above Rf., not common, confined to Tweed Valley and McPherson Range (Harden 1993); Border Ranges area (ROTAP 1995); Mebbin Rock (Hanging Rock) Tweed Range (Sheringham & Westaway 1995)	Sheringham & Westaway 1995		
144	Pittosporaceae	Pittosporum oreillyanum	Thorny Pittosporum		2RCat	R		Y	Y	Y			Spinescent shrub in Antarctic Beech Rf. and CTRf, on higher slopes and peaks of McPherson and Tweed Ranges, including Limpinwood NR and Qld.; rare (Harden 1992; Williams <i>et al.</i> 1984); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
147	Lamiaceae	Plectranthus argentatus											Spreading shrub in rocky areas, frequently associated with waterfalls; Uncommon; in mountain ranges from Dorrigo to along QLD./NSW border (Stanley & Ross 1986; Beadle 1984; Harden 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991		
148	Lamiaceae	Plectranthus nitidus	Nightcap Plectranthus	E	2KCi								A shrubby herb 30-150cm on rocky cliff faces and boulders, and on creek banks, in the shelter provided by Rf. From Nightcap, Richmond Range and Mt. Jerusalem NPs and adjacent private land (NSW NPWS 2002)			
149	Menispermaceae	Pleogyne australis					Rare			Y			Twiner recorded in LRF in Brunswick Heads area, identified only from vegetative material, doubtful if present in NSW; from Qld. and WA (Harden 1993); Mooball on private property (J. Hunter 1989).	Sheringham & Westaway 1995		
151	Asteraceae	Podolepis hieracioides					Uncommon			Y			Perennial herb in woodland and grassland, in deep, low-lying soils or in shallow soils on hillsides, chiefly S from the Blue Mts. (Harden 1992); Mt. Cominan / Echo Pt., Limpinwood NR (A. G. Floyd) in Sheringham & Westaway 1995	Sheringham & Westaway 1995		
152	Asteraceae	Podolepis monticola			2RCa				Y	Y			Prostrate perennial herb restricted to rock ledges and crevices at high altitude, adjacent to Antarctic Beech Rf. from McPherson Range; rare (Harden 1992; Stanley & Ross 1986); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Sheringham & Westaway 1995		
150	Faboideae	Podolobium aestivum (Oxylobium sp.1 (A) (Mt. Warning-Gibraltar Range; I. R. Telford 2465))			3RC-			Y		Y			Erect shrub on rocks and rocky ground in DSF, often on granite, recorded from Gibraltar Range and Mt. Warning (Harden 2002); from Gibraltar Range and Mt. Warning NP (ROTAP 1995). Status uncertain, however mentioned as occurring on Mt. Warning by J. Hunter (NPWS) but no longer listed on NPWS Wildlife Atlas (pers. Comm. B. Stewart Aug 2004).	Sheringham & Westaway 1995		
153	Annonaceae	Polyalthia nitidissima	Canary Beech										Shrub or small tree of understorey, scattered in STRF on sands near the sea (Harden 1990); Rare in NSW in LRF from Clarence R. to N.Q. (Floyd 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992		
154	Rhamnaceae	Pomaderris notata		V	2RC-t	R		Y	Y	Y			Shrub to 2m. confined to rocky basalt ranges of McPherson Range, sometimes locally dominant (Harden 1990); Recorded from Mt. Warning NP >1000 specimens reserved and Qld. (Briggs & Leigh 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
155	Potamogetonaceae	Potamogeton javanicus	Pondweed										Floating freshwater herb in shallow water of lakes and creeks, often in sand, N from Sydney to northern tropics and OS (Harden 1993); Only rarely recorded in Central and North coast floodplain wetlands (Sainty & Jacobs 1981); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992		
145	Sapotaceae	Pouteria chartaceae	Thin-leaved Coondoo										Small tree in riverine and LRF. N from Byron Bay, not common. (Harden 1990). Cabarita, Tweed Heads, Kungur and Stotts Is. NR; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
146	Sapotaceae	Pouteria queenslandica	Blush Coondoo										Tree in LRF and DRF from Brunswick R. to N. Qld. and west to Melville Is.; not widespread (Floyd 1989; Harden 1990); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992		
156	Orchidaceae	Prasophyllum brevilabre	Short-tipped Leek Orchid				Uncommon						Terrestrial orchid in a variety of habitats from coastal heath through woodland and forest to sub-alpine areas (Harden 1993); Cudgen, Murwillumbah district (1962); Round Mt. (1934) NSWHerbrec in Sheringham & Westaway 1995. Also Qld., Vic. and Tas.	Sheringham & Westaway 1995		
157	Orchidaceae	Prasophyllum exilis			3RC-					Y			Terrestrial orchid to 20cm. high from damp grassy sites in Sclerophyll forest, woodland and Wallum heath, rare in NSW, N from Cudgen Lake to Qld (Harden 1993); Record from Cudgen is southern limit (Sheringham & Westaway 1995)	Harden 1993; Sheringham & Westaway 1995		
158	Lamiaceae	Prostanthera prunelloides					Uncommon				Y		Erect to spreading shrub in sclerophyll forest and woodland, often along creeks, in sandy soil over sandstone from Murwillumbah to the Bundawang Range (Harden 1992);	Sheringham & Westaway 1995		
159	Pteridaceae	Pteris comans	Hairy Bracken										Fern in wet places in Rf or TOF, uncommon; also from Qld, Vic, Tas, NZ (Harden 1990)	Sheringham & Westaway 1995		
160	Orchidaceae	Pterostylis nigricans	Dark Greenhood	V	3V								Autumn-flowering terrestrial orchid from coastal heathland with heath banksia (<i>B. ericifolia</i>) on sandy soils. NE NSW north from Evans Head and in Qld. (NSW NPWS 2002).			

No.	Family	Scientific Name	Common Name	STATUS					DISTRIBUTION			Notes	Other Sources and other Status records	NPWS Recovery Plan Status 2003 [®]	Tweed Significant Trees Register 1991	
				TSC Act 1995 #	ROTAP Briggs & Leigh 1995 *	NPWS F & F Atlas 2001 ⁴	S & W - 1995 - NRAC - NSW ¹⁴	Rare and Threat. Adam 1987 ^{7c}	Confined to Tweed region	South. limit	North. limit					
161	Simaroubaceae	Quassia sp.2 (Mt. Nardi; sp. 'A'; A. G. Floyd 1198)	Southern Quassia		3RC-	R		Y					Shrub or rarely small tree in STRf & WTRf and regrowth in Alstonville and Nightcap Ranges area, also near Dorrigo not common (Williams <i>et al.</i> 1984; Harden 2002); Numinbah NR (ROTAP1992; Qld Herbrecc); not in Qld.; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Sheringham & Westaway 1995		
162	Rubiaceae	Randia moorei	Spiny Gardenia	E	3ECi	E							Tall shrub or small tree in STRf, riverine and LRF. in NSW, Hoop Pine and Brush Box are common canopy species, occurs from Broken Head inland to Lismore and N to Logan River in SE Qld, with most records in Tweed and Brunswick areas (Floyd 1989; Harden 1992; NSW NPWS 2002); inadequately reserved (P & G 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Floyd 1990; Hunter 1991; Sheringham & Westaway 1995	I	Y
163	Myrsinaceae	Rapanea sp.1 (Richmond River; J. H. Maiden & J. Boorman NSW 26751)	Lismore Muttonwood	E	2X						Y		Shrub or small tree in STRf in coastal areas from Iluka (Coraki on the Richmond R.) to Mt. Warning (Qld.); very rare and possibly extinct (Williams <i>et al.</i> 1984; Harden 1990). Presumed extinct (Briggs & Leigh 1995); No longer considered extinct (pers. Comm. L. FitzGerald Aug 2004)	Floyd 1990; Hunter 1991	I	
164	Rhizophoraceae	Rhizophora stylosa	Spider Mangrove				Uncommon						Small tree growing in saline mud in river estuaries; rare in NSW; N from Red Rock to Qld., also NT, WA and OS (Harden 1991); Tweed Heads, N arm of Cudgera Ck. (SFHerbrecc in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
165	Myrtaceae	Rhodamnia maideniana	Smooth Scrub Turpentine		2RC-	R							Bushy shrub in STRf, coastal districts N from Richmond R. to Tallebudgera Ck.; rare (Williams <i>et al.</i> 1984; Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992; Murray 1987b); Schenk & Wallace 1996; Sheringham & Westaway 1995		
166	Myrtaceae	Rhodamnia whiteana	Cliff Malletwood										Dense foliated small to medium, multi-stemmed tree in DRf, ecotone of STRf from Acacia Plateau to Mt. Mistake, often dominated by Hoop Pine near cliffs (Floyd 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990		
167	Asteraceae	Rhodanthe polyphylla					Uncommon						Erect annual in grassland on grey, cracking clay soils often in rocky areas, N from the Narrabri district to Qld. (Harden 1992); Murwillumbah 1892 (NSWHerbrecc in Sheringham & Westaway 1995)	Sheringham & Westaway 1995		
168	Papilionaceae	Rhynchosia acuminatissima					Rare						Climbing herb in or near Rf in Lismore to Murwillumbah area and into Qld. (Harden 1991); Limpinwood NR (Sheringham & Westaway 1995)	Sheringham & Westaway 1995		
169	Euphorbiaceae	Ricinocarpos speciosus			3RCi								Monococious shrub found in damp sites along streams from North coast to Qld. (Harden 1990); Wilson R., Port Macquarie and Gibraltar Ra. (Beadle1982); NSWHerbrecc Mt. Nullum; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
170	Sterculiaceae	Rulingia salviifolia			2RC-	R		Y	Y	Y			Shrub, mainly in <i>Eucalyptus</i> forests N from Mt. Warning and the McPherson Range and adjacent areas (Beadle 1982; Harden 1990); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
171	Orchidaceae	Sarcophilus dilatatus			3RC-	R							Semi-pendant epiphyte on trees in Rf., in coastal ranges to c. 400m. altitude, N from Richmond R. to Burnett R. Q. in "drier" vine scrub of lowlands; rare in NSW (Beadle 1987; Harden 1993)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
172	Orchidaceae	Sarcophilus fitzgeraldii	Ravine Orchid	V	3VC-	V							Clumping, semi-pendant epilith on rocks or on bases of trees, forms large branching mats in STRf, gullies near streams from 500-700m., N from Macleay R. to Maleny, SE Qld. (Beadle 1987; Harden 1993; NSW NPWS 2002); Mt. Warning NP, Numinbah and Limpinwood NR (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
173	Orchidaceae	Sarcophilus hartmannii		V	3VC-	V							Semi-erect epilithic or terrestrial herb often forming large mat of shoots; on volcanic rocks or in shallow soil, occasionally on bases of fibrous tree trunks, cycads and grasses in Rf. ecotone, sclerophyll forest or exposed sites from 500-1000m.; N from Richmond R. (Manning R.) to Gympie, SE Qld.; rare (Beadle 1987; Harden 1993; NSW NPWS 2002). Found at Blue Knob (NPWS pers. comm.)	Floyd 1990; Hunter 1991		
174	Orchidaceae	Sarcophilus weinthalii	Blotched Sarcophilus	V	3VC-	V							Semi-pendant epiphyte on Rf. And drier scrub trees from 400-700m. on coastal and sub-coastal ranges N from Dorrigo (Richmond R.) to Bunya Mts., Qld. (Beadle1987; Harden 1993; NSW NPWS 2002); Nightcap NP (Sheringham & Westaway 1995).	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
175	Orchidaceae	Schistostylus purpuratus			3RCi	R		Y			Y		Epiphyte in Rf. and related communities and swampy heath on the outer twigs of trees; coastal ranges and escarpments between 600-900m.; Upper Hastings R. and Dorrigo area and nearby (Beadle1987; Harden 1993); Brindle Ck., Border Ranges NP.	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
176	Cyperaceae	Schoenoplectus litoralis											Tall rhizomatous perennial as an occasional plant on the margins of lakes on the Nth. Coast, central Coast and into Qld. (Beadle 1987); mapped by West <i>et al.</i> (1985), may be of significance for Tweed as one of the largest occurrences in NSW (P & G 1992); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992		
177	Cyperaceae	Scleria rugosa					Rare						Annual herb with rhizomes, in woodland and low forest on sandy soils, N from Grafton to tropical Aust. (Harden 1993; Beadle 1987); Pottsville (NSWHerbrecc in Sheringham & Westaway 1995).	Sheringham & Westaway 1995		
178	Hymenophyllaceae	Selenodesium elongatum					Rare						Terrestrial fern with erect or shortly creeping rhizome in Rf near creeks, N from Richmond to Qld and NZ (Harden 1990; Beadle 1982); Mooball SF (Floyd in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
179	Caesalpinoideae	Senna acclinis		E	3RC-								A shrub to 3m in or on edges of STRf and DRf in coastal districts and adjacent tablelands of NSW from Buledehah to Qld (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)			

No.	Family	Scientific Name	Common Name	STATUS					DISTRIBUTION			Notes	Other Sources and other Status records	NPWS Recovery Plan Status 2003 [®]	Tweed Significant Trees Register 1991
				TSC Act 1995 #	ROTAP Briggs & Leigh 1995 *	NPWS F & F Atlas 2001 ⁴	S & W - 1995 - NRAC - NSW ¹⁴	Rare and Threat. Adam 1987 ^{7c}	Confined to Tweed region	South. limit	North. limit				
180	Faboideae	<i>Sophora fraseri</i>	Scrub Sophora	V	3VC-	V						Uncommon, sparsely branched shrub in moist situations, often near DRf and Rf regrowth N from Casino, where it is very rare to SE Qld. Where it is widespread but not common (Williams <i>et al.</i> 1984; Harden 1991; NSW NPWS 2002); Carrunya near Mt. Warning (ROTAP)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
181	Sterculiaceae	<i>Sterculia quadrifida</i>	Peanut Tree, Red-fruited Kurrajong									Tree, uncommon to rare in riverine Rf., DRf and LRF N from Richmond R. and Coraki (Broken Head) (Williams <i>et al.</i> 1984; Harden 1990); recorded from Kingscliff (Beadle 1982); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992		
182	Proteaceae	<i>Stringea linearis</i>					Uncommon		Y			Shrub confined to coastal sandmasses of far North Coast and SE Qld as scattered specimens N from Byron Bay area, rare (Harden 1991); former R or T status (Leigh <i>et al.</i> 1981), only reserved at Tyagarah NR; recorded from near Cudgen Lake (Murray 1989); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	P & G 1992 (Murray 1989)		
183	Stylidiaceae	<i>Stylidium tenerum</i>	Swamp Trigger Plant				Rare			Y		Small, slender, erect herb in swampy areas N from Tweed Heads to Qld and NT (Harden 1993); Near Pt. Danger 1894 (NSWHerbrec) in Sheringham & Westaway 1995; Recorded in Tweed at Round Mountain by L. FitzGerald in 2002 (pers. comm. Aug 2004)	Sheringham & Westaway 1995		
184	Symplocaceae	<i>Symplocos bauerlenii</i>	Small-leaved Hazelwood	V	2VC-	V	Uncommon	Y	Y			Shrub or small tree in STRf & WTRf N from Nightcap and Mt Jerusalem NPs, in Tweed and Brunswick valleys and limited occurrence in SE Qld to Springbrook; Uncommon (Williams <i>et al.</i> 1984; Harden 1992; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
185	Myrtaceae	<i>Syzygium hodgkinsoniae</i>	Red Lilly Pilly	V	3VC-	V		Y				Small tree in STRf and riverine (gallery) Rf. on rich alluvial soils from Richmond River to Gympie in Qld., locally common in some parts of its range, but otherwise sparsely distributed in its range (Floyd 1989; Harden 1991; NSW NPWS 2002); Inner Pocket and Numinbah NR and Couchy Creek (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Schenk & Wallace 1996; Sheringham & Westaway 1995		Y
186	Myrtaceae	<i>Syzygium moorei</i>	Durobby, Coolamon	V	2VCi	V	Uncommon					Medium-sized to large tree in LSTRf. Riverine and Gully Rf on Richmond, Brunswick & Tweed Rivers to Mugeeraba Ck.; rare (Floyd 1989; Harden 1991); Inner Pocket and Numinbah NR (Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Schenk & Wallace 1996; Sheringham & Westaway 1995; G4		Y
187	Orchidaceae	<i>Taeniophyllum muelleri</i>					Rare					Very small, leafless epiphyte with very short stems on outer branches of Rf trees in coast and coastal ranges to 250m. N from Bellinger R. to Qld. (Harden 1993; Beadle 1987); Burringbar 1912 (NSWHerbrec) in Sheringham & Westaway 1995	Sheringham & Westaway 1995		
188	Myrsinaceae	<i>Tapeinosperma</i> sp. 'Wombye'	<i>Tapeinosperma</i>				Uncommon					Shrub in STRf along streams and on scree slopes, from Lennox Head to McPherson Range in NSW where it is rare; more common in Qld. (Floyd 1989; Williams <i>et al.</i> 1984; Harden 1990); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991		
189	Santalaceae	<i>Thesium australe</i>	Austral Toadflax	V	3VCi+							A small herb to 40cm often found growing amongst native grasses. Widespread but uncommon in NSW on the coast, tablelands and western slopes. Occurs on grassy headlands and is parasitic on roots of Kangaroo Grass (<i>Themeda australis</i>) (NSW NPWS 2002); not recorded by Murray and James or others in Tweed; not found despite searching, pers. comm. L. FitzGerald (Aug 2004).		I	
191	Menispermaceae	<i>Tinospora smilacina</i>	Tinospora Vine	E								Slender, deciduous climber in DRf and along its boundaries and DSf. N from Coffs Harbour where it is rare to Qld, NT and WA (NSW NPWS 2002).			
192	Menispermaceae	<i>Tinospora tinoporoides</i>	Arrow-head vine	V	3RC-	V				Y		Tall woody climber in wetter STRf, including LRF north from Richmond River, locally common in some parts of its range (Williams & Harden 1980; Harden 1990; NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004); Recorded from a single location in SE Qld (NSW NPWS 2002) although Stanley & Ross state that no authenticated records exist in the Old Herbarium (1983)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
193	Sapindaceae	<i>Toechima tenax</i>	Brush Teak; Pitted-leaf Steelwood									Tree in STRf and DRf N from Richmond R. into Qld., rare in NSW (Harden 1991). Highway south of Stotts Is. NR; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Gilmore 1983		
194	Apiaceae	<i>Trachymena procumbens</i>					Uncommon					Procumbent or ascending perennial herb in coastal districts, early records from Manly and Tweed Heads, also in Qld. (Harden 1992); Terranora, Tweed Heads (NSWHerbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
195	Curcubitaceae	<i>Trichosanthes subvelutina</i>	Velvet-leaved Cucumber		3RC-	R						Near coastal climber on margins and within Rf, also in moist <i>Eucalyptus</i> forest, N from Richmond R., NSW to S Qld. (Beadle 1982; Harden 1990); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
196	Asclepiadaceae	<i>Tylophora benthamii</i>	Coast Tylophora				Uncommon					Climber in LRF, N from Sawtell to Qld. (Harden 1992); Fingal Head (QLDHerbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
197	Asclepiadaceae	<i>Tylophora woollsii</i>		E	2E							Slender woody climber in WSf, moist sites in DSf and Rf margins. Wide range through north coast and northern tablelands to SE Qld, very rare in range (NSW NPWS 2002).		I	
198	Myrtaceae	<i>Uromyrtus australis</i>	Peach Myrtle	E	2ECi	E		Y	Y	Y		Shrub or small tree in WTRf, on less fertile and shallow yellow earths with high rainfall, often associated with Coachwood (<i>Ceratopetalum apetalum</i>), found only in Nightcap and Mt. Jerusalem NPs and Whian Whian SF (Floyd 1989; NSW NPWS 2002); known only from McPherson Range (Harden 1991); Nullum SF (Sheringham & Westaway 1995); Nightcap NP (Adam 1987); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995	I	

No.	Family	Scientific Name	Common Name	STATUS					DISTRIBUTION			Notes	Other Sources and other Status records	NPWS Recovery Plan Status 2003 [®]	Tweed Significant Trees Register 1991	
				TSC Act 1995 #	ROTAP Briggs & Leigh 1995 *	NPWS F & F Atlas 2001 ⁴	S & W - 1995 - NRAC - NSW ¹⁴	Rare and Threat. Adam 1987 ⁵	Confined to Tweed region	South. limit	North. limit					
199	Myrtaceae	<i>Uromyrtus lamingtonensis</i> (U. sp.1 McPherson Range; G. P. Guymer 2000))			2RC-					Y	Y		Much-branched small tree to shrub on very steep ridges in DRf and shrubland of Mt. Wagawn, Mt. Durigan and spurs of eastern McPherson Range and Limpinwood NR and Qld; possess smaller leaves and more oil dots than <i>U. australis</i> (Floyd 1989; Sheringham & Westaway 1995; Harden 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Floyd 1990; Hunter 1991; Sheringham & Westaway 1995		
200	Scrophulariaceae	<i>Veronica</i> sp. C					Uncommon					Y	Perennial, stoloniferous herb in Rf. and WSF on basalt or shale soils, in coastal or tableland districts, S from McPherson Range on Qld/NSW Border (Harden 1992; Sheringham & Westaway 1995); close to Northern limit; Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
201	Faboideae	<i>Vigna marina</i>	Dune Bean					Uncommon					Climbing or trailing perennial in coastal situations N from Port Macquarie to Qld. (Harden 1991); Hastings Pt. ((NSWHerbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
202	Verbenaceae	<i>Vitex trifolia</i> var. <i>trifolia</i>											Shrub or small tree in riverine or near coastal communities N from Ballina to Qld and NT (Harden 1993); Tweed Heads 1914 (NSWHerbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
203	Campanulaceae	<i>Wahlenbergia scopulicola</i>	Rock-face Bluebell	E	2RC-					Y	Y		Perennial, tufted, hirsute herb in damp crevices of rhyolite outcrops in McPherson Range to Qld. (Stanley & Ross 1986; Beadle 1984; Harden 1992); Border Ranges NP (Qld Herbrec from Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991(as W.sp.)		
204	Lamiaceae	<i>Westringia blakeana</i>			2RCa	R			Y		Y		Shrub in WSF often near creeks on edge of Rf., N from Lismore area to Qld. (Harden 1992); Uncommon in rock crevices and <i>Eucalyptus</i> forest understorey of the Border Ranges of Qld/NSW (Stanley & Ross 1986; Beadle 1984)	Hunter 1991; Sheringham & Westaway 1995		
205	Flacourtiaceae	<i>Xylosma terrae-reginae</i>	Queensland Xylosma; Xylosma	E									Shrub or small tree, rare in NSW found in LRF, STRf & DRf on coastal sands or soils derived from metasediments from Ballina (Broken Head), Richmond River district N to Maryborough; rare in restricted habitat in NSW (Williams <i>et al.</i> 1984; Floyd 1989; Harden 1990; NSW NPWS 2002); Cabarita and Kingscliff (QldHerbrec, New England Herbrec in Sheringham & Westaway 1995); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Hunter 1991; Sheringham & Westaway 1995		
206	Rutaceae	<i>Zieria adenodonta</i> (<i>Zieria granulata</i> var. <i>adenodonta</i> ; Z. sp. B)	Wollumbin Zieria	E	2RC-t					Y	Y		Dense, bushy shrub to 3m. confined to exposed, steep, rocky mountain slopes of McPherson Range and Mt. Warning (Stanley & Ross 1983; Harden 1991); Summit of Mt. Warning (New England Herbarium record in Sheringham & Westaway 1995); Only near top of Mt. Warning in dense shrubby vegetation with tea-tree, bottlebrushes and grass-trees (NSW NPWS 2002); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)	Sheringham & Westaway 1995		
207	Rutaceae	<i>Zieria southwellii</i> (Z. sp. K)											Tall shrub or small tree to 5m. near Rf. margins and adjacent areas, WSI from Whian Whian SF, Dorrigo Plateau and Mt. Warning NP and into Qld. (Harden 1991); Recorded in Tweed (L. FitzGerald pers. comm. Aug 2004)			

1. P & G records from Pressey, R.L., & Griffith, S.J., 1992. *Vegetation of the Coastal Lowlands of Tweed Shire, Northern NSW: Plant Communities, Species and Conservation.*

2. ** Forster, G. R. (1978) *Tweed Shire Coastal Planning Study - Native vegetation communities and their Conservation value*

3. Source of most Briggs & Leigh 1988, status is Floyd 1990

4. NPWS F & F Atlas (2001) codes: V = Vulnerable; R = Rare; E = Endangered

5. # Threatened Species Conservation Act 1995 - Codes E = Endangered; V = Vulnerable; X = presumed Extinct

6. Harden, G. J. 1990 - 1993 *Flora of NSW* Vols I - IV, and revised Vols I & II, 2000 & 2002, NSW University Press

7. Gilmore, S. (1983) *Tweed Shire Local Environment Study- Sites of Conservation Significance*

8. ^ Shine, R., Ellway, C. P., and Hegerl, E.J. (1973). *A biological survey of Tallebudgera Creek estuary.* Operculum 3: 59-83

9. % Adam, P. (1987) *New South Rainforests - The Nomination for the World Heritage List.* NSW NPWS.

10. Beadle, N.C.W. (1971-87) *Student's Flora of North Eastern New South Wales.* University of New England, Armidale.

11. NSW NPWS (2002), *Threatened Species of the Upper North Coast of New South Wales.* National Parks and Wildlife Service Coffs Harbour, NSW.

12. * Briggs, J. D. & Leigh, J. H., 1995 revised (Fourth) ed. - Rare or Threatened Australian Plants, CSIRO. Codes are described within Appendix 9

13. NSW NPWS web site - <http://www.nationalparks.nsw.gov.au/npps.nsf/Content/Final+determinations> (accessed 12 Aug 2004)

14. Sheringham, P. & Westaway, J., 1995, *Significant vascular Plants of Upper North East New South Wales.* NSW NPWS for Natural Resources Audit Council

15. @ NSW National Parks and Wildlife Service, 2003, *Saving Our Threatened Native Animals and Plants: Recovery and Threat Abatement in Action 2003 Update.* Codes - I = In preparation; D = Draft; F = Final

16. Lance FitzGerald, owner Burringbar Rainforest Nursery

Appendix 9

ROTAP Codes

FORMAT OF LIST AND DEFINITION OF CONSERVATION CODES

The ROTAP list is presented in two forms. The first is the full Australian list, which lists families, genera and species in alphabetical order at each rank. The second form lists the taxa separately for each State and Territory, with genera and species listed in alphabetical order. The presentation of the State and Territory lists in species alphabetical order is intended to assist many readers in their usage of the list and reduce the need to constantly refer to the index. Although family names are not included in the State and Territory lists, the appropriate family to which a species belongs can readily be determined by referring to the index of genera. The index also includes a summary of the number of subspecies, varieties, described, undescribed and taxonomically doubtful taxa for each genus.

The coding system used in this edition is similar to that of ROTAP 1988. This coding system is now widely understood and applied by Australian workers. The threat categories used are in general accordance with the International Union for the Conservation of Nature (IUCN) Red Data Book (1978) categories, which have been described in a number of publications, e.g. Anon (1980), Davis *et al.* (1986). The ROTAP system includes some modifications of the IUCN threat category definitions and also has a number of additional coding features compared with the current IUCN system. The IUCN categories have been the subject of review over the last three or four years and new categories and criteria were formally adopted by IUCN on November 30, 1994. This will have implications for the ROTAP list in the future, as modified versions of the previous IUCN categories have been used in this publication. The most recent draft revised IUCN categories are presented by Mace and Stuart (1994).

In this publication three types of information are presented for each taxon. The first is taxonomic, the second is the conservation code and the third is State and regional distribution and extent of reservation. Below is a hypothetical example/key of a list entry which covers those attributes considered in this publication.

The following is the key to the hypothetical example, including the alternatives for the coded attributes.

Taxonomic information	Conservation Code	Distribution and extent of reservation
Imaginaceae		
<i>Rarus planticus</i> F. Muell.	2KCit+ P1	Ws 6Ci Cape Arid NP
subsp.1 (Cape Pasley; A. Fake 2)		23x

Taxonomic information

Imaginaceae	Plant family name (not included in individual State lists).
?	Indicates taxonomic status is uncertain (this symbol is seldom used).
<i>Rarus planticus</i>	Plant name (Genus and species).
F. Muell.	Author of the taxon name. In the case of undescribed taxa an identifier phrase name is used instead, as explained later in this key.
subsp.1	Indicates ranking of taxon is at subspecies level (options are, subsp. or var. (variety)). The subsp. number is allocated only if the taxon is undescribed and is primarily for use in the CSIRO ROTAP list computer database to distinguish taxa when there are several undescribed species in a genus or several subspecies/varieties for a species.
(Cape Pasley; A. Fake 2)	Subspecies or variety name and author/s. In the case of undescribed taxa, as in this example, an identifier phrase name and a collector's name and number of a representative herbarium specimen collection are given.

Conservation Code

2 The Distribution Category (can be 1, 2 or 3)

- 1 Known by one collection only,
- 2 Geographic range in Australia less than 100 km,
- 3 Geographic range in Australia greater than 100 km.

K The Conservation Status (can be X, E, V, R or K)

X Presumed Extinct: taxon not collected or otherwise verified over the past 50 years despite thorough searching in all known and likely habitats, or of which all known wild populations have been destroyed more recently.

E Endangered: taxon in serious risk of disappearing from the wild within 10–20 years if present land use and other threats continue to operate. This category includes taxa with populations possibly too small (usually less than 100 individuals) to ensure survival even if present in proclaimed reserves.

V Vulnerable: taxon not presently Endangered, but at risk over a longer period (20–50 years) of disappearing from the wild through continued depletion, or which occurs on land whose future use is likely to change and threaten its survival.

R Rare: taxon which is rare in Australia (and hence usually in the world) but which currently does not have any identifiable threat. Such species may be represented by a relatively large population in a very restricted area or by smaller populations spread over a wide range or some intermediate combination of distribution pattern.

K Poorly Known: taxon that is suspected, but not definitely known, to belong to one of the above categories. At present, accurate field distribution information is inadequate.

C Reserved: indicates taxon has at least one population within a national park, other proclaimed conservation reserve or in an area otherwise dedicated for the protection of flora. The taxon may or may not be considered adequately conserved within the reserve(s), as reflected by the conservation status assigned to it. Where applicable, the 'C' symbol immediately follows the conservation status symbol in the written code, e.g. 2RC.

i Size-class of all reserved populations (options are a, i or –)

- a 1000 plants or more are known to occur within a conservation reserve(s),
- i less than 1000 plants are known to occur within a conservation reserve(s),
- reserved population size is not accurately known;

t Total known population reserved;

+ Overseas occurrence (included if the taxon has a natural occurrence overseas);

P1 CALM Priority Flora Code (can be P1, P2, P3, P4 – see Appendix for definitions).

State and regional distribution and extent of reservation

W_s State(s) or Territory in which the taxon still occurs (upper case), or where it once occurred but is now Presumed Extinct (lower case). Any one or more of the symbols WYsqNAVt or wysqnavt are possible: W = Western Australia, Y = Northern Territory, S = South Australia, Q = Queensland, N = New South Wales, A = Australian Capital Territory, V = Victoria and T = Tasmania.

6, 23 Regions of occurrence (can be in any of 1–80 regions; see Figure 1, p. 17).

C The use of the C symbol in conjunction with a region number indicates that the taxon is reserved in that region (region 6 in this example).

- i** Size-class of the total population within the reserve referred to (options are a, i or –). In this example, the size-class in Cape Arid National Park is less than 1000 individuals).
- x** Indicates that the taxon is Presumed Extinct within a region (region 23 in this example).
- Cape Arid** The name of a proclaimed reserve or other area dedicated to the protection of flora within which the taxon occurs in the region referred to (the taxon may occur within several reserves within a particular region and sometimes a reserve may extend across two or more regions).
- NP** Indicates the class of reserve which is listed e.g. Nature Reserve, National Park, Heritage Agreement Area (in this example, National Park) (see Table 2, p. 15 for the key to conservation reserve types listed in this publication).

Appendix 10

Threatened Fauna Habitat Database

APPENDIX 10: THREATENED SPECIES DATABASE

Explanatory Notes

The accompanying spreadsheet provides detailed habitat requirement information for each fauna species listed. In particular each species is considered firstly in terms of its known preference for specific or general vegetation communities, and secondly in terms of other known habitat preferences.

The database intends to provide broad ecological information regarding the habitat requirements and likelihood of occurrence of significant vertebrate fauna species in Tweed Shire.

The collated information is related to the local, and a lesser extent regional, requirements of each Threatened species. Only habitat types that occur in Tweed Shire were included in the database.

The four main components of the database are described below.

1. Fauna Species names

The fauna was listed by Class. Their scientific and common names appear in the first two columns of the spreadsheet. These columns have been repeated on every page to assist interpretation.

2. Fauna Habitat Requirements

Fauna Habitat Requirements consists of two major categories - **Vegetation Type** and **Alternative or Supplementary Habitat** (which comprises Vegetation Structure, Landscape Features and Microhabitat Features).

The **Vegetation Type** preferences of each species are indicated with a number:

- 1 = likely to provide suitable habitat
- 2 = may provide suitable habitat

The **Alternative or Supplementary Habitat** preferences of a species are indicated with a letter (Table A10.1):

Table A10.1 Key to Alternative or Supplementary Habitat Preferences

Symbol	Level of Preference	Explanation
E	Essential	A habitat attribute that is critical for the species' survival
P	Preferred	A habitat attribute that is either important for the species, or is where they have been most commonly found / Optimal habitat
O	Other	Habitat attribute that the species will use/has been known to use, outside or aside from its critical or preferred habitat Sub-optimal or marginal habitat
R	Required by prey	Habitat that is critical or preferred for the major prey of the

Symbol	Level of Preference	Explanation
		species (if carnivorous)

Where possible cells are also annotated with letters describing behavioural activities (where known) associated with specific habitat indicators These are described Table A10.2 below:

Table A10.2 Key to Behavioural Codes

Symbol	Behaviour	Explanation
f	Foraging / feeding	Habitat used for feeding, or to locate food in
b	Breeding	Habitat used for nesting, mating, breeding grounds/territory
s	Shelter	Habitat used for protection from predators, weather, etc. while resting, foraging, mating etc.
r	Roosting	Day-time resting or sheltering habitat for flying nocturnal species

3. Fauna Species Status and Survey Priority

The status of each fauna species under the Threatened Species Act (1995) is listed according to the following codes (see column **TSC Act (1995) Status Codes**):

E1 - Endangered
V - Vulnerable and Rare

In addition to their TSC Act Status, information regarding the likelihood of detection in the Shire was included to enable prioritisation of search effort in fauna surveys. This field (see column **Low Survey Priority**) indicates those Threatened fauna species that are highly unlikely to be detected during short-term development-related surveys in Tweed Shire. This may be despite their known occurrence in the area and/or the availability of suitable habitat. The reason for their low likelihood of detection is indicated with a code (Table A10.3).

Table A10.3 Key to Survey Priority Codes

Codes for Low Survey Priority	Meaning	Explanation
X	Likely to be locally extinct	These are species that, in general, would have had a much broader distribution. With incremental loss of habitat and other factors, they have probably disappeared from the area.
VN	Vagrant, migratory or nomadic species	These are species that move in response to fluctuations in environmental conditions and required resources. Vagrant species are often aquatic birds, that vacate inland areas during droughts. Migratory species travel great distances in predictable seasonal movements, sometimes from the northern hemisphere, generally to feed during our summer, then return to the northern hemisphere to breed. Nomadic species are those that move irregularly, not predictably every year. Their movement may be related to a number of resources, such as nectar supplies, or fruiting trees.
R	Extremely rare	These are with a population of unknown size due to the lack of information about their abundance. However, the infrequency of their detection, despite active searches, suggests small, or highly localised, populations.
D	Known distribution outside	These species have been predicted for the Study Area by

Codes for Low Survey Priority	Meaning	Explanation
the Study Area	particular authors; the general literature however, indicates that these species are not known from the Tweed region.	

Species Status and **Low Survey Priority** information also appears in the far-left columns of the spreadsheet, repeated on every page.

3. Information Sources

The sources from which specific information regarding threatened species presence within Tweed Shire was obtained are shown in the far-right column of the spreadsheet (see column Source). The full titles of the reports are listed in the the body of this report

Limitations associated with the database

There are a number of issues that should be recognised in utilising information from the database.

1. Many fauna species, particularly Threatened Species, are poorly studied, and there is a paucity of information regarding their ecology and critical habitat requirements. Caution must therefore be used before dismissing an area as unlikely to contain a species – even degraded areas have habitat values and may be part of important movement corridors. The database should therefore not be considered as a static tool and will require periodic review in the light of new and more detailed knowledge.
2. Fauna move constantly, and the lack of a species' presence at a site that appears to have ideal habitat for this species should not be used as an excuse to downgrade its importance. Areas of habitat are often used seasonally, or as part of a species' range. Repeated sampling over several months, even years, may be required to establish the presence of a species at a site. In a partial attempt to address these issues, the database contains details on the likely affiliation with specific habitat indicators (essential, preferred etc) and for what purpose (foraging, breeding, shelter etc)
3. Notwithstanding the presence of suitable habitat it is highly unlikely that species surveys will detect species presence even over long time frames. This applies to some extremely rare or locally extinct species especially those with limited capabilities of dispersal, vagrant and nomadic species, and species that are possible but have not been observed in the region. In these cases it may not be feasible to actively sample for such species in the course of the development assessment processes. Such species have also been tagged in the database

TSC Act Status Codes E1 - Endangered V - Vulnerable and Rare	Low Survey Priority Codes X - likely to be locally extinct VN - vagrant or nomadic species R - extremely rare D - known distribution outside the Study Area	Vegetation Type Codes: 1 - Likely to provide suitable habitat 2 - May provide suitable habitat	Supplementary Codes f - foraging/feeding/ prey b - breeding s - shelter/roosting	Commonly used Koala trees in Tweed Shire E. <i>robusta</i> - Swamp Mahogany E. <i>propinqua</i> - Grey Gum E. <i>microcorys</i> - Tallowwood E. <i>grandis</i> - Flooded Gum Other Koala trees C. <i>maculata</i> - Spotted Gum E. <i>saligna</i> - Sydney Blue Gum
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Species		TSC Act Status (1995)	Low Survey Priority	Observed in NPWS Atlas Data (2001)	Vegetation Type Requirements																								
					Rainforest	Wet Sclerophyll Forest and	Dry Sclerophyll Open Forest, Woodland, Mallee and Shrubland	Swamp Sclerophyll Forest, Woodland and Shrubland	Coastal Heathland / Shrubland	Coastal Sedge-land / Rushland	Estuarine Complex	Other Vegetation Type Component																	
Scientific Name	Common Name				RF in General	Littoral Rainforest	Sub Tropical	WSOF in General	Eucalyptus pinnatis / E. uyanus / E. microcorys	Medium-Tall Forest / Woodland in Mallee / Shrublands in General	E. microcorys / Corymbia maculata/ E. siderophloia/ E. molucana	Angophora spp.	E. racemosa / Corymbia intermedia	Eucalyptus ptilularis	Allocasuarina littoralis, A. torulosa, Tall trees dominant	Medium - small trees dominant	Small - tall srubs dominant	Eucalyptus robusta	Melaleuca quinquenervia	Casuarina glauca	Eucalyptus robusta / M.	Heath and shrubland in general	Dry Heath	Wet Heath	Shrubland / Banksia	Coastal Sedge/land/ Rushlands	Mangrove / Saltmarsh	Dune Vegetation	Koala Feed Trees (see list)
BIRDS																													
<i>Amaurion olivaceus</i>	Bush-hen	V		yes	2fs																					2fs	1fs		
<i>Anseranas semipalmata</i>	Magpie Goose	V	VN	yes																						1fs			
<i>Atrichornis rufescens</i>	Rufous Scrub-bird	V		yes	1fs		2fs																						
<i>Botaurus poiciloptilus</i>	Australasian Bittern	V		no													1bs				1bs					1fs			
<i>Burhinus grallarius</i>	Bush Stone-Curlew	E1		yes						1fs																			2f
<i>Calidris alba</i>	Sanderling	V	VN	yes																									
<i>Calidris tenuirostris</i>	Great Knot	V	VN	yes																									
<i>Calyptorhynchus banksii</i>	Red-tailed Black-Cockatoo	V	X; VN	yes	1fs		1fs	1fs				1fb		2fs															
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V		yes						1bs			1f							2f									
<i>Charadrius leschenaultii</i>	Greater Sand Plover	V	VN	yes																						1fsr	2fsr		
<i>Charadrius mongolus</i>	Lesser Sand Plover	V	VN	yes																						1f			
<i>Coracina lineata</i>	Barred Cuckoo-shrike	V		yes	1fs			1fs										2fs											

TSC Act Status Codes		Low Survey Priority Codes		Vegetation Type Codes:		Supplementary Codes		Commonly used Koala trees in Tweed Shire																							
E1 - Endangered V - Vulnerable and Rare		X - likely to be locally extinct VN - vagrant or nomadic species R - extremely rare D - known distribution outside the Study Area		1 - Likely to provide suitable habitat 2 - May provide suitable habitat		f - foraging/feeding/ prey b - breeding s - shelter/roosting		E. robusta - Swamp Mahogany E. propinqua - Grey Gum E. microcorys - Tallowwood E. grandis - Flooded Gum Other Koala trees Corymbia maculata - Spotted Gum E. saligna - Sydney Blue Gum																							
Species		TSC Act Status (1995)	Low Survey Priority	Observed in NPWS Atlas Data (2001)	Vegetation Type Requirements																										
					Rainforest	Wet Sclerophyll Forest and	Dry Sclerophyll Open Forest, Woodland, Mallee and Shrubland	Swamp Sclerophyll Forest, Woodland and Shrubland	Coastal Heathland / Shrubland	Coastal Sedge-land / Rushland	Estuarine Complex	Other Vegetation Type																			
Scientific Name	Common Name				RF in General	Littoral Rainforest	Sub Tropical	WSOF in General	Eucalyptus pinnatis / E. glauca / E. microcorys	Medium-Tall Forest / Woodland in Mallee / Shrublands in General	E. microcorys / Corymbia maculata / E. siderophloia / E. molucana	Angophora spp.	E. racemosa / Corymbia intermedia	Eucalyptus ptilularis	Allocasuarina littoralis, A. torulosa, Tall trees dominant	Medium - small trees dominant	Small - tall scrubs dominant	Eucalyptus robusta	Melaleuca quinquenervia	Casuarina glauca	Eucalyptus robusta / M.	Heath and shrubland in general	Dry Heath	Wet Heath	Shrubland / Banksia	Coastal Sedge/land/ Rushlands	Mangrove / Saltmarsh	Dune Vegetation	Koala Feed Trees (see list)		
<i>Cyclopsitta diophthalma dasyornis</i>	Double-eyed Fig-parrot (Coxen's Fig-parrot)	E1	R	yes	1fbsr			1fbsr																							
<i>brachyotus</i>	Eastern Bristlebird	E1		yes						1fbsr																					
<i>Diomedea exulans</i>	Wandering Albatross		VN	no																											
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1	VN	yes														1fbs	1fbs	1bs						1f		1fbs			
<i>Erythrorhynchus radiatus</i>	Red Goshawk	E1		yes		1fbs	2fbs			1fbs			1fb						1f		1fbs										
<i>Esacus neglectus</i>	Beach Stone-curllew	E1		yes																										1bs	
<i>Falco hypoleucos</i>	Grey Falcon		VN; D; R	no						1fbsr																					
<i>Lichenostomus fasciolaris</i>	Mangrove Honeyeater	V		yes																								1fbs			
<i>Grantiella picta</i>	Painted Honeyeater	V	VN	no						1fbs																					
<i>Grus rubicunda</i>	Brolga	V	VN	no											2fbs												1fbs				
<i>Gygis alba</i>	White Tern	V	VN	yes																											
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V		yes																											

TSC Act Status Codes		Low Surve!		Other Habitat Requirements Codes		Supplementary Codes																													
E1 - Endangered		X - likely to		E - Essential habitat		f - foraging/feeding																													
V - Vulnerable and Rare		VN - vagran		P - Preferred habitat		b - breeding																													
		R - extreme		O - Other habitat		s - shelter/roosting																													
		D - known d		R - Required or preferred habitat for species'																															
		Study Area		prey																															
Alternative & Supplementary Habitat Requirements																																			
Species		Vegetation Structure		Landscape Features				Microhabitat Features																											
Scientific Name	Common Name	Complex Upper Strata	Complex Lower Strata	Old Growth	Tall Tree >20m	Dense Ground and/or Shrub Cover	Dense Sub-Canopy	Marine mudflats, sandflats	Riparian	Lagoons / Estuaries	Sand / Beach	Reefs, headlands, coastal rocky	Cleared or Disturbed Areas	Urban	Freshwater Bodies	High Water Quality	Well Vegetated Banks and / or	Ponds, Pools	Undisturbed Areas	Ecotone	>3 Vegetation associations in close	Very Large Remnant >500ha	Large Remnant 100-500ha	Medium Remnant 25-100ha	Abundant Nectar Source	Hollows	Logs / Stumps	Rocks / ledges	Caves	Tunnels / Culverts / Buildings	Leaf litter	Source			
<i>Cyclopsitta</i>	Double-eyed Fig-parrot																				Pfbsr												NPWS 2001		
<i>Diophthalma</i>	(Coxen's Fig-parrot)																																	NPWS 2001	
<i>Dasyornis</i>	Eastern Bristlebird																																	NPWS 2001	
<i>brachyotus</i>																																		CSIRO 1995,	
<i>Diomedea exulans</i>	Wandering Albatross																																	TANTON 1996,	
<i>Ephippiorhynchus</i>	Black-necked Stork																																	NSW NPWS 1995	
<i>asiaticus</i>																																		NPWS 2001	
<i>Erythroriorchis</i>	Red Goshawk																																	NPWS 2001	
<i>radiatus</i>																																			NPWS 2001
<i>Esacus neglectus</i>	Beach Stone-curlw																																		NPWS 2001
<i>Falco hypoleucos</i>	Grey Falcon																																		CSIRO 1995,
<i>Lichenostomus</i>	Mangrove Honeyeater																																		TANTON 1996,
<i>fasciocularis</i>																																			NSW NPWS 1995
<i>Grantiella picta</i>	Painted Honeyeater																																		NSW NPWS 2002
<i>Grus rubicunda</i>	Brolga																																		CSIRO 1995,
<i>Gygis alba</i>	White Tern																																		TANTON 1996,
<i>Haematopus</i>	Sooty Oystercatcher																																		NSW NPWS 1995
<i>fuliginosus</i>																																			NPWS 2001

TSC Act Status Codes		Low Survey Priority Codes		Vegetation Type Codes:		Supplementary Codes		Commonly used Koala trees in Tweed Shire																							
E1 - Endangered V - Vulnerable and Rare		X - likely to be locally extinct VN - vagrant or nomadic species R - extremely rare D - known distribution outside the Study Area		1 - Likely to provide suitable habitat 2 - May provide suitable habitat		f - foraging/feeding/ prey b - breeding s - shelter/roosting		E. robusta - Swamp Mahogany E. propinqua - Grey Gum E. microcorys - Tallowwood E. grandis - Flooded Gum Other Koala trees Corymbia maculata - Spotted Gum E. saligna - Sydney Blue Gum																							
Species		TSC Act Status (1995)	Low Survey Priority	Vegetation Type Requirements																											
				Observed in NPWS Atlas Data (2001)		Rainforest	Wet Sclerophyll Open Forest and	Dry Sclerophyll Open Forest, Woodland, Mallee and Shrubland				Swamp Sclerophyll Forest, Woodland and Shrubland		Coastal Heathland / Shrubland		Coastal Sedge-land / Rushland	Estuarine Complex	Other Vegetation Type Component													
Scientific Name	Common Name			RF in General	Littoral Rainforest	Sub Tropical	WSOF in General	Eucalyptus pinnatus / E. uyanus / E. microcorys	Medium-Tall Forest / Woodland in Mallee / Shrublands in General	E. microcorys / Corymbia maculata/ E. siderophloia/ E. moluccana	Angophora spp.	E. racemosa / Corymbia intermedia	Eucalyptus ptilularis	Allocasuarina littoralis, A. torulosa.	Tall trees dominant	Medium - small trees dominant	Small - tall scrubs dominant	Eucalyptus robusta	Melaleuca quinquenervia	Casuarina glauca	Eucalyptus robusta / M.	Heath and shrubland in general	Dry Heath	Wet Heath	Shrubland / Banksia	Coastal Sedge/land/ Rushlands	Mangrove / Saltmarsh	Dune Vegetation Koala Feed Trees (see list)			
<i>Haematopus</i>	Pied Oystercatcher	V		yes																											
<i>Ionairostris</i>																															
<i>Irediparra gallinacea</i>	Comb-crested Jacana	V		yes																							1fbs				
<i>Ixobrychus flavicollis</i>	Black Bittern	V		yes														1bs			1bs							1fbs			
<i>Lathamus discolor</i>	Swift Parrot	V	VN	no			1f		1f									1f	1f		1f										
<i>Lophoictinia isura</i>	Square-tailed Kite	V	VN	yes			1fbs		1fbs					1f				1fbs	1f	1f	1fbs	2f									
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	V	VN	no																						1fr	1frs				
<i>Limosa limosa</i>	Black-tailed Godwit	V	VN	yes																											
<i>Menura alberti</i>	Albert's Lyrebird	V		yes	1fbs			1fbsr																							
<i>Monarcha leucotis</i>	White-eared Monarch	V		yes	1fbs			1fbsr						1fbsr																	
<i>Nettapus coromandelianus</i>	Cotton Pygmy-goose			no																											
<i>Ninox conivens</i>	Barking Owl	V		yes					1fbsr					1fbsr																	
<i>Ninox strenua</i>	Powerful Owl	V		yes			1fbs		2f				1f									1f									

TSC Act Status Codes E1 - Endangered V - Vulnerable and Rare		Low Survey Priority Codes X - likely to be locally extinct VN - vagrant or nomadic species R - extremely rare D - known distribution outside the Study Area		Vegetation Type Codes: 1 - Likely to provide suitable habitat 2 - May provide suitable habitat		Supplementary Codes f - foraging/feeding/ prey b - breeding s - shelter/roosting		Commonly used Koala trees in Tweed Shire E. <i>robusta</i> - Swamp Mahogany G. <i>E. propinqua</i> - Grey Gum E. <i>microcorys</i> - Tallowwood E. <i>grandis</i> - Flooded Gum Other Koala trees C. <i>Corymbia maculata</i> - Spotted Gum E. <i>saligna</i> - Sydney Blue Gum																					
Species		TSC Act Status (1995)	Low Survey Priority	Vegetation Type Requirements																									
				Observed in NPWS Atlas Data (2001)		Rainforest		Wet Sclerophyll Open Forest and		Dry Sclerophyll Open Forest, Woodland, Mallee and Shrubland		Swamp Sclerophyll Forest, Woodland and Shrubland		Coastal Heathland / Shrubland		Coastal Sedge-land / Rushland	Estuarine Complex	Other Vegetation Type Component											
Scientific Name	Common Name			RF in General	Littoral Rainforest	Sub Tropical	WSOF in General	<i>Eucalyptus punctatus / E. glauca / E. microcorys</i>	Medium-Tall Forest / Woodland	Mallee / Shrublands in General	<i>E. microcorys / E. siderophloia / E. moluccana / Angophora spp.</i>	<i>E. racemosa / Corymbia intermedia</i>	<i>Eucalyptus ptilularis</i>	<i>Allocasuarina littoralis, A. torulosa</i>	Tall trees dominant	Medium - small trees dominant	Small - tall shrubs dominant	<i>Eucalyptus robusta</i>	<i>Melaleuca quinquenervia</i>	<i>Casuarina glauca</i>	<i>Eucalyptus robusta / M.</i>	Heath and shrubland in general	Dry Heath	Wet Heath	Shrubland / Banksia	Coastal Sedge/land/ Rushlands	Mangrove / Saltmarsh	Dune Vegetation	Koala Feed Trees (see list)
<i>Oxyura australis</i>	Blue-billed Duck	V	WN	yes																							1f		
<i>Pachycephala olivacea</i>	Olive whistler	V	D	yes			1fbs																						
<i>Pandion haliaetus</i>	Osprey	V		yes					1bs									1bs	1s	1s	1bs						1f		
<i>Phaethon rubricauda</i>	Red-tailed Tropicbird	V	WN	yes																									
<i>Podargus ocellatus</i>	Marbled Frogmouth	V	R	yes		1fbs																							
<i>Procelsterna cerulea</i>	Grey Ternlet		WN	no																									
<i>Pterodroma leucoptera</i>	Gould's Petrel	E1	WN	no																									
<i>Pterodroma nigripennis</i>	Black-winged Petrel		WN	no																									
<i>Pterodroma solandri</i>	Providence Petrel		WN	no																									

TSC Act Status Codes		Low Survey Priority Codes		Vegetation Type Codes:		Supplementary Codes		Commonly used Koala trees in Tweed Shire														
E1 - Endangered V - Vulnerable and Rare		X - likely to be locally extinct VN - vagrant or nomadic species R - extremely rare D - known distribution outside the Study Area		1 - Likely to provide suitable habitat 2 - May provide suitable habitat		f - foraging/feeding/ prey b - breeding s - shelter/roosting		E. robusta - Swamp Mahogany E. propinqua - Grey Gum E. microcorys - Tallowwood E. grandis - Flooded Gum Other Koala trees Corymbia maculata - Spotted Gum E. saligna - Sydney Blue Gum														
Species		TSC Act Status (1995)	Low Survey Priority	Vegetation Type Requirements																		
				Rainforest	Wet Sclerophyll Open Forest and	Dry Sclerophyll Open Forest, Woodland, Mallee and Shrubland	Swamp Sclerophyll Forest, Woodland and Shrubland	Coastal Heathland / Shrubland	Coastal Sedge-land / Rushland	Estuarine Complex	Other Vegetation Type Component											
Scientific Name	Common Name			RF in General	Littoral Rainforest	Sub Tropical	WSOF in General	Eucalyptus pinnatis / E. uyanus / E. microcorys	Medium-Tall Forest / Woodland in Mallee / Shrublands in General	E. microcorys / E. siderophloia / E. molucana Angophora spp. E. racemosa / Corymbia intermedia Eucalyptus ptilularis Allocasuarina littoralis, A. torulosa.	Tall trees dominant	Medium - small trees dominant	Small - tall scrubs dominant	Eucalyptus robusta Melaleuca quinquenervia Casuarina glauca Eucalyptus robusta / M.	Heath and shrubland in general	Dry Heath	Wet Heath	Shrubland / Banksia	Coastal Sedge/land/ Rushlands	Mangrove / Saltmarsh	Dune Vegetation Koala Feed Trees (see list)	
<i>Ptilinopus magnificus</i>	Wompoo Fruit-Dove	V		yes	1fbs	1fbs	2fs1b															
<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V		yes	1fbs	1fbs	2fbs															
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V	D	yes	1fbs		2f														2f	
<i>Puffinus carneipes</i>	Flesh-footed Shearwater			yes																		
<i>Rostratula bengahalensis</i>	Painted Snipe	V		no																2fbsr		
<i>Sterna albifrons</i>	Little Tern	E1		yes																		
<i>Sterna fuscata</i>	Sooty Tern	V	VN; D	yes																		
<i>Stictonetta naevosa</i>	Freckled Duck	V	VN	no																	1fs	
<i>Sula dactylatra</i>	Masked Booby	V	VN	no																		
<i>Todiramphus chloris</i>	Collared Kingfisher	V	VN	yes								1fbs									1fbs	
<i>Turnix melanogaster</i>	Black-breasted Button-quail	E1		yes	1fbsr				2fbsr		2fbsr											
<i>Tyto capensis</i>	Grass Owl	V		yes										2fbs	2fbs	2fbs	2fbs	1fbs	1fbs			

TSC Act Status Codes		Low Surve!		Other Habitat Requirements Codes										Supplementary Codes																			
E1 - Endangered		X - likely to		E - Essential habitat										f - foraging/feeding																			
V - Vulnerable and Rare		VN - vagran		P - Preferred habitat										b - breeding																			
		R - extreme		O - Other habitat										s - shelter/roosting																			
		D - known d		R - Required or preferred habitat for species'																													
		Study Area		prey																													
Alternative & Supplementary Habitat Requirements																																	
Species		Vegetation Structure				Landscape Features										Microhabitat Features		Source															
Scientific Name	Common Name	Complex Upper Strata	Complex Lower Strata	Old Growth	Tall Tree >20m	Dense Ground and/or Shrub Cover	Dense Sub-Canopy	Marine mudflats, sandflats	Riparian	Lagoons / Estuaries	Sand / Beach	Reefs, headlands, coastal rocky	Cleared or Disturbed Areas	Urban	Freshwater Bodies	High Water Quality	Well Vegetated Banks and / or		Ponds, Pools	Undisturbed Areas	Ecotone	>3 Vegetation associations in close	Very Large Remnant >500ha	Large Remnant 100-500ha	Medium Remnant 25-100ha	Abundant Nectar Source	Hollows	Logs / Stumps	Rocks / ledges	Caves	Tunnels / Culverts / Buildings	Leaf litter	
<i>Ptilinopus magnificus</i>	Wompoo Fruit-Dove			Pfbs		Ebs																											
<i>Ptilinopus regina</i>	Rose-crowned Friut-Dove			Pfbs		Ebs																											
<i>Ptilinopus superbus</i>	Superb Fruit-Dove					Eb																											
<i>Puffinus carneipes</i>	Flesh-footed Shearwater																																NPWS ATLAS 2001
<i>Rostratula bengahalensis</i>	Painted Snipe														Efbsr	Ebsr																CSIRO 1995, TANTON 1996, NSW NPWS 1996	
<i>Sterna albifrons</i>	Little Tern					Pfbs			Pf	Of	Of				Pf																		
<i>Sterna fuscata</i>	Sooty Tern											Ebs																					NSW NPWS 2002
<i>Stictonetta naevosa</i>	Freckled Duck														Pf	Pf																CSIRO 1995, TANTON 1996, NSW NPWS 1995	
<i>Sula dactylatra</i>	Masked Booby																															CSIRO 1995, TANTON 1996, NSW NPWS 1995	
<i>Todiramphus chloris</i>	Collared Kingfisher									Pf																							
<i>Turnix melanogaster</i>	Black-breasted Button-quail																													Ebr		NPWS 2001	
<i>Tyto capensis</i>	Grass Owl					Efbs																											

TSC Act Status Codes		Low Survey Priority Codes		Vegetation Type Codes:		Supplementary Codes		Commonly used Koala trees in Tweed Shire															
E1 - Endangered V - Vulnerable and Rare		X - likely to be locally extinct VN - vagrant or nomadic species R - extremely rare D - known distribution outside the Study Area		1 - Likely to provide suitable habitat 2 - May provide suitable habitat		f - foraging/feeding/ prey b - breeding s - shelter/roosting		<i>E. robusta</i> - Swamp Mahogany <i>E. propinqua</i> - Grey Gum <i>E. microcorys</i> - Tallowwood <i>E. grandis</i> - Flooded Gum Other Koala trees <i>Corymbia maculata</i> - Spotted Gum <i>E. saligna</i> - Sydney Blue Gum															
Species		TSC Act Status (1995)	Low Survey Priority	Vegetation Type Requirements																			
				Rainforest	Wet Sclerophyll Open Forest and	Dry Sclerophyll Open Forest, Woodland, Mallee and Shrubland	Swamp Sclerophyll Forest, Woodland and Shrubland	Coastal Heathland / Shrubland	Coastal Sedge-land / Rushland	Estuarine Complex	Other Vegetation Type Component												
Scientific Name	Common Name			RF in General	Littoral Rainforest	Sub Tropical	WSOF in General	<i>Eucalyptus pinnatus</i> / <i>E. glauca</i> / <i>E. microcorys</i>	Medium-Tall Forest / Woodland in Mallee / Shrublands in General	<i>E. microcorys</i> / <i>Corymbia maculata</i> / <i>E. siderophloia</i> / <i>E. moluccana</i> / <i>Angophora</i> spp. / <i>E. racemosa</i> / <i>Corymbia intermedia</i> / <i>Eucalyptus ptilularis</i> / <i>Allocasuarina littoralis</i> , <i>A. torulosa</i> .	Tall trees dominant	Medium - small trees dominant	Small - tall srubs dominant	<i>Eucalyptus robusta</i> / <i>Melaleuca quinquenervia</i> / <i>Casuarina glauca</i> / <i>Eucalyptus robusta</i> / <i>M.</i>	Heath and shrubland in general	Dry Heath	Wet Heath	Shrubland / Banksia	Coastal Sedge/land/ Rushlands	Mangrove / Saltmarsh	Dune Vegetation Koala Feed Trees (see list)		
<i>Tyto novaehollandiae</i>	Masked Owl	V		yes					1fbs	1fbs						1fbs	1fbs						
<i>Tyto tenebricosa</i>	Sooty Owl	V		yes	1fbs				1fbs	1fbs													
<i>Xanthomyza phrygia</i>	Regent Honeyeater	E1		no						1fbs													
<i>Xenus cinereus</i>	Terek Sandpiper	V	VN	yes																	1fs		
MAMMALS																							
<i>Aepyprymnus rufescens</i>	Rufous Bettong	V		yes						2fbs		1fbs											
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V		yes				1fbs	1fbs						1fbs	1fbs	1fbs	1fbs					
<i>Petaurus australis</i>	Yellow-Bellied Glider	V		yes				1fbs	1fbs				1fbs	1fbs	2f								
<i>Petaurus norfolcensis</i>	Squirrel Glider	V		yes				2fbs	1fbs			1fbs	2f						1f				
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	V		yes					1fbs				1fbs					2f	2f				
<i>Phascolarctos cinereus</i>	Koala	V		yes	2fbs	1bs		1fbs				1fs	1bs		1bs	1bs	1bs	1bs					
<i>Planigale maculata</i>	Common Planigale	V		yes	1fbs			1fbs	1fbs				1fbs					2fbs	1fbs	1fbs	1fbs		
<i>Potorous tridactylus</i>	Long-nosed Potoroo	V		yes				2fbs					1fbs					1fbs	1fbs	1fbs			

TSC Act Status Codes		Low Surveil		Other Habitat Requirements Codes		Supplementary Codes																													
E1 - Endangered		X - likely to		E - Essential habitat		f - foraging/feeding																													
V - Vulnerable and Rare		VN - vagran		P - Preferred habitat		b - breeding																													
		R - extreme		O - Other habitat		s - shelter/roosting																													
		D - known d		R - Required or preferred habitat for species'																															
		Study Area		prey																															
Alternative & Supplementary Habitat Requirements																																			
Species		Vegetation Structure				Landscape Features						Microhabitat Features				Source																			
Scientific Name	Common Name	Complex Upper Strata	Complex Lower Strata	Old Growth	Tall Tree >20m	Dense Ground and/or Shrub Cover	Dense Sub-Canopy	Marine mudflats, sandflats	Riparian	Lagoons / Estuaries	Sand / Beach	Reefs, headlands, coastal rocky	Cleared or Disturbed Areas	Urban	Freshwater Bodies		High Water Quality	Well Vegetated Banks and / or	Ponds, Pools	Undisturbed Areas	Ecotone	>3 Vegetation associations in close	Very Large Remnant >500ha	Large Remnant 100-500ha	Medium Remnant 25-100ha	Abundant Nectar Source	Hollows	Logs / Stumps	Rocks / ledges	Caves	Tunnels / Culverts / Buildings	Leaf litter			
<i>Tyto novaehollandiae</i>	Masked Owl			Eb	R	Ps							Pf					Pf		Pf	Pf	Ef				Eb	R	R	Os						
<i>Tyto tenebrosa</i>	Sooty Owl	R		Pfb	R														R							EbR									
<i>Xanthomyza phrygia</i>	Regent Honeyeater									Pfbs																Ef						CSIRO 1995, TANTON 1996, NSW MPWS 1995			
<i>Xenus cinereus</i>	Terek Sandpiper						Pfs			Pfs																									
MAMMALS																																			
<i>Aepyprymnus rufescens</i>	Rufous Bettong																											Pbs							
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll		R	Pbs	R										Of											PbsR	PbsR	PbsR	PbsR						
<i>Petaurus australis</i>	Yellow-Bellied Glider	Pf		Pbs	Pfbs													Pf	Pf			Ef	Pf			Esb									
<i>Petaurus norfolcensis</i>	Squirrel Glider	Pf	Pf	Pbs															Pf				Ef	Pf		Esb									
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	Pf	Pf																Ef	Ef			Ef			Ebs	Ebs				Pf				
<i>Phascolarctos cinereus</i>	Koala	Pf																		Pf															
<i>Planigale maculata</i>	Common Planigale				Efbs																						Ebs	Pbs			Pf				
<i>Potorous tridactylus</i>	Long-nosed Potoroo				Ebs	Ps													Pf																

TSC Act Status Codes		Low Survey Priority Codes		Vegetation Type Codes:		Supplementary Codes		Commonly used Koala trees in Tweed Shire																									
E1 - Endangered V - Vulnerable and Rare		X - likely to be locally extinct VN - vagrant or nomadic species R - extremely rare D - known distribution outside the Study Area		1 - Likely to provide suitable habitat 2 - May provide suitable habitat		f - foraging/feeding/ prey b - breeding s - shelter/roosting		E. robusta - Swamp Mahogany E. propinqua - Grey Gum E. microcorys - Tallowwood E. grandis - Flooded Gum Other Koala trees Corymbia maculata - Spotted Gum E. saligna - Sydney Blue Gum																									
Species		TSC Act Status (1995)	Low Survey Priority	Vegetation Type Requirements																													
				Observed in NPWS Atlas Data (2001)		Rainforest	Wet Sclerophyll Forest and	Dry Sclerophyll Open Forest, Woodland, Mallee and Shrubland	Swamp Sclerophyll Forest, Woodland and Shrubland	Coastal Heathland / Shrubland	Coastal Sedge-land / Rushland	Estuarine Complex	Other Vegetation Type Component																				
Scientific Name	Common Name			RF in General	Littoral Rainforest	Sub Tropical	WSOF in General	Eucalyptus pinnatis / E. glauca / E. microcorys	Medium-Tall Forest / Woodland in Mallee / Shrublands in General	E. microcorys / Corymbia maculata / E. siderophloia / E. moluccana	Angophora spp.	E. racemosa / Corymbia intermedia	Eucalyptus ptilularis	Allocasuarina littoralis, A. torulosa	Tall trees dominant	Medium - small trees dominant	Small - tall srubs dominant	Eucalyptus robusta	Melaleuca quinquenervia	Casuarina glauca	Eucalyptus robusta / M.	Heath and shrubland in general	Dry Heath	Wet Heath	Shrubland / Banksia	Coastal Sedge/land/ Rushlands	Mangrove / Saltmarsh	Dune Vegetation Koala Feed Trees (see list)					
<i>Pteropus alecto</i>	Black Flying-fox	V		yes	1fr	1rf										1r	1r	1r	1r	1r													
<i>Sousa chinensis</i>	Indo-Pacific Humpbacked Dolphin	V	VN	yes																													
<i>Thylogale stigmatica</i>	Red-legged Pademelon	V		yes		1fbs	1fbs																										
BATS																																	
<i>Chalinolobus dwyeri</i>	Large-Eared Pied Bat	V	R	yes			2f	1f																									
<i>Chalinolobus niaroraiensis</i>	Hoary Wattled Bat	V	D	yes	2f	2f	2f	1f		1f	1f	1f												2f	2f								
<i>Kerivoula papuensis</i>	Golden-Tipped Bat	V	R	yes	1fs		1fbs									2f																	
<i>Miniopterus australis</i>	Little Bentwing Bat	V		yes	1fs		1fs	1f	1f			1f				1f					1f	2f	2f	1f									
<i>Miniopterus schreibersii</i>	Common Bent-Wing Bat	V		yes	1fs		1fs	1f	1f							2f					2f	2f	2f										
<i>Mormopterus beccarii</i>	Beccari's Freetail-bat	V	D	yes	2fs		2fs	2fs								2fs																	
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V		yes	2f		2f	1f								1f																	
<i>Myotis adversus</i>	Large-footed Myotis	V		yes	2f	1f	2f						1f																				
<i>Nyctinomene robinsoni</i>	Eastern Tube-nosed bat	V		yes		1fr	1fr	1f														1f			1f								
<i>Nyctophilus bifax</i>	Eastern Long-eared Bat	V	D	yes	2fs		2fs																										

TSC Act Status Codes		Low Surve!		Other Habitat Requirements Codes											Supplementary Codes																		
E1 - Endangered		X - likely to		E - Essential habitat											f - foraging/feeding																		
V - Vulnerable and Rare		VN - vagran		P - Preferred habitat											b - breeding																		
		R - extreme		O - Other habitat											s - shelter/roosting																		
		D - known d		R - Required or preferred habitat for species'																													
		Study Area		prey																													
Alternative & Supplementary Habitat Requirements																																	
Species		Vegetation Structure					Landscape Features											Microhabitat Features					Source										
Scientific Name	Common Name	Complex Upper Strata	Complex Lower Strata	Old Growth	Tall Tree >20m	Dense Ground and/or Shrub Cover	Dense Sub-Canopy	Marine mudflats, sandflats	Riparian	Lagoons / Estuaries	Sand / Beach	Reefs, headlands, coastal rocky	Cleared or Disturbed Areas	Urban	Freshwater Bodies	High Water Quality	Well Vegetated Banks and / or	Ponds, Pools	Undisturbed Areas	Ecotone	>3 Vegetation associations in close	Very Large Remnant >500ha		Large Remnant 100-500ha	Medium Remnant 25-100ha	Abundant Nectar Source	Hollows	Logs / Stumps	Rocks / ledges	Caves	Tunnels / Culverts / Buildings	Leaf litter	
<i>Pteropus alecto</i>	Black Flying-fox																									Pf							NPWS 2001
<i>Sousa chinensis</i>	Indo-Pacific Humpbacked Dolphin																																NPWS 2001
<i>Thylogale stigmatica</i>	Red-legged Pademelon						Ebs	Ef																									
BATS																																	
<i>Chalinolobus dwyeri</i>	Large-Eared Pied Bat																		Ebs														Ps Ps Ps
<i>Chalinolobus nigroraius</i>	Hoary Wattled Bat																		Ebs								Ps						Ps Ps
<i>Kerivoula papuensis</i>	Golden-Tipped Bat																																Os
<i>Miniopterus australis</i>	Little Bentwing Bat	Pf	Pf																														Ebs Os
<i>Miniopterus schreibersii</i>	Common Bent-Wing Bat	Pf	Pf																														Ebs Os
<i>Mormopterus beccarii</i>	Beccari's Freetail-bat																																Ebs Os Os
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat																																Ps Os
<i>Myotis adversus</i>	Large-footed Myotis																																Pfs Efbs Pf Ef Pf Pf Ebs Es Os
<i>Nyctinomene robinsoni</i>	Eastern Tube-nosed bat	Pfr	Pf																														Pf Pf Ps
<i>Nyctophilus bifax</i>	Eastern Long-eared Bat																																Ps Ebs Ps Os

TSC Act Status Codes		Low Surve!	Other Habitat Requirements Codes		Supplementary Codes																											
E1 - Endangered		X - likely to	E - Essential habitat		f - foraging/feeding																											
V - Vulnerable and Rare		VN - vagran	P - Preferred habitat		b - breeding																											
		R - extreme	O - Other habitat		s - shelter/roosting																											
		D - known d	R - Required or preferred habitat for species'																													
		Study Area	prey																													
Alternative & Supplementary Habitat Requirements																																
Species		Vegetation Structure					Landscape Features										Microhabitat Features			Source												
Scientific Name	Common Name	Complex Upper Strata	Complex Lower Strata	Old Growth	Tall Tree >20m	Dense Ground and/or Shrub Cover	Dense Sub-Canopy	Marine mudflats, sandflats	Riparian	Lagoons / Estuaries	Sand / Beach	Reefs, headlands, coastal rocky	Cleared or Disturbed Areas	Urban	Freshwater Bodies	High Water Quality	Well Vegetated Banks and / or	Presence of Experimental Features,	Ponds, Pools		Undisturbed Areas	Ecotone	>3 Vegetation associations in close	Very Large Remnant >500ha	Large Remnant 100-500ha	Medium Remnant 25-100ha	Abundant Nectar Source	Hollows	Logs / Stumps	Rocks / ledges	Caves	Tunnels / Culverts / Buildings
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tailed Bat																			Ebs								Ps			Os	
<i>Scoteanax rupellii</i>	Greater Broad-Nosed Bat								Pfbs			Pf								Ebs	Pf							Ps			Os	
<i>Syconycteris australis</i>	Common Blossom-Bat						Es													Ebs	Efbs					Ef						
AMPHIBIANS																																
<i>Assa darlingtoni</i>	Pouched Frog																											Efbs	Efbs		Efbs	NPWS 2001
<i>Crinia tinnula</i>	Wallum Froglet						Efs									Eb		Eb														
<i>Litoria aurea</i>	Green & Golden Bell Frog						Ps		Ofbs		Ofbs	Efb	Pfbs	Ps														Ps	Ps		Ps	CSIRO 1995, TANTON 1996, NSW NPWS 1995
<i>Litoria brevipalmata</i>	Green-Thighed Frog						Ebs		Eb						Ef	Efb	Pf	Eb														
<i>Litoria olongburensis</i>	Olongburra Frog (Wallum Sedge Frogs)															Ofb		Pfbs														NPWS 2001
<i>Mixophyes fleayi</i>	Fleay's Barred Frog																			Pfbs												CSIRO 1995, TANTON 1996, NSW NPWS 1995
<i>Mixophyes iteratus</i>	Giant Barred Frog						Pfs		Ebs						Eb	Eb	Efs											PfR			PfR	
<i>Philoria loveridgei</i>	Loveridge's Frog						Pfbs		Efb											Efbs										Efbs	NPWS 2001	

TSC Act Status Codes		Low Survey Priority Codes		Vegetation Type Codes:		Supplementary Codes		Commonly used Koala trees in Tweed Shire							
E1 - Endangered V - Vulnerable and Rare		X - likely to be locally extinct VN - vagrant or nomadic species R - extremely rare D - known distribution outside the Study Area		1 - Likely to provide suitable habitat 2 - May provide suitable habitat		f - foraging/feeding/ prey b - breeding s - shelter/roosting		<i>E. robusta</i> - Swamp Mahogany <i>E. propinqua</i> - Grey Gum <i>E. microcorys</i> - Tallowwood <i>E. grandis</i> - Flooded Gum Other Koala trees <i>Corymbia maculata</i> - Spotted Gum <i>E. saligna</i> - Sydney Blue Gum							
Species	Scientific Name	Common Name	TSC Act Status (1995)	Low Survey Priority	Observed in NPWS Atlas Data (2001)	Vegetation Type Requirements									
						Rainforest	Wet Sclerophyll Forest and	Dry Sclerophyll Open Forest, Woodland, Mallee and Shrubland	Swamp Sclerophyll Forest, Woodland and Shrubland	Coastal Heathland / Shrubland	Coastal Sedge-land / Rushland	Estuarine Complex	Other Vegetation Type Component		
						RF in General Littoral Rainforest Sub Tropical	WSOF in General <i>Eucalyptus pumilus</i> / <i>E. glauca</i> / <i>E. microcorys</i>	Medium-Tall Forest / Woodland in Mallee / Shrublands in General <i>E. microcorys</i> / <i>Corymbia maculata</i> / <i>E. siderophloia</i> / <i>E. molucana</i> / <i>Angophora</i> spp. / <i>E. racemosa</i> / <i>Corymbia intermedia</i> / <i>Eucalyptus ptilularis</i> / <i>Allocasuarina littoralis</i> , <i>A. torulosa</i> .	Tall trees dominant Medium - small trees dominant Small - tall scrubs dominant <i>Eucalyptus robusta</i> <i>Melaleuca quinquenervia</i> <i>Casuarina glauca</i> <i>Eucalyptus robusta</i> / <i>M.</i>	Heath and shrubland in general Dry Heath Wet Heath Shrubland / Banksia	Coastal Sedge/land/ Rushlands	Mangrove / Saltmarsh	Dune Vegetation Koala Feed Trees (see list)		
REPTILES															
	<i>Cacophis harriettae</i>	White-crowned Snake	V		yes		2fbs	1fbs		2fbs					
	<i>Caretta caretta</i>	Loggerhead Turtle	E1	WN	yes										
	<i>Chelonia mydas</i>	Green Turtle	V	WN	yes										
	<i>Coeranoscincus reticulatus</i>	Three-toed Snake-tooth Skink	V		yes	1fbs	2fbs								
	<i>Dermochelys coriacea</i>	Leathery Turtle	V	WN	no										
	<i>Hoplocephalus stenbensii</i>	Stephens' Banded Snake	V		yes	2fbs	1fbs	2fbs							
INVERTEBRATES															
	<i>Petaleura gigantea</i> (incl <i>P. litorea</i>)	Giant Dragonfly	E1		no						1fbs				
	<i>Theristes mitchellae</i>	Mitchell's Rainforest Snail	E1	R	yes	1fbs		1fbs							

Appendix 11

Conservation Planning Assessment from Tweed Vegetation Management Plan 1999

12. Conservation Planning Assessment

12.1 Introduction

In order to set priorities for protection it is necessary to know the current level of protection, and to a lesser extent the ecological status of each remnant area. It is important to evaluate the current level of protection because we wish to target areas that are poorly protected, while areas that are well protected may require rehabilitation or maintenance. The incorporation of data on ecological status is necessary to further refine conservation priorities. Highly significant areas that remain unprotected demand the highest priority. On the other hand, regionally significant areas that are well protected are only likely to require management aimed at the maintenance of ecological values.

This section presents the results of the conservation planning assessment described in Section 1.4 and illustrated within Figure 1.1. Recommendations arising from these analyses are presented in Section 14.

12.2 Criteria used to Determine Categories of Planning Protection and Management

To provide an overall assessment of the level of protection afforded to remnant bushland it is necessary to develop a set of categories based on statutory planning and any other factors known to protect these areas. Examination of the planning instruments - noted in Section 10 above - indicates that many of these instruments apply to particular areas of land, while others apply more generally. More specific details related to the way these instruments protect remnant bushland within Tweed Shire are presented in Appendix 8.

Table 12.1 specifies the criteria used to assign combinations of planning attributes to categories of Planning Protection. The way attributes are arranged reflect an area's present level of planning protection, and whether or not explicit management for nature conservation is intended.

The allocation of planning provisions to the categories noted in Table 11.1 was based substantially on the experience of senior Council planners in consultation with the Vegetation Management Steering Committee.

Table 12.1 Criteria for Mapped Categories of Planning Protection

<p>1 Explicit Protection and Management National Parks and Nature Reserves Zone (8a) State Forest Flora Reserves Council Environmental Parks</p> <p>2 Protection Without Management State Environmental Planning Policy No 26 Areas State Environmental Planning Policy No 14 Areas Environmental Protection (Wetlands) Zone 7(a) Environmental Protection (Habitat) Zone 7(l)</p> <p>3 Partial Protection State/National Forests Zone 1(f) (excluding Flora Reserves) Environmental Protection (Coastal Lands) Zone 7(f) Environmental Protection (Scenic/Escarpment) Zone 7(d) Tweed Shire owned land within Clarrie Hall Dam Catchment or Byrrill Creek Dam site.</p>

4 Potential for Protection

Public Open Space Zone 6(a)
Proposed Public Open Space Zone 6(b)
Recreation (Special Purposes) Zone 6(c)
Uncoloured land (Tweed LEP 1987)
Development Investigation Zone 1(d)
Protected Lands, Soil Conservation Act 1938
Land Affected by clause 50B, Tweed LEP 1987
Clarrie Hall Catchment Area (Tweed LEP No 24)
Byrrill Creek Dam site - Clause 40
Agricultural Protection Zone 1(b) (SEPP 46)
Rural Zone 1(a) (SEPP 46)
Crown and Other Council Owned Land

5 Minimal Protection

Rural Residential Zone 1(c)
Residential 'A' Zone 2(a)
Rural Village Zone 2(d)
Residential/Tourist Zone 2(e)
Tourist Zone 2(t)
Urban Expansion Zone 2(c)
Residential 'B' Zone 2(b)
Commercial/Trade/Industrial Zones
Special Use Zones

The most secure category of Planning Protection (*Explicit Protection and Management*, see Table 12.1) includes those areas where nature conservation values are securely protected and actively managed. These areas are held in public ownership and include National Parks and Nature Reserves, State Forest Flora Reserves, and Council Environmental Parks.

The next category (*Protection without Management*, see Table 12.1) consists of areas set aside mainly for the purposes of nature conservation for which active management is not necessarily carried out. Included here are the wetland and environmental habitat zones and the areas mapped under SEPP's 14 and 26.

Category 3 (*Partial Protection*, Table 12.1) is defined by areas for which nature conservation objectives are incidental, or shared with other objectives. Included in this category are forestry areas, and the coastal and scenic escarpment Environmental Protection zones.

A large number of areas are considered to have potential for protection. These are listed in Table 12.1, and include zones such as Public (6a), and Proposed Open Space (6b), Rural (1a), Agricultural Protection (1b), and other areas such as Protected Lands and Crown Land. Lands within this category may have variable levels of protection but are not zoned specifically for development.

The lowest category of protection (*Minimal Protection*, Table 12.1) includes those land uses for which nature conservation objectives are incompatible with permitted uses. These areas are zoned specifically for development.

Apart from the planning attributes considered above there are many other factors likely to influence the protection of remnant bushland. Some additional factors that were considered include: allotment size, contaminated land, flood prone land, land stability, altitude and distance from the coast. With the exception of altitude and distance from the coast, which are more applicable at the regional scale (see Catterall *et al.* 1996), the other factors were considered at least partially correlated with the planning attributes already included.

12.3 The Security of Remnant Bushland within Tweed Shire

Map 8 shows the distribution of remnant bushland classified according to the criteria specified in Table 12.1. A number of observations can be made by examining Map 8 and the statistics tabulated in Table 12.2:

- Approximately half of all mapped bushland (51 % ; Table 12.2) is at least partially protected.
- Over 9 000 ha or 15 % of mapped bushland is securely protected and managed. This figure represents nearly eight % of the total Shire area.
- Nearly half of all mapped bushland (46.7 % , Table 12.2) is considered to have potential for protection. This category is made up mainly from areas zoned as Rural (1a).

Table 12.2 Summary of Bushland within Categories of Planning Protection

Level of Planning Protection	Area (ha)	% of bushland
1. Explicit Protection and Management	9904	15.7
2. Protection Without Management	6759	10.7
3. Partial Protection	15519	24.6
4. Potential for Protection	29445	46.7
5. Minimal Protection	1462	2.3
6. Unclassified (small unzoned areas)	5	>0.01
Total	63094	100.0

12.4 Ecological Planning and Management Priorities





While the results listed above are instructive, it must be remembered that they are based only on the presence of mapped bushland. At this stage no attempt has been made to further prioritise areas on the basis of ecological and vegetation type attributes discussed previously. Although it would be desirable to analyse each of these attributes in relation to the categories of Planning Protection, the approach taken here is to use the categories of Ecological Status, which are a combined expression of the contributing attributes (see Section 9). This approach gives an overall picture of the conservation status of the Shire's remaining bushland.

As described previously (see also Section 1.4; Figure 1.1), ecological planning and management priorities are determined by the relationship between categories of Ecological Status and those of Planning Protection. To simplify the classification however, Ecological Planning and Management Priority classes are defined from a matrix containing the combined set of five Planning Protection categories used in Table 12.1 and the four categories of Ecological Significance defined in **Table 9.2**. The allocation of the twenty possible combinations of these two factors to Ecological Planning and Management Priority categories is detailed in Table 12.3.

Table 12.3 Matrix of Planning Protection and Ecological Significance Categories used to determine Ecological Planning and Management Priorities

Level of Planning Protection			Ecological Status			
			Isolated Small Remnants, Camphor Dominated Areas and Native Plantations	Other Significant Remnants	Core Ecological Areas and Corridors	Regionally Significant Natural Areas
Code	Category	Weight	1	2	3	4
1	Explicit Protection and Management	1	1	2	3	4
2	Protection Without Management	1	1	2	3	4
3	Partial Protection	2	2	4	6	8
4	Potential for Protection	3	3	6	9	12
5	Minimal Protection	5	5	10	15	20

Legend

Shade	Ecological Planning and Management Priority	Score
	Maintenance & Enhancement	1 - 4
	Moderate	5 - 8
	High	9 - 14
	Critical	15 - 20

The Ecological Planning and Management Priority categories derived are considered relatively conservative. For example, *Other Significant Remnants* that are subject to minor planning constraints are considered to have only a Moderate priority. This is mainly because there are areas more significant that are potentially more threatened. Of course in the medium to longer term all remnants, no matter how individually insignificant they may appear, need protection. However, to make effective use of limited resources, the most threatened and ecologically significant areas demand the timely application of strategies to maximise their protection.

Map 9 shows the distribution of remnant bushland in relation to each Ecological Planning and Management Priority category.

Table 12.4 shows the relative amount of bushland within each of these categories.

Table 12.4 Bushland within Ecological Planning and Management Priority Categories

Ecological Planning and Management Priority	Area (ha)	% of bushland
Critical	975	1.5
High	23349	37
Moderate	17802	28.2
Maintenance & Enhancement	20963	33.2
Unclassified (small unzoned areas)	5	>0.01
Total	63093	100.0

A number of points can be made from the examination of the map and Table 12.4. These include the following:

- Approximately one third (33.2 % , Table 12.4) of the Shire’s bushland is securely protected requiring only ongoing maintenance to preserve its natural values. Of course in the long term the maintenance of natural values will also be dependent on the protection of adjacent areas.
- Only a relatively small proportion of mapped bushland (1.5 % , Table 12.4) has a high level of ecological importance **and** is imminently threatened by development. Nevertheless, the area involves over 900 hectares of bushland, the most prominent of which are at Kings Forest, south of Kingscliff, and in the Cobaki area. Other significant areas include parts of Tanglewood, Sea Ranch, Kingscliff and Uki.
- It is also notable that 37 % of all bushland is classified as “High” priority for protection. These areas are closely related to bushland in Rural 1(a) zones particularly on steep land. Although there may be little formal impediment to clearing of these areas, it would also appear that there is little incentive to do so. In fact, the change mapping described in Section 6 for the northern part of the Shire suggests that regrowth may be exceeding clearing on steep land. While this does not justify the further removal of native vegetation from these areas (particularly old growth), it does suggest that the actual level of threat in these areas may be lower than indicated on the map.

Specific issues and recommendations associated with each Ecological Planning and Management Priority category are detailed in Section 15 below (see Table 15.2). More generalised operational guidelines for the protection and management of remnant bushland are outlined in Section 14 of this report.

Appendix 12

Scenic Landscape Assessment from Tweed Vegetation Management Plan 1999

15.4 Scenic Landscape Values

While this report is primarily concerned with nature conservation values, the identification of scenic and landscape values have important implications for environmental protection. It is noted for example that Clause 29 of the North Coast Regional Environmental Plan (1988; see Section 10) requires scenic values to be assessed in conjunction with those of nature conservation.

Tweed Vegetation Management Plan 1999

Brouwer (1995) has recently completed a scenic landscape assessment for the Tweed, which includes mapping of defined scenic categories. Her work provided a framework for planning and management of Tweed's scenic landscape values. Table 15.3 outlines the Scenic Management Zone Objectives developed by Catherine Brouwer and the land use planning and management recommendations for each Scenic Management Zone.

Table 15.3 Scenic Management Zone Objectives and Planning Recommendations

Scenic Management Zones	Scenic Management Zone Objectives and Planning Issues	Planning and Management Recommendations
Zone A (see map 10)	<ul style="list-style-type: none"> Landscape alterations only of minimal impact with no apparent visual disturbance Small scale developments which are allowed planned to fully accommodate or enhance the special landscape qualities of the area, including visual impact assessment as part of an Environmental Impact Assessment 	<ul style="list-style-type: none"> Consideration should be given to placing an environmental protection zone over bushland areas within Scenic Management Zone A areas where it has not already been recommended in Table 14.1 on ecological grounds or zoned 7(f) Environmental Protection (Coastal Erosion) The exception to this recommendation are existing urban areas and urban release areas where Tree Preservation Orders Apply. The preparation of a Tree Preservation Order or other scenic design requirements are appropriate in these circumstances Development Assessment guidelines based on the Scenic Landscape Evaluation Report need to be prepared to assist in the preparation and assessment of development proposals to ensure the scenic landscape values in these areas are maintained or enhanced
Zone B (see Map 10)	<ul style="list-style-type: none"> Landscape alterations allowed, but only if they have no visual dominance or alteration of scenic quality or landscape character Alterations allowed as extensions of existing use without significantly changing the landscape character or as minor landscape changes In the first two years the development may be apparent but not dominant and subsequently not apparent 	<ul style="list-style-type: none"> Council should consider the introduction of a Tree Preservation Order over these areas where a TPO or Environmental Protection Zone has not already been recommended in Table 14.1 on ecological grounds or zoned 7(f) Environmental Protection (Coastal Erosion) All land use planning zones within this scenic management zone should contain objectives relating to the maintenance or enhancement of scenic quality Development Assessment guidelines based on the Scenic Landscape Evaluation Report need to be prepared to assist in the preparation and assessment of development proposals to ensure the scenic landscape values in these areas are of maintained or enhanced
Zone C	<ul style="list-style-type: none"> Generally small to medium scale developments allowed without major or significant change to the scenic quality and overall landscape character of the locality Alterations may be apparent but in similar scale and density to surrounding use structures. Screening of development (if appropriate) with vegetation in character with surrounding area to be effective within five years 	<ul style="list-style-type: none"> All land use planning zones within this scenic management zone should contain objectives relating to the maintenance or enhancement of scenic quality Development Assessment guidelines based on the Scenic Landscape Evaluation Report need to be prepared to assist in the preparation and assessment of development proposals to ensure the scenic landscape values in these areas are enhanced
Zone D	<ul style="list-style-type: none"> Development may be visually prominent but planned in character with surrounding uses and landscapes Consideration must still be made to scenic features and landmark values and the role the area plays in particular scenic or distinctive views from the major and designated scenic routes and nodes. Clearing of vegetation, and changes in typical height or scale of development could impact on the scenic values of other zones. Such modification must be considered in the context of the setting unit and its landscape value 	<ul style="list-style-type: none"> All land use planning zones within this scenic management zone should contain objectives relating to the maintenance or enhancement of scenic quality Development Assessment guidelines based on the Scenic Landscape Evaluation Report need to be prepared to assist in the preparation and assessment of development proposals to ensure the scenic landscape values in these areas are enhanced
Zone F Degraded Areas	<ul style="list-style-type: none"> Existing landscape alterations or developments which do not meet the visual quality objectives assigned to the landscape zones should be given landscape treatments to rehabilitate or restore the landscape character of the area 	<ul style="list-style-type: none"> Catherine Brouwer did not identify any of these areas in her report however it is possible that these areas will be identified on closer inspection. Development Assessment guidelines based on the Scenic Landscape Evaluation Report need to be prepared to assist in the preparation and assessment of development proposals to ensure the scenic landscapes meeting the criteria for this zone are improved

The two major categories A and B are reproduced as Map 11 in relation to the mapped bushland. Map 11 shows that in addition to ecological values relatively large areas of the Shire and its bushland are considered valuable scenic assets.

Appendix 13

Tweed Shire Koala Survey 1998 – Resident Survey Form

TWEED SHIRE KOALA SURVEY 1998



Dear Resident

A survey of Koalas is being conducted in Tweed Shire by the Tweed Koala Rescue Unit in conjunction with Tweed Shire Council. The purpose of the survey is to locate Koala populations in the Shire, to identify their habitat and to produce a management plan to conserve them.

We would like you to fill in this survey form **EVEN IF YOU HAVE NEVER SEEN ANY KOALAS**. A lack of sightings in an area is important in building the picture of their distribution. Historical information you may have would be of assistance.

We believe that a comprehensive and objective survey is essential for planning Koala management in the Shire. For this reason, to be successful, the survey needs your support and we ask residents to provide detailed and accurate responses to the survey.

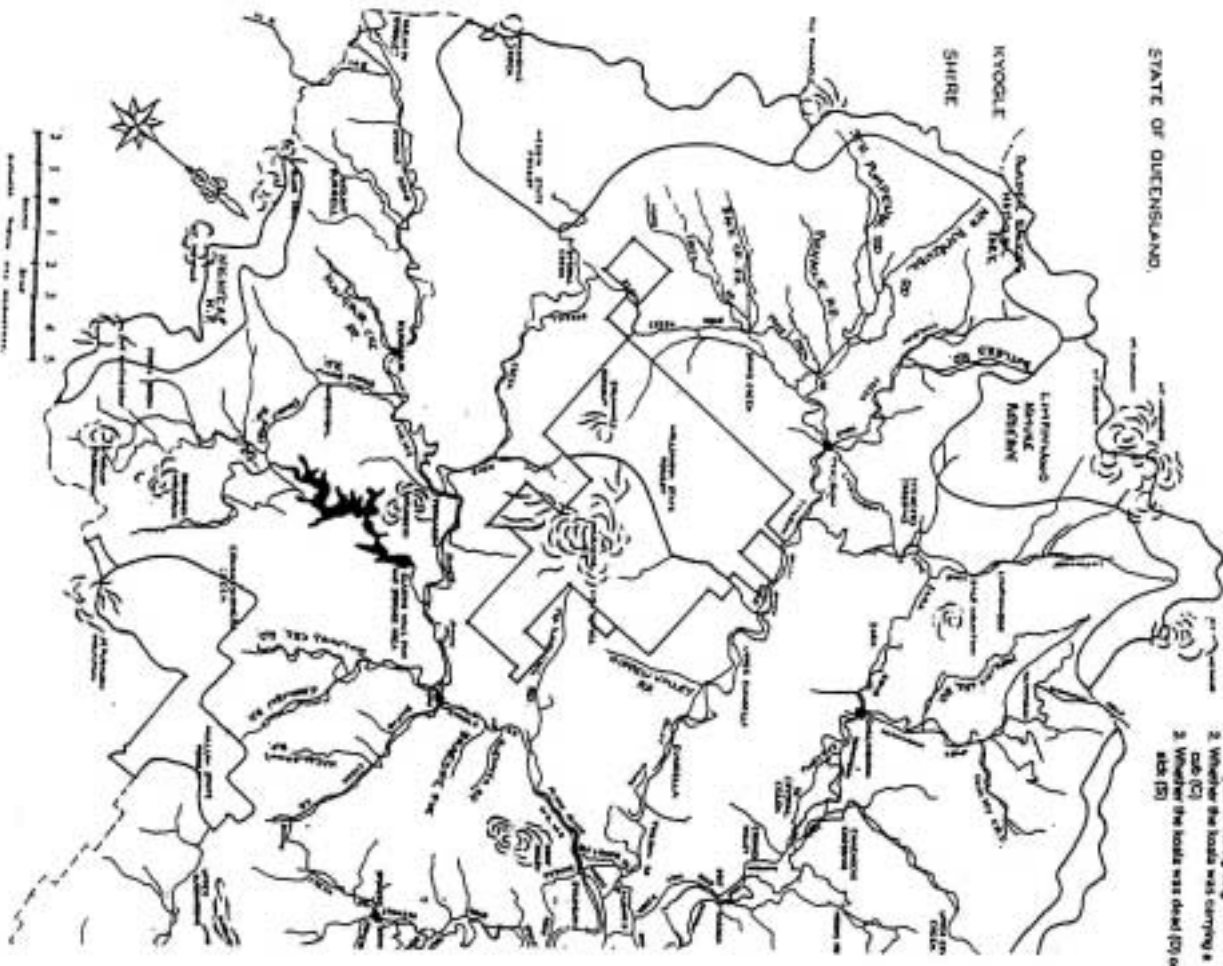
Thank you for taking the time to assist. If you would like further assistance please do not hesitate to contact: Rhonda James (Tweed Koala Rescue Unit) on (01) 6676 1284 or Graham Judge (Tweed Shire Council) on (02) 6672 0400. Please return the completed form to Tweed Shire Council by hand or by post. (Please add a stamp required) to reach Council by 9 August 1998.

Please circle the nearest answer, or give details as requested.

1. What is your local area or nearest town?
- | | |
|---|---|
| 1) Tweed Heads <input type="checkbox"/> | 8) Murwillumbah <input type="checkbox"/> |
| 2) Torrins/Bilambil <input type="checkbox"/> | 9) Stokers Siding/Life <input type="checkbox"/> |
| 3) Bogangra <input type="checkbox"/> | 10) Limpinwood/Chillingham <input type="checkbox"/> |
| 4) Chudleigh/Kingscliff <input type="checkbox"/> | 11) Dean Dean <input type="checkbox"/> |
| 5) Colgen/Doreelah <input type="checkbox"/> | 12) Burmill Creek/Taligon <input type="checkbox"/> |
| 6) Hastings Pt/Potterville <input type="checkbox"/> | Other: _____ <input type="checkbox"/> |
| 7) Burragbin/Moolah <input type="checkbox"/> | |

2. How often do you see Koalas in your local area? (Please circle)
- | | | |
|------------|--------------|-----------|
| 1) Weekly | 3) Quarterly | 5) Rarely |
| 2) Monthly | 4) Yearly | 6) Never |

3. In the time you have lived in your local area, has the number of Koalas increased Stayed the same Decreased Don't know
4. Have you seen sick Koalas in your area eg. infected eyes, wet tail, sitting on ground? Yes / No (please circle)
5. Have you seen Koalas with young in your area? Yes / No (please circle)
6. Have you seen any DEAD Koalas in the Shire? If yes, was the Koala dead on a road? Yes / No (please circle)
7. Have you seen Koalas in a State Forest in Tweed? Yes / No (please circle)
8. Do you have any old records or historical information on Koalas in the Shire? Please supply details: _____
9. How long have you lived in the Shire? _____
10. Concerning Koalas in Tweed Shire might involve some restrictions, trade-offs or other costs. We would like to know what actions you would support. Please tick actions you would support:
- | | |
|---|--------------------------|
| 1) Traffic restrictions eg. speed limits, speed bumps | <input type="checkbox"/> |
| 2) Restrictions on dogs | <input type="checkbox"/> |
| 3) Tree Preservation Orders, to protect Koala food trees | <input type="checkbox"/> |
| 4) Tree planting projects, to increase food supply | <input type="checkbox"/> |
| 5) Employ a Wildlife Specialist in Tweed Shire | <input type="checkbox"/> |
| 6) Environmental Protection Zones, to control development in areas used by Koalas | <input type="checkbox"/> |
| 7) Use public money, rates and taxes, to buy land for Koala reserves | <input type="checkbox"/> |
| 8) Incentives to protect Koala habitat on private land eg. rate relief, rebates | <input type="checkbox"/> |
11. **Please mark the location of all your Koala sightings on Maps 1 and 2**
12. May we contact you for more details? Yes / No (please circle)
13. Optional
Name: _____ Age: _____
Address: _____
Phone: _____
14. Do you have any other comments? _____



On the Map, please mark with a cross (x) at accurately as you can, places where you have seen a Koala. Please also indicate whether the Koala was carrying a cub (c) or whether the Koala was dead (D) or sick (S).



No postage stamp
required if posted
in Australia

THIRD FOLD

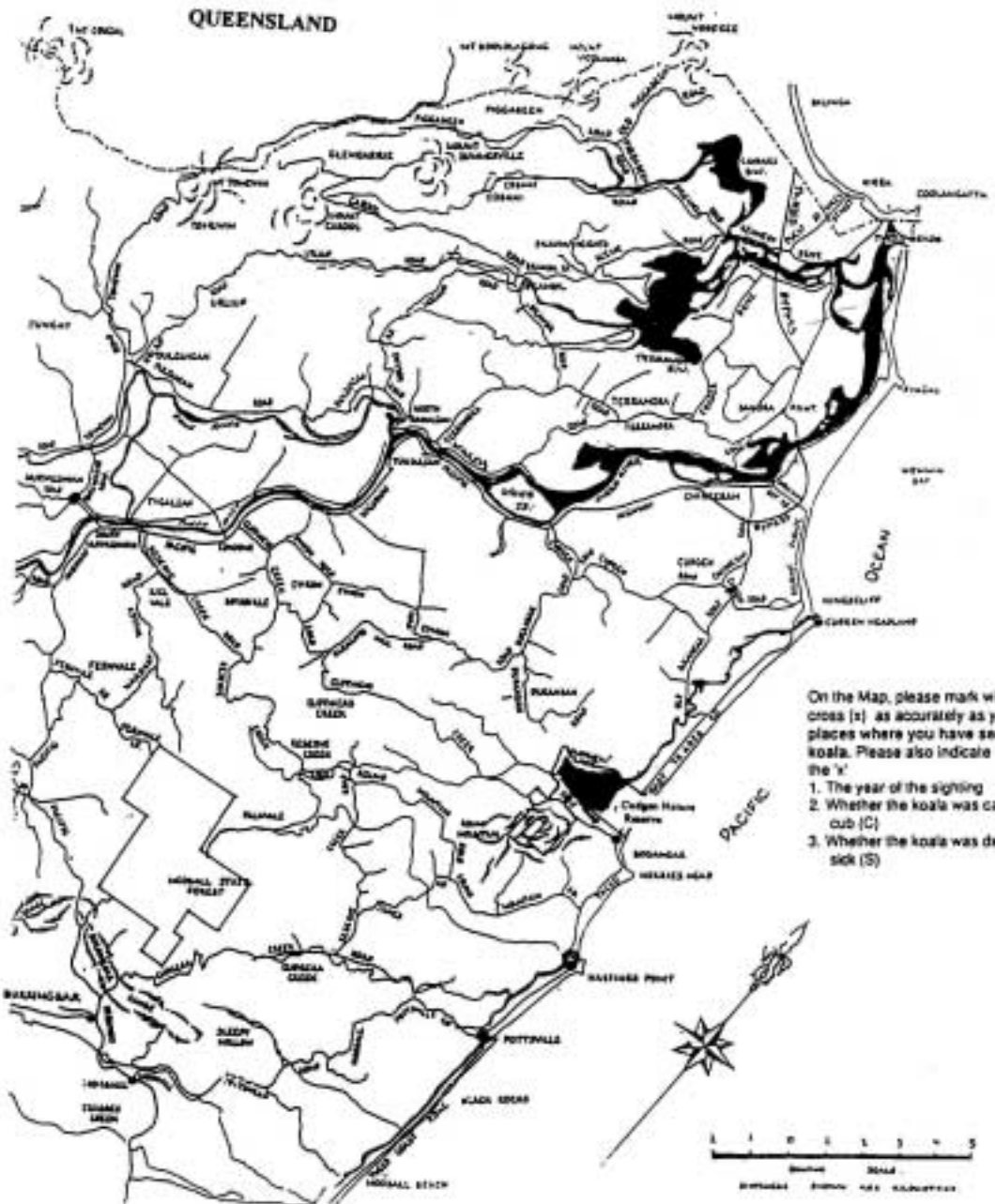
TWEED SHIRE KOALA SURVEY

Please fold and return to
Reply Paid 900
Tweed Shire Koala Survey
PO BOX 816
MURWILLUMBAH NSW 2484

MAP 2 Eastern section of Tweed Shire

SECOND FOLD

FIRST FOLD →



Appendix 14

Environmental Weeds of Tweed Shire

Scientific Name	Common Name	Habit	Status - Noxious Weeds Act 1993 # (as at 19.01.03)	Proposed Status - Noxious Weeds Act 1993 # (as at 19.01.03)
Declared and Proposed Noxious Weed Species for North Coast NSW				
<i>Acacia karoo</i>	Karoo Thorn		W1	
<i>Ageratina adenophora</i>	Crofton Weed	Shrub/Groundcover	W3	
<i>Ageratina riparia</i>	Mist Flower	Shrub/Groundcover	W3	
<i>Alternanthera philoxeroides</i>	Alligator Weed	Perennial Herb	W1	
<i>Anredera cordifolia</i>	Madeira Vine	Climber		W4(g)
<i>Baccharis halimifolia</i>	Groundsel	Shrub to Small Tree	W2	
<i>Cabomba caroliniana</i>	Cabomba	Aquatic Herb	W4(g)	
<i>Caesalpinia decapetala</i>	Thorny Poinciana	Shrub		W2
<i>Cardiospermum grandiflorum</i>	Balloon Vine	Climber		W4(g)
<i>Carduus nutans</i>	Nodding Thistle	Perennial	W2	
<i>Celtis sinensis</i>	Chinese Elm	Tree		W2
<i>Cenchrus incertus</i>	Spiny Burrgrass	Grass	W2	
<i>Cenchrus longispinus</i>	Spiny Burrgrass	Grass	W2	
<i>Cestrum parqui</i>	Green Cestrum	Shrub	W2	
<i>Chromolaena odorata</i>	Siam Weed	Shrub	W1	
<i>Chrysanthemoides monilifera</i> subsp. <i>rotunda</i>	Bitou Bush	Shrub/Groundcover	W3	
<i>Cinnamomum camphora</i>	Camphor Laurel	Tree	W4(d)	
<i>Cortaderia selloana</i>	Pampas Grass	Tall Clumping Grass	W2	
<i>Corymbia torelliana</i> *	Cadaghi	Tree		W4(g)
<i>Cytisus scoparius</i>	Scotch/English Broom	Shrub	W2	
<i>Eichornia crassipes</i>	Water Hyacinth	Floating Aquatic Plant	W3	
<i>Equisetum</i> spp.	Horsetail	Herb	W1	
<i>Gleditsia triacanthos</i>	Honey Locust	Tree		W2
<i>Gloriosa superba</i>	Glory Lily	Groundcover		W4(g)
<i>Gymnocoronis spilanthoides</i>	Senegal Tea Plant	Rhizomatous perennial	W1	
<i>Harrisia</i> spp.	Harrisia Cactus	Succulent	W4(f)	
<i>Hieracium</i> spp. (<i>Picris hieracioides</i>)	Hawkweed Picris	Erect biennial herb	W1	
<i>Hypericum perforatum</i>	St. John's Wort	Perennial	W2	
<i>Ipomoea cairica</i>	Five-leaved Morning Glory	Groundcover/Climber		W4(g)
<i>Ipomoea indica</i>	Blue Morning Glory	Groundcover/Climber		W4(g)
<i>Kochia scoparia</i>	Kochia	Perennial Herb/Subshrub	W1	
<i>Lagarosiphon major</i>	Lagarosiphon	Submerged aquatic perennial	W1	
<i>Lantana camara</i>	Lantana	Shrub/Groundcover	W3	
<i>Ligustrum lucidum</i>	Large-leaved Privet	Shrub to Small Tree		W4(g)
<i>Ligustrum sinense</i>	Small-leaved Privet	Shrub		W4(g)
<i>Macfadyena unguis-cati</i>	Cats Claw Creeper	Climber		W4(g)
<i>Optunia</i> spp.	Prickly Pears	Succulent	W4(f)	
<i>Parthenium hysterophorus</i>	Parthenium Weed	Annual Herb	W1	
<i>Pistia stratiotes</i>	Water Lettuce	Aquatic	W1	
<i>Protasparagus aethiopicus</i>	An Asparagus; Sprengeri Fern	Groundcover		W4(g)
<i>Protasparagus africanus</i>	Asparagus Fern	Climber		W4(g)
<i>Protasparagus plumosus</i>	Climbing Asparagus	Climber		W4(g)
<i>Rubus fruticosus</i>	Blackberry	Scrambler	W2	
<i>Salix</i> spp.	Willow species	Tree	W4(g)	
<i>Salvinia molesta</i>	Salvinia	Aquatic	W2	
<i>Schinus terebinthifolia</i>	Broad-leaved Pepper Tree	Tree		W2
<i>Senna pendula</i> var. <i>glabrata</i>	Winter Senna	Shrub		W4(g)
<i>Sorghum halapense</i>	Johnson Grass	Grass	W2	
<i>Sorghum x alnum</i>	Columbus Grass	Grass	W2	
<i>Sporobolus indicus</i> var. <i>major</i>	Giant Parramatta	Grass	W2	
<i>Sporobolus pyramidalis</i>	Giant Rat's Tail Grass	Grass	W2	
<i>Tecoma stans</i>	Tecoma	Shrub/Small Tree		W2
<i>Toxicodendron succedaeum</i>	Rhus Tree	Tree	W2	
<i>Tradescantia fluminensis</i>	Wandering Jew	Groundcover		W4(g)
<i>Triadica sebera</i> (<i>Sapium sebiferum</i>)	Chinese Tallow	Tree		W2
<i>Xanthium pungens</i>	Noogoora Burr	Annual Herb	W2	
<i>Xanthium spinosum</i>	Bathurst Burr	Annual Herb	W2	
<i>Xanthium</i> spp.	Californian and Cockle Burrs	Annual Herb	W2	
Potential Invasive Weeds of significance for Tweed Shire				
<i>Ardisia crenata</i>	Ardisia	Shrub		
<i>Aristolochia elegans</i>	Dutchman's Pipe	Climber		
<i>Bryophyllum delagoense</i>	Mother of Millions	Succulent/Groundcover		
<i>Bryophyllum pinnatum</i>	Live Leaf	Succulent/Groundcover		
<i>Commelina benghalensis</i>	Hairy Commelina	Perennial Creeping Herb		
<i>Cryptostegia grandiflora</i>	Rubber Vine	Climber		
<i>Cyperus involucratus</i>	Umbrella Sedge	Tufted Perennial		
<i>Delairea odorata</i>	Cape Ivy	Twining Perennial		
<i>Desmodium uncinatum</i>	Silver-leaved Desmodium	Groundcover/Climber		
<i>Duranta repens</i>	Duranta	Shrub		
<i>Eriobotrya japonica</i>	Loquat	Tree		
<i>Erythrina crista-galli</i>	Cockspur Coral Tree	Tree		

Scientific Name	Common Name	Habit	Status - Noxious Weeds Act 1993 # (as at 19.01.03)	Proposed Status - Noxious Weeds Act 1993 # (as at 19.01.03)
<i>Erythrina x sykesii</i>	Coral Tree	Tree		
<i>Eugenia uniiflora</i>	Brazilian Cherry	Shrub		
<i>Hedychium gardnerianum</i>	Kahili Ginger	Groundcover		
<i>Hypoestes sanguinolenta</i>	Freckle Face	Groundcover		
<i>Impatiens walleriana</i>	Busy Lizzie	Herbaceous perennial		
<i>Inga</i> spp.	Icecream Bean	Shrub–Small Tree		
<i>Koelreuteria paniculata</i>	Golden Rain Tree	Tree		
<i>Macroptilium atropurpureum</i>	Siratro	Climber/Creeper		
<i>Murraya paniculata</i>	Orange Jessamine	Shrub		
<i>Myrsiphyllum asparagoides</i>	Bridal Creeper, Florist's Smilax	Creeper/Climber		
<i>Nephrolepis cordifolia</i> *	Fishbone Fern	Groundcover		
<i>Nephrolepis exaltata</i>	Fishbone Fern	Groundcover		
<i>Ochna serrulata</i>	Mickey Mouse Plant	Shrub		
<i>Psidium guajava</i>	Guava	Small Tree/Shrub		
<i>Pueraria lobata</i>	Kudzu	Groundcover/Climber		
<i>Ricinus communis</i>	Castor Oil Plant	Shrub		
<i>Rivina humilis</i>	Coral Berry	Shrub		
<i>Schefflera actinophylla</i> *	Umbrella Tree	Tree		
<i>Senecio madagascariensis</i>	Fireweed	Perennial		
<i>Senna x floribunda</i>	Smooth Cassia	Shrub		
<i>Tabebuia chrysantha</i>	Tabebuia	Small Tree		
<i>Thunbergia alata</i>	Sky-flower	Climber		
<i>Thunbergia grandiflora</i>	Sky Flower	Groundcover/Climber		
<i>Tradescantia albiflora</i>	Wandering Jew	Creeper		
<i>Tradescantia zebrina</i>	Striped Wandering Jew	Groundcover		
<i>Triadica sebena</i> (<i>Sapium sebiferum</i>)	Chinese Tallow	Small Tree		
<i>Urochloa mutica</i> (<i>Brachiaria mutica</i>)	Para Grass	Stoloniferous perennial		
<i>Wedelia trilobata</i>	Singapore Daisy	Groundcover/Climber		
Other Potential Environmental Weeds for Tweed Shire				
<i>Acetosa sagittata</i>	Rambling Dock/Turkey Rhubarb	Perennial Climber		
<i>Ageratum houstonianum</i>	Billy Goat Weed	Branched Perennial Herb		
<i>Ailanthus altissima</i>	Tree-of-Heaven	Tree		
<i>Ambrosia artemisiifolia</i>	Annual Ragweed	Herbaceous Annual		
<i>Araujia sericiflora</i>	Moth Vine	Climber		
<i>Archontophoenix alexandrae</i> *	Alexander Palm	Palm		
<i>Arundinaria</i> spp.	Creeping Bamboo	Perennial Shrub		
<i>Asclepias curassavica</i>	Red Head Cotton Bush	Perennial Herb		
<i>Buddleja madagascariensis</i>	Butterfly Bush	Shrub		
<i>Canna indica</i>	Canna Lily	Rhizomatous Perennial		
<i>Casimiroa edulis</i>	White Sapote	Tree		
<i>Catharanthus roseus</i>	Madagascar Periwinkle	Shrub		
<i>Cestrum aurantiacum</i>	Orange Cestrum	Shrub		
<i>Chloris virgata</i>	Feather Top Rhodes Grass	Grass		
<i>Chlorophytum comosum</i> (& cv. <i>Variiegatum</i>)	Spider Lily	Tufted Perennial Herb		
<i>Colocasia esculenta</i>	Taro	Succulent/Groundcover		
<i>Conyza</i> spp.	Fleabane	Perennial		
<i>Coreopsis lanceolata</i>	Coreopsis	Annual Herb		
<i>Cotoneaster glycyphylla</i>	Cotoneaster	Shrub		
<i>Crocosmia x crocosmiiflora</i>	Crocosmia, Monbretia	Herb		
<i>Crotalaria incana</i> subsp. <i>incana</i>	Woolly Rattlepod	Bushy Shrub		
<i>Cuphea carthagenensis</i>	Cuphea	Sub-Shrub		
<i>Cuscuta campestris</i>	Dodder	Parasitic Twiner		
<i>Dendranthema maxima</i>	Shasta Daisy	Perennial		
<i>Dioscorea bulbifera</i>	Aerial Yam	Groundcover/Climber		
<i>Echium plantagineum</i>	Paterson's Curse	Perennial		
<i>Echium vulgare</i>	Viper's Bugloss	Perennial		
<i>Eugenia jabolicaba</i>	Jaboticaba	Shrub		
<i>Euphorbia cyathophora</i>	Painted Spurge	Annual Herb		
<i>Ficus pumila</i>	Creeping Fig	Creeper		
<i>Flindersia brayleyana</i> *	Queensland Maple	Tree		
<i>Gomphocarpus physocarpus</i>	Balloon Cottonbush	Perennial		
<i>Hylocerus undatus</i>	Night Flowering Cactus	Climber/Succulent		
<i>Ipomoea alba</i>	Moon Flower	Climber/Creeper		
<i>Ipomoea purpurea</i>	Purple Morning Glory	Groundcover/Climber		
<i>Jacaranda mimosifolia</i>	Jacaranda	Tree		
<i>Lantana montevidensis</i>	Creeping Lantana	Groundcover		
<i>Leucaena leucocephala</i>	Leucaena	Tree		
<i>Lillium formosanum</i>	Formosan Lily	Perennial		
<i>Lonicera japonica</i>	Japanese Honeysuckle	Climber/Groundcover		
<i>Lycium ferocissimum</i>	African Box-thorn	Tree		
<i>Melinis minutiflora</i>	Molasses Grass	Grass		
<i>Morus nigra</i>	Black mulberry	Tree		
<i>Olea europaea</i> subsp. <i>africana</i>	Common Olive	Small Tree		

Scientific Name	Common Name	Habit	Status - Noxious Weeds Act 1993 # (as at 19.01.03)	Proposed Status - Noxious Weeds Act 1993 # (as at 19.01.03)
<i>Paspalum dilatatum</i>	Paspalum	Grass		
<i>Passiflora suberosa</i>	Corky Passionfruit	Climber		
<i>Passiflora subpeltata</i>	White Passionfruit	Climber		
<i>Paulownia tomentosa</i>	Paulownia	Tree		
<i>Peltophorum pterocarpum</i>	Yellow Flame Tree	Tree		
<i>Pennisetum purpureum</i>	Barner Grass	Tall Clumping Grass		
<i>Phyllostachys nigra</i>	Black Bamboo	Creeping Perennial Shrub		
<i>Phytolacca octandra</i>	Inkweed	Shrub		
<i>Pinus caribbaea</i>	Caribbean Pine	Tree		
<i>Pinus elliottii</i>	Slash Pine	Tree		
<i>Pinus radiata</i>	Radiata Pine	Tree		
<i>Prunella vulgaris</i>	Self Heal	Perennial		
<i>Psidium cattleianum</i>	Cherry Guava	Small Tree/Shrub		
<i>Pyrostegia venusta</i>	Orange Trumpet Vine	Creeper/Climber		
<i>Raphiolepis indica</i>	Indian Hawthorn	Shrub		
<i>Raphiolepis umbellata 'Ovata'</i>	Yeddo Hawthorn	Shrub		
<i>Rhynchelytrum repens</i>	Red Natal Grass	Grass		
<i>Robinia pseudoacacia</i>	Black Locust	Tree		
<i>Salvia coccinea</i>	Salvia	Perennial		
<i>Sanseveria trifasciata</i>	Mother-in-Law's Tongue	Groundcover		
<i>Setaria sphacelata</i>	Setaria	Grass		
<i>Sida cordifolia</i>	Flannel Weed	Perennial		
<i>Solanum capsicoides</i>	Devils Apple	Annual Shrub		
<i>Solanum mauritianum</i>	Tobacco Bush	Shrub/Small Tree		
<i>Solanum pseudocapsicum</i>	Jerusalem Cherry	Small Shrub		
<i>Solanum seaforthianum</i>	Climbing Nightshade	Climber/Twiner		
<i>Spathodea campanulata</i> subsp. <i>rotundata</i>	West African Tulip Tree	Tree		
<i>Syagrus romanzoffiana</i>	Cocos Palm	Palm		
<i>Syngonium podophyllum</i>	Syngonium	Climber		
<i>Tecoma capensis</i>	Cape Honeysuckle	Creeper/Climber		
<i>Tipuana tipu</i>	Tipuana	Tree		
<i>Tithonia diversifolia</i>	Japanese/Mexican Sunflower	Perennial Shrub		
<i>Vigna luteola</i>	Dalrymple Vigna	Climbing Perennial		
<i>Vinca major</i>	Blue Periwinkle	Shrub		
<i>Zantedeschia aethiopica</i>	Arum Lily	Succulent/Groundcover		

* Native species

# Noxious Weed Act (1993) Codes	Action for Control
W1	The presence of the weed on land must be reported to the local control authority and the weed must be fully and continuously suppressed and destroyed.
W2	The weed must be fully and continuously suppressed and destroyed.
W3	The weed must be prevented from spreading and its numbers and distribution reduced.
W4	The action specified in the declaration must be taken in respect of these weeds, these are listed below;
W4(b)	The weed must not be sold, propagated or knowingly distributed and any existing weed must be prevented from flowering or fruiting.
W4(d)	The weed must not be sold, propagated or knowingly distributed and the weed must be removed if it is; - Three metres in height or less, or - within half a kilometre of remnant urban bushland, as defined in SEPP 19, and is not deemed by a local control authority as having historical or heritage significance, or - is over three metres in height and not included in a Management Plan approved by the local control authority. The W4(d) declaration applies to Copmanhurst, Kyogle, Richmond Valley and Lismore Council areas and that part of Ballina Council area south of the Bruxner Highway.
W4(f)	The weed must not be sold, propagated or knowingly distributed. Occupiers/owners must implement any biological control or other program directed by the local control authority.
W4(g)	The weed must not be sold, propagated or knowingly distributed.

Appendix 15

List of Landcare Projects as at March 2003

Tweed Landcare Project Inventory						
Inventory ID	Group	Locality	General Purpose	Relevant NRCMB Priorities	Nature of Works	Intensity of Works
1	Upper Limpinwood Catchment Landcare	Upper Limpinwood Valley	Kudzu control trial		Trials to ascertain most effective method of control.	high
2	Upper Limpinwood Catchment Landcare	Upper Limpinwood Valley	Riparian stabilization, water quality	riparian	Fencing from cattle, planting with riparian species, brush cutting grass.	high
3	Upper Limpinwood Catchment Landcare	Confluence of Worendo Ck & Hopping Dick Ck	Riparian stabilization, water quality	riparian	Fencing from cattle, planting with riparian species.	high
4	Upper Limpinwood Catchment Landcare	Worendo Ck	Remnant extension	HCV extension	Weed removal, planting, regeneration	high
5	Upper Limpinwood Catchment Landcare	Worendo Ck	Remnant extension	HCV extension	Weed removal, planting, regeneration	high
6	Limpinwood Valley Landcare	Tributary of Hopping Dick Ck	Riparian stabilization, water quality	riparian	Fencing from cattle, rocks in stream bed to control head cut, planting with riparian species.	high
7	Limpinwood Valley Landcare	Hopping Dick Ck	Riparian stabilization, water quality	riparian	Planting with riparian species	moderate
8	Limpinwood Valley Landcare	Hopping Dick Ck	Riparian stabilization, water quality	riparian	Planting with riparian species	moderate
9	Limpinwood Valley Landcare	Hopping Dick Ck	Riparian stabilization, water quality	riparian	Planting with riparian species	moderate
10	Limpinwood Valley Landcare	Hopping Dick Ck	Riparian stabilization, water quality	riparian	Fencing from cattle, planting with riparian species.	high
11	Limpinwood Valley Landcare	Hopping Dick Ck	Riparian stabilization, water quality	riparian	Fencing from cattle, planting with riparian species, control of in stream Casuarinas with DLWC approval.	high
12	Chillingham Landcare	Chillingham Village, Rous River	Riparian stabilization, water quality	riparian	Weed control, planting.	moderate
13	Rous River Landcare	Upper Rous River	Riparian stabilization, water quality	riparian	Fencing from cattle, planting with riparian species.	high
14	Rous River Landcare	Upper Rous River	Riparian stabilization, water quality	riparian	Weed control, planting with riparian species, natural regeneration.	moderate
15	Couchy Creek Landcare	Couchy Ck	Weed control	weed control adjacent to HCV - Couchy Ck NR	Control to coral tree, kuzu, broad-leaf paspalum. Bush regeneration.	high
16	Tweed Landcare Inc (TLI)	Tributary of Pat Smith Ck	Riparian stabilization, water quality	riparian	Fencing and planting of riparian species	moderate
17	Couchy Creek Landcare	Settlement Road	Landcacape management	landuse	Fencing according to topography and land use, weed control, planting, assisted regeneration.	moderate
18		Upper Crystal Ck Rd	riparian stabilization,	riparian	tree planting using riparian species	low
19	Nobbys Ck Landcare	Pidgeonberry Rd	roadside planting	corridor	tree planting	moderate
20	Nobbys Ck Landcare	Nobbys Ck Rd	roadside planting	corridor	tree planting	moderate
21	Nobbys Ck Landcare	Nobbys Ck Rd	roadside planting	corridor	tree planting	moderate
22	Nobbys Ck Landcare	Nobbys Ck Rd	riparian planting		Weed control, planting.	moderate
23	TLI	Crooks Valley	Remnant management	HCV	Bush regeneration; weed control, encouragement of natural regeneration, planting.	high
24	Limpinwood Valley Landcare	Boormans Rd	Riparian vegetation establishment	riparian	Weed control, planting with riparian species, natural regeneration.	moderate
25	Limpinwood Valley Landcare	Boormans Rd	Riparian vegetation establishment	riparian	Weed control, planting with riparian species, natural regeneration.	moderate
26	Bilambil Heights Bushcare	Malua Forest, Walmsleys Rd	remnant rehabilitation & extension	HCV	Bush regeneration; weed control, encouragement of natural regeneration, planting.	moderate
27	Campbell family	Cobaki Rd	remnant preservation	HCV		low
28	Towns Coastalcare	Duranbah Beach	stabilisation of beach dunes	dunal	negotiations with by-pass system to get adequate sand onto beach	low
29	Fingal Head Coastcare	Main Beach, Fingal Head	stabilisation of beach dunes	dunes	weed control, planting with local species	low - vandalism from humans wanting views
30	Fingal Head Coastcare	Fingal Headland	headland rehabilitation		erosion control - construction of a pathway.	planning stage
31	Fingal Head Coastcare	buffer zone of littoral rainforest	remnant extension	HCV	weed control, planting of local species, regeneration.	high
32	O'Sullivan's Springs Bushcare	Shamrock Av	remnant rehabilitation	HCV	weed control, planting of local species, regeneration.	low

Inventory ID	Group	Locality	General Purpose	Relevant NRCMB Priorities	Nature of Works	Intensity of Works
33	East Banora Point Landcare	Oyster Point Rd	wetland rehabilitation	wetland	weed control, regeneration	low
34	Russell Jefferies	Whispering Palms subdivision	wetland rehabilitation	wetland	weed control, regeneration, planting with local species	low
35	TSC Work for the Dole	Rous R to Stotts Is	riparian planting	riparian	weed control, regeneration, planting with local species	high
36	TBCCC	Olympic Landcare - Chris Fydlar Park	riparian rehabilitation	riparian	weed control, planting with local species	moderate
37	Bruce Chick	bank adjacent to Stotts Is	riparian, HCV protection	riparian, HCV	weed control, planting with local species	high
38	Kingscliff Coastcare	Murphys Rd to Bowls Club	stabilisation of beach dunes	dunes	weed control, planting of local species, regeneration.	low
39	Kingscliff Dune Care & Reafforestation Gp	Kingscliff High School	constrvation of a remnant	HCV	weed control, some planting	low
40	Kingscliff Dune Care & Reafforestation Gp	Kingscliff High School	stabilisation of beach dunes	dunes	weed control, planting of local species	low
41	Cabarita Beach Dune Care	north of headland	stabilisation of beach dunes	dunes	weed control, planting of local species	low
42	Cabarita Beach Dune Care	soth of headland	rehabilitation of beach dunes	dunes	weed control, planting of local species	low
43	Upper Duroby Ck Landcare	Upper Duroby Ck	riparian rehabilitation	riparian	HCV adjacent tyo Hogans Scrub	high
44	Piggabeen Landcare	Pigabeen Hall	riarian rehabilitation	riparian	weed control, planting with local species	low
45	Upper Piggabeen Landcare	Piggabeen Rd	riparian rehabilitation	riparian	weed control, planting with local species	moderate
46	Murwillumbah Landcare	Fig Tree, Reserve Ck Rd, Condong Ck	riparian rehabilitation	riparian	weed control, planting with local species	moderate
47	Murwillumbah Landcare	Condong Ck s-w cnr of Quarry Rd bridge, Fletchers Engineering	riparian rehabilitation	riparian	weed control, planting with local species	moderate
48	Murwillumbah Landcare	Condong Ck n-e cnr of Quarry Rd bridge, Reserve Ck Rd	riparian rehabilitation	riparian	weed control, planting with local species	high
49	Tweed River Restoration Gp	Commercila Rd boat ramp	riparian rehabilitation	riparian	weed control, planting with local species	low
50	Wollumbin High School	North Arm Rd, Murwillumbah	rainforest planting		weed control, planting with local species	low
51	Rivers Alive Project	North Arm Rd	riparian rehabilitation	riparian	Weed control, planting with riparian species, natural regeneration.	moderate
52	Friends of Cudgen Lake NR	Clothiers Ck Rd	trials of rehabilitation of ex-banana land	landuse	different trials of rehablitation	moderate
53	Friends of Cudgen Lake NR	dunal area of NR	dune restoration	dunes	planning stage	low
54	Farrnats Hill Top Landcare	Farrants Hill Rd	remnant rehabilitation & extension	HCV	Weed control, planting with riparian species, natural regeneration.	moderate
55	Stokers Streamcare	Stokers Siding Village	riparian rehabilitation	riparian	Weed control, planting with riparian species, regeneration. Education of local community of environmental weeds.	high
56	Adcocks Valley Landcare	Adcocks Rd, off Smith Ck Rd, Stokers Siding	riparian rehabilitation	riparian	Weed control, planting with riparian species, regeneration.	moderate
57	Adcocks Valley Landcare	Stokers Siding	Corridor from schlerophyll remnant down hill.	corridor	Fencing, planting, weed control	high
58	Bloodwoods Rd & Tunnel South Landcare	Stokers Siding	roadside planting	corridor	Weed control, planting with local species.	moderate
59	Stokers Siding Catchment Committee	Nolans Rd, Stokers Siding	Riparian vegetation establishment	riparian	Weed control, planting with riparian species, natural regeneration.	moderate
60	Ripps Rd Landcare	Ripps Rd, Stokers Siding	riparian rehabilitation, remnant extension	riparian,	Weed control, planting with local species, regeneration	moderate
61	Hastrings Point Dune Care	north of Cudgera Ck	stabilisation of beach dunes	dunes	Weed control, planting of dunal species, regeneration.	
62	Hastrings Point Dune Care	south of Cudgera Ck	remnant restoration	HCV	Bush regeneration, weed control	
63	Pottsville Dune Care	south of Cudgera Ck	Dune rehabilitation	dunes	Weed control, planting of dunal species, regeneration.	
64	Burringbar & Mooball Catchments Landcare	Quinns Bridge	riparian rehabilitation	riparian	Weed control, planting of riparian species, regeneration.	moderate
65	Platypus Habitat & Streamwatch Team	Greenvale Ct Causeway	riuparian rehabilitation	riparian	Camphor control, planting with riparian species, regeneration.	high

Inventory ID	Group	Locality	General Purpose	Relevant NRCMB Priorities	Nature of Works	Intensity of Works
66	LEAP Scheme	Cudgenbil Waterhole	Riparian stabilisation	riparian	weed control, planting, regeneration.	low
67	Friends of Wollumbin	Braeside Dr	Remnant extension	corridor	Weed control, planting, regeneration	moderate
68	Uki Landcare	Uki, river bank nr butter factory	Riparian stabilisation	riparian	Weed control, planting, regeneration.	low
69	Uki Landcare	Uki, river bank nr school.	Riparian stabilisation	riparian	Weed control, regeneration	low
70	TLI	Palmer's Rd	Remnant extension	HCV	Weed control, natural regeneration on 100ha adjacent to Mt Warning NP.	
71	Tyalgum Landcare	Showground, Tyalgum	riparian stabilisation	riparian	Fencing, planting, weed control	low - planning stage
72	TLI	Tyalgum Ck Rd	riparian stabilisation	riparian	rock wall built to stabilise erosion, planting	low - completed
73	TLI	Perkins Bridge, Limpinwood Rd.	riparian stabilisation, weed control	riparian	Weed control - privet, camphor; planting, regeneration.	
74	TLI	Eungella	Major riparian stabilisation	riparian	Earth works and logs to stabilise, planting.	high
75	ISKON	Eungella	riparian stabilisation	riparian	Weed control, planting.	moderate
76	Rivers Alive Project	Upper Crystal Ck Rd	riparian stabilisation	riparian	Fencing, camphor eradication, planting, natural regeneration.	
77	Burringbar & Mooball Catchments Landcare	Dolans Bridge, Pottsville Rd	riparian remnant rehabilitation	riparian	Weed control, planting with riparian species .	moderate
78	Burringbar & Mooball Catchments Landcare	Clarks Rd	roadside planting		Weed control, planting with local native species, regeneration.	moderate
79	Burringbar & Mooball Catchments Landcare	Harnetts Dam	planting adjacent to extended dam.		tree planting	moderate
80	Burringbar & Mooball Catchments Landcare	Crabbes Ck School	Wetland rehabilitation	wetland	replanting, regeneration	low
81	Burringbar & Mooball Catchments Landcare	Burringbar Village Cycleway planting	cycleway planting		Weed control, planting of local native species, small remnant extension.	moderate
82	Burringbar & Mooball Catchments Landcare	Blackers	remnant rehabilitation		Regeneration under camphors, replanting.	moderate
83	Burringbar & Mooball Catchments Landcare	Harnetts footbridge site	planting			
84	Burringbar & Mooball Catchments Landcare	Harnetts pump site	riparian stabilisation and rehabilitation	riparian	400m riparian planting	moderate
85	Burringbar & Mooball Catchments Landcare	Hampton Glade	riparian stabilisation and rehabilitation	riparian	800 m riparian planting	moderate
86	Burringbar & Mooball Catchments Landcare	Burringbar Primary School	riparian stabilisation and rehabilitation	riparian	Weed control, planting with riparian species	moderate
87	Burringbar & Mooball Catchments Landcare	Kurrajong MO & lettuce farm	riparian stabilisation and rehabilitation	riparian	Weed control, planting with riparian species	
88	Burringbar & Mooball Catchments Landcare	Dean's place	riparian stabilisation and rehabilitation	riparian	Weed control - (lantana, camphor), planting with riparian species	
89	Upper South Arm Landcare	Mt Burrell Caravan Park	Riparian stabilisation	riparian,	Weed control, planting with riparian species.	
90	Upper South Arm Landcare	Mt Burrell Rd	Remnant extension, stream bank stabilisation	riparian, remnant extension	Weed control, planting with riparian species, regeneration	
91	Terragon Landcare	Terragon	Riparian stabilisation	riparian	Weed control - cats claw, planting with riparian species.	
92	Byrrill Ck Landcare	Cedar Ck swimming hole	Riparian stabilisation	riparian	Weed control, planting with riparian species, regeneration	
93	Byrrill Ck Landcare	Byrrill Ck Rd	roadside planting	corridor	Planting with local native species, weed control.	
94	Upper South Arm Landcare	Coal Ck	riparian stabilisation	riparian	Weed control - moth vine, planting of riparian species, regeneration.	
95	Pottsville Dune Care	Elfram Av	dunal rehabilitation	dunes	weed control, planting with dunal species.	
96	Pottsville Dune Care	north of Mooball Ck	dunal rehabilitation	dunes	weed control, planting with dunal species.	
97	Limpinwood Catchment Landcare	Kirbys Rd	riparian stabilisation	riparian	Fencing of riparian area according to topography to allow regeneration.	
98	Palmvale Landcare	Palmvale Rd	roadside planting	corridor	Camphor control, planting with local species	

Inventory ID	Group	Locality	General Purpose	Relevant NRCMB Priorities	Nature of Works	Intensity of Works
99	Limpinwood Catchment Landcare	Kirbys Rd	riparian stabilisation	riparian	Fencing of riparian area, weed control, tree planting.	
100	Stokers Streamcare	Tunnel Rd	roadside/riparian planting	riparian	Camphor control. Planned: riparian planting, regeneration	
101	TLI	Tunnel Rd	remnant extension, riparian rehabilitation	Remnant, riparian	Camphor control, fencing of regenerating areas and riparian areas.	
102	Bilambil Heights Bushcare	Walmsleys Rd	remnant extension	HCV	regeneration - weed control	
103	Bruce Hungerford	TSC reserve at Dallas Park	remnant rehabilitation, riparian rehabilitation	riparian	Camphor, para grass & other weed control, planting, regeneration. Establishment of phagmites.	
104	Greg & Margaret Church	Gamajalah Forest, Pidgeonberry Rd	rehabilitation of former banana farm for harvest using fast (pioneers) and slow (cabinet timber) lanes.	land use	weed control, planting, silviculture.	
105	Bruce Hungerford	Dallas Park	arboretum		Cultivated rainforest trees.	
106	DLWC	Mebbin, Kyogle Rd	timber trials	land use	Eucalypt trials, cabinet timbers between the 2 gullies.	
107	Green Corps	Perch Ck, Kyogle Rd	riparian rehabilitation	riparian	Weed control, regeneration	
108	Burringbar & Mooball Catchments Landcare	Gateway to Tweed project, Mooball	amenity, interpretative		planting, interpretative signs	low - planning stage

Appendix 16

Background to Adopted Planning Framework and Administrative Options (September 2001 to June 2002)

**TWEED SHIRE COUNCIL
MEETING TASK SHEET**

COUNCIL MEETING DATE:	WEDNESDAY 5 JUNE 2002
FILE REFERENCE:	GT1/LEP/2000/21 Pt2; LEP - Tweed Management Plan
AUTHOR:	Judge
UNIT & DIVISION:	Strategic Town Planning/DEVELOPMENT
TASKED TO:	DDS

RESOLUTION:

3. **Tweed Vegetation Management Strategy and Draft Tweed Local Environmental Plan 2000 (Amendment No 21)**
GT1/LEP/2000/21 Pt2; LEP - Tweed Management Plan

1029

Cr Luff

Cr James

RESOLVED that Council:

1. Advises the Department of Land and Water Conservation that at this stage Council does not wish to proceed with preparation of a draft Regional Vegetation Management Plan.
2. Finalises the Tweed Vegetation Management Strategy and prepares a draft Tweed Local Environmental Plan (Vegetation Management) that is integrated with the Native Vegetation Conservation Act (short term).
3. Advises the Department of Land and Water Conservation that Council wishes to retain the opportunity to have either a fully integrated Local Environmental Plan for Tweed Shire (Schedule 2 of the Native Vegetation Conservation Act) or an integrated Tweed Local Environmental Plan and Regional Vegetation Management Plan as potential long-term options.
4. Writes to the Minister of the Department of Land and Water Conservation to strongly request the Minister to initiate a review of the Native Vegetation Conservation Act and other relevant Acts to address legal and policy impediments that restrict Councils from being listed on Schedule 2 of the Native Vegetation Conservation Act.
5. Amends the 'Terms of Reference' of the Vegetation Management Plan Steering Committee in accordance with Recommendation 1 and 2 above.

3. **ORIGIN: Strategic Town Planning Unit****FILE REF: GT1/LEP/2000/21 Pt2; LEP - Tweed Management Plan****REPORT TITLE:****Tweed Vegetation Management Strategy and Draft Tweed Local Environmental Plan 2000 (Amendment No 21)****SUMMARY OF REPORT:**

The Vegetation Management Plan Steering Committee has reviewed the options for the preparation of draft Tweed LEP 2000 (Amendment No 21) - Vegetation Management and draft Tweed Regional Vegetation Management Plan (RVMP). The review was undertaken in response to comments and advice from State Agencies on the Committee's interim adopted planning framework (Appendix 1). It is recommended that Council advise the Department of Land and Water Conservation that at this stage Council does not wish to proceed with the preparation of a draft RVMP, but will instead prepare a draft Tweed LEP that is integrated with the current provisions of the Native Vegetation Conservation Act. Council will consider options for the longer term once the State Government has finalised the Clarence or Richmond Regional Vegetation Management Plan and has finalised the review of clearing exemptions under the Native Vegetation Conservation Act.

RECOMMENDATION:

That Council:

1. Advises the Department of Land and Water Conservation that at this stage Council does not wish to proceed with preparation of a draft Regional Vegetation Management Plan;
2. Finalises the Tweed Vegetation Management Strategy and prepares a draft Tweed Local Environmental Plan (Vegetation Management) that is integrated with the Native Vegetation Conservation Act (short term);
3. Advises the Department of Land and Water Conservation that Council wishes to retain the opportunity to have either a fully integrated Local Environmental Plan for Tweed Shire (Schedule 2 of the Native Vegetation Conservation Act) or an integrated Tweed Local Environmental Plan and Regional Vegetation Management Plan as potential long-term options.
4. Writes to the Minister of the Department of Land and Water Conservation to strongly request the Minister to initiate a review of the Native Vegetation Conservation Act and other relevant Acts to address legal and policy impediments that restrict Councils from being listed on Schedule 2 of the Native Vegetation Conservation Act.
5. Amends the 'Terms of Reference' of the Vegetation Management Plan Steering Committee in accordance with Recommendation 1 and 2 above.

REPORT:**BACKGROUND**

Council, at its meeting on 5 September 2001, resolved to prepare an Environmental Study and Shirewide draft Tweed Local Environmental Plan on vegetation management. Council also resolved to empower Council's Vegetation Management Plan Steering Committee to assist Council in the preparation of the draft LEP and to assist the Department of Land and Water Conservation to prepare a draft Tweed Regional Vegetation Management Plan. The objectives of the Steering Committee (Terms of Reference) are as follows:

"2.0 Objectives of the Steering Committee

- a) *Assist Council's Strategic Planning Unit and the Director of Development Services to:*
 - *Finalise the Tweed Vegetation Management Plan to provide a resource document for vegetation management and landuse planning in Tweed Shire;*
 - *Prepare a framework for the draft Tweed Local Environmental Plan (vegetation/catchment management) that compliments the draft Regional Vegetation Management Plan prepared for the Director-General of the DLWC;*
 - *Ensure land use plans incorporate a balance between social, economic, cultural and environmental factors;*
 - *Recommend a system for ongoing monitoring of bushland management in Tweed Shire;*
 - *Simplify and clarify administrative procedures relating to bushland management as they relate to vegetation management.*
- b) *Assist the Department of Land and Water Conservation in the preparation of a draft Tweed Regional Vegetation Management Plan that compliments Tweed Shire Council's draft Tweed LEP and in accordance with the Native Vegetation Conservation Act;*
- c) *Assist the DLWC and Council's Director of Development Services to integrate the draft Tweed LEP (vegetation/catchment management) and draft Tweed RVMP.*
- d) *Consult with relevant stakeholder groups and State agencies to achieve objectives a), b) and c).*
- e) *Committee meetings to be conducted in a manner to allow free expression of views and presentation of information from Members".*

STEERING COMMITTEE – ADOPTED FRAMEWORK

- In response to Council's resolution the Vegetation Management Plan Steering Committee considered and adopted a planning framework for the preparation of an integrated draft Tweed Local Environmental Plan and draft Tweed Regional Vegetation Management Plan. The final Tweed LEP would be administered by Tweed Shire Council. The Tweed Regional Vegetation Management Plan (TRVMP) would be administered by the Department of Land and Water Conservation. Two draft Regional Vegetation Management Plans (TRVMP) have been prepared for the Clarence and Richmond River catchment areas and are yet to be finalised.

- The adopted planning framework for the Tweed is attached as Annexure 1 to this report. The framework relies on the completion of the Tweed Vegetation Management Strategy which will contain the background material for the preparation of the draft Plans. Ecograph have previously been commissioned to undertake this project.
- The Committee's adopted planning framework used a 'zoning approach' and a 'prescribed stream' map for both the draft Tweed LEP and draft TRVMP. The draft Plans would therefore rely on only one set of maps to ensure consistency and integration between the two Plans.

THE FRAMEWORK BY THE VEGETATION MANAGEMENT PLAN STEERING COMMITTEE

1. Environmental Zones – Relied on detailed information and ecological assessment that identifies private land as ecologically significant, particularly areas that have been the subject of detailed land use studies in response to urban development proposals and rezonings and detailed vegetation mapping. Remnant native bushland on publicly owned land will not need this level of detail eg, remnant bushland on Mt Nullum. It will also include areas mapped as SEPP 14 (Wetlands), SEPP 26 (Littoral rainforest) and Koala habitat identified in Koala Management Plans (SEPP 44). It was proposed that Council would control activities within these zones. At this stage these zones will be concentrated along the Tweed Coast where data on bushland remnants is more accurate.
2. Rural Protected Lands Zone – Rely on areas of mapped remnant bushland where information is not accurate or reliable to place bushland into an Environmental Protection zone. Will also include land above 18 degrees consistent with State Protected Lands mapping (Category (a)) under the Native Vegetation Conservation Act. The zone is intended to be more flexible than an Environmental Protection Zone and would rely more on the merits of a site assessment to make a determination on a development application.
3. General Rural Zone and Agricultural Protection Zone – Areas of the Shire mapped as substantially cleared below 18 degrees slope (note: some of these areas will still be affected by 'prescribed streams'). At this stage these zones will not appear in the draft RVMP. They will be excluded areas unless affected by a prescribed stream. This is a similar approach used under the current State Protected Land mapping under the Native Vegetation Conservation Act.
4. National Parks, Nature Reserves and State Forest Zones – Areas of State owned public land reserved as a National Park, Nature Reserve or State Forests. These areas will be mapped as a zone under the draft Tweed LEP and excluded from the draft Tweed RVMP.
5. Rural Residential Zone, Urban Zones, Business Zones, Tourist Zones, Special Use Zones, Open Space Zones – These non-rural areas would be excluded from the operation of the NVC Act and RVMP. Council would be the consent authority for activities, including clearing, within these areas.
6. Prescribed Streams – These streams will be mapped by Ecograph based on a drainage layer from DLWC. Streams up to 2nd or 3rd order would be mapped (yet to be finalised). DLWC would be the consent authority for clearing within, or within 20 metres of a prescribed stream, and will have a separate set of clearing exemptions

(yet to be determined). This layer would replace the current prescribed streams map for the Tweed.

CONSULTATION WITH STATE AGENCIES

- Council advised the Department of Urban Affairs and Planning (now planningNSW) of Council's resolution to prepare a draft LEP. The Department, in their response dated 26 October 2001 advised Council that an Environmental Study would be required. The Department also outlined issues that should be addressed in the Environmental Study and State Agencies that should be consulted in the preparation of the Study.
- Pursuant to Section 62 and 34A of the Environmental Planning and Assessment Act a number of relevant groups, state agencies and bodies were consulted regarding the preparation of the Environmental Study and draft Plan:
 - State Forests NSW
 - NSW Coastal Council
 - *NSW Fisheries
 - *NSW Agriculture
 - *Land and Water Conservation
 - *National Parks and Wildlife Service
 - Richmond Vegetation Committee
 - Clarence Vegetation Committee
 - *NOROC Forestry Taskforce
 - Byron Shire Council
 - Gold Coast City Council
 - Lismore City Council
 - Kyogle Shire Council
 - Beaudesert Shire Council
 - *Northern Rivers Catchment Board
 - *Native Vegetation Advisory Committee
 - Planted Forests Division (NSW Forests)
 - Tweed Byron Aboriginal Land Council

* Represents those groups/agencies that have provided a response to Council.

- Responses from these groups/agencies are attached as Annexure 2 to this report (Appendix 2).
- A State Agency Workshop organised by Council was attended by representatives from the Department of Land and Water Conservation, National Parks and Wildlife Service and

NSW Agriculture on 29 October 2001. The objective of the Workshop was to present and discuss the Committee's adopted planning framework for preparation of the draft Tweed LEP and RVMP. The Workshop also provided an opportunity for these Agencies to better understand the framework before they formally responded to Council under Section 62 and 34A of the Environmental Planning and Assessment Act.

RESPONSE FROM LAND AND WATER CONSERVATION AND NATIONAL PARKS AND WILDLIFE SERVICE

- Further meetings were held with NPWS and DLWC in February 2002 because these Agencies raised major issues and concerns regarding the Committee's adopted framework under Section 62 and 34A of the Act. The Regional Manager of DLWC has not provided a detailed formal response to the Committee's framework, however Council has received advice from the DLWC provided by DLWC's Regional Vegetation Officer, David Hart (see Appendix 2).
- The response to the Committee's planning framework from DLWC and NPWS is summarised as follows:

DLWC Response:

- The current adopted framework for the draft RVMP to exclude substantially clearing areas from the operation of the Plan is inconsistent with the NVCA. An RVMP cannot add 'excluded areas' to those already listed in the Act.
- Any clearing that does not need consent from DLWC under a RVMP is deemed to be 'exempt clearing' and therefore does not require any other approval from other authorities, including Council or NPWS.
- The Minister of DLWC cannot delegate responsibility to another authority for managing native vegetation or vegetation on Regional Protected Land. It is therefore unlikely that DLWC would delegate control for managing vegetation to Council in Environmental Protection Zones or clearing ancillary to a development proposal.
- It is highly unlikely that the NVC Act will be amended to clarify or address any administrative or interpretation issues.
- There is potential for the draft RVMP to refer to the landuse zones and prescribed stream map under a draft TLEP rather than create a separate map for the draft RVMP.
- Concerns as to the status of the RVMP if Tweed Shire Council changes the LEP during the life of the Plan. Because this answer involves consideration of the operation of the EP&A Act, further advice is required. This will involve consultation with planningNSW. Council may wish to seek separate advice on this issue.
- DLWC would expect North Coast RVMPs to develop a high degree of consistency in their clearing exemptions, unless there are significant local circumstances requiring variation.
- Council and its Committee should therefore consider the findings from the recent Statewide review of exemptions as well as discussions conducted over the last three years as part of the development of Clarence and Richmond RVMPs.

NPWS Response:

- Concerns raised by NPWS that the proposed framework of rural protected lands zone and general rural zone do not adequately deal with vegetation below the vegetation mapping scale by Council's Consultant (1 hectare) including recent regrowth (post 1996), small isolated remnants and paddock trees.
- There may be potential for unacceptable environmental impacts from clearing undertaken by landowner self-assessment.
- The NPWS' preferred option (option 1), adopted by most other Regional Vegetation Committees, requires development consent for clearing of native vegetation above a minimum level of clearing exemptions for all zones across the planning area, irrespective of whether the vegetation is mapped or not.
- Adopting a precautionary approach would ensure that all native vegetation that may be of conservation significance can be assessed prior to any proposed clearing activity and where necessary, offsets to mitigate impacts negotiated.
- Isolated remnants and paddock trees in a predominantly cleared landscape may be of conservation value and should be properly assessed prior to clearing.
- An exemption for the clearing of native vegetation in the General Rural Zone within the Tweed Coast could result in pre-emptive clearing (with no assessment) for the development of those lands prior to the submission of a rezoning or development application to Council.
- Requirement for consent over all areas is likely to facilitate a better understanding by landowners of the clearing provisions because the need for consent or application of exemptions would be the same across the landscape and Northern Rivers Region.
- NPWS advised that if Council and the Committee wish to proceed with a second option (option 2) involving specific clearing exemptions in the General Rural/Agricultural Protection Zone, then there must be a precautionary approach taken to provide protection to threatened species and habitat and cultural heritage value.
- Although the second option is not the preferred option, the Service suggested a number of minimum conditions be applied to clearing exemption. The suggested restrictions or 'minimal clearing exemptions' by NPWS for the proposed General Rural Zone and Agricultural Protection Zone are part of their letter dated 26 March 2002 (attached as addendum).
- The Service acknowledges that the restrictions on minimal clearing exemptions (option 2) requires landowner self-assessment to interpret these exemptions, and would be difficult to enforce or monitor.

Response by Council to DLWC/NPWS Issues

Council officers and Council's Consultant, Ecograph, responded to the issues raised by DLWC and NPWS regarding the adopted Committee framework at a meeting in October 2001 and February 2002, as follows:

- Acknowledged that the NVC Act does not provide a mechanism for a RVMP to add excluded areas from the operation of the NVC Act;

- Acknowledged that isolated paddock trees and small remnants of native vegetation (less than 1 hectare) may not have been mapped by Ecograph. However these small patches of vegetation were considered only minor areas within the proposed General Rural Zone and Agricultural Protection Zones compared to the larger and more significant areas mapped by Ecograph proposed to be included into a rural protected land zone and environmental protection zones.
- The objective of the Committee's adopted planning framework is to focus limited Council, DLWC and NPWS resources into environmentally sensitive and significant areas of remnant bushland and riparian areas of the Tweed. It was not the intent of the planning framework to place limited resources into regulating clearing in areas already substantially cleared for agriculture on land below 18° slope and more than 20 metres from a prescribed stream.
- There is likely to be difficulty in monitoring and enforcing clearing controls in areas substantially cleared of native vegetation. If vegetation is not mapped, how do agencies monitor clearing?
- The NVC Act is legally unclear on the DLWC's role as a consent authority for clearing vegetation in urban and special use zones (Clause 9(a)). Clause 9(a) only excludes land designated "residential (but not rural-residential)", "village", "township", "industrial" or "business" under an environmental planning instrument. This clause does not appear to exclude urban zones designated as "urban expansion", "tourism", "commerce and trade", "waterfront enterprise", "special uses", "open space", or "recreation" contained in Tweed LEP 2000.
- It is unlikely that an assessment of an application to clear a single paddock tree or trees would be deemed significant under an 8-point test under the Threatened Species Act. Therefore why create regulations that would likely waste landowner, Council, DLWC and NPWS resources.
- Very small remnants and isolated paddock trees are likely to disappear from the landscape in the longer term (weed invasion, old age etc) unless actively managed by landholders. 'Over-regulation' in substantially cleared areas is likely to diminish the 'goodwill' that has developed over the years between landholders and local officers from the DLWC in managing vegetation. A more cooperative approach is required between landowners and State/local agencies in managing agricultural landscapes.
- The sustainable management of substantially cleared agricultural areas, is primarily the role of extension officers from DLWC, NSW Agriculture and NPWS to educate and encourage landholders to develop farm management plans that incorporate management of trees or ferns.
- It is more appropriate to use incentives for landholders to not only retain and manage existing bushland and paddock trees, but to rehabilitate/reforest the landscape.

REVIEW OF PLANNING FRAMEWORK OPTIONS

- A review of planning framework options was presented to the Steering Committee at its meeting on 23 April 2002 in response to advice received from DLWC and NPWS, and at the request of the Committee.
- Five (5) options were reviewed

Option 1 Tweed LEP (no RVMP and no integration with the NVC Act) Under this option Council prepares a draft Tweed LEP and there is no attempt by the Steering Committee or Council to integrate the draft LEP with the clearing provisions of the NVC Act or with a Regional Vegetation Management Plan.

This is not a preferred option because it does not represent an integrated approach to land use planning. This option would potentially exacerbate the current inconsistencies and administrative complications between the Council LEP (administered by Council) and the provisions of the Native Vegetation Conservation Act (administered by the DLWC). The NVC Act overrides the Council LEP where the DLWC is the consent authority for clearing under the NVC Act. This is the potential to create further confusion regarding who is the consent authority for clearing vegetation (Council or DLWC?), potential for multiple clearing provisions for the one parcel of land, and confusion and complications over responsibilities for enforcement and prosecution for illegal clearing. The end result could be a convoluted and complicated planning framework on clearing and land use provisions.

Option 2 Tweed LEP integrated with the Native Vegetation Conservation Act

Under this option Council prepares a draft Plan to compliment the provisions contained in the Native Vegetation Conservation Act. The provisions of the NVC Act apply to the Tweed and are administered by the DLWC. This option is considered to be the preferred option in the short term. It enables Council to prepare an interim draft LEP until the Clarence and Richmond Regional Vegetation Management Plans have been finalised and the NVC Act has been amended in accordance with a review of Statewide clearing exemptions by the State Government. The State Government review will include findings from a recently established reference group to determine forestry exemptions. The option avoids the need for Council to provide substantial resources in resolving issues raised by State Agencies and the finalisation of both a draft LEP and a draft RVMP. Council will be in a better position to decide on a long-term strategy once the State Government has resolved issues with the NVC Act and finalised the Clarence and Richmond RVMP.

Options 3 and 4 Tweed LEP prepared to partially or fully exclude Tweed from the operation of the Native Vegetation Conservation Act

Under these options Council prepares a draft Tweed LEP to obtain either partial or full exclusion from the operation of the Native Vegetation Conservation Act in Tweed Shire. The draft LEP would be required to meet the objectives of both the Environmental Planning and Assessment Act and the Native Vegetation Conservation Act. Option 4, full exclusion from the NVC Act, was originally the preferred option by the Steering Committee and Council because it represented full integration of land use planning in one document that reflected conditions specific to the Tweed. These options are no longer preferred at this stage because they do not have the support of the Minister of DLWC.

Option 5 Integrated Tweed LEP and Tweed Regional Vegetation Management Plan

This is the current option adopted by Council. Under this option the Committee assists Council and the Director-General of DLWC to prepare an integrated draft Tweed LEP and draft Tweed Regional Vegetation Management Plan (draft RVMP). The draft RVMP is prepared in accordance with the objectives of the NVC Act whereby the DLWC is the consent authority for clearing in rural areas of the Shire. Specified clearing exemptions under a RVMP override any other Act (including Council LEPs).

The Steering Committee adopted an interim framework for preparation of an integrated draft Tweed LEP and RVMP, however the NPWS and DLWC have raised policy and legal concerns regarding the adopted framework (see Section “Response from Land and Water Conservation and National Parks and Wildlife Service”).

The Steering Committee’s planning framework (see Section “Steering Committee – Adopted Framework”) will again need to be amended to be consistent with advice from the State Agencies. The DLWC does not support Council as a consent authority for clearing in rural areas (eg. environmental protection zones, clearing ancillary to other types of development). The NPWS does not support limited clearing controls in rural areas that are substantially clear of native vegetation, on land below 18° slope and more than 20 metres from a prescribed stream.

Based on advice from DLWC it is also highly likely that clearing exemptions developed by the Steering Committee should show a “high degree of consistency” with those developed by the Clarence and Richmond Vegetation Committees (draft RVMPs yet to be finalised).

Based on a review of the responses from NPWS and DLWC the advantages of placing substantial Council and Committee resources into the preparation of an integrated Tweed LEP and RVMP have been dissipated.

The option of preparing an interim Tweed LEP until the State Government finalises the Clarence or Richmond Regional Vegetation Plans and reviews the NVC Act (clearing exemptions) appears, at this stage, to be a more attractive option.

RESOLUTION BY STEERING COMMITTEE

- Based on the review of the planning framework options the Steering Committee unanimously resolved at its meeting on 23 April 2002 to recommend Council adopts Option 2.

“That Council:

1. *Advises the DLWC that at this stage Council does not wish to proceed with preparation of a draft Regional Vegetation Management Plan;*
2. *Finalises the Tweed Vegetation Management Strategy and prepares a draft Tweed Local Environmental Plan (vegetation management) that is integrated with the Native Vegetation Conservation Act (short term);*
3. *Advises the DLWC that Council wishes to retain the opportunity to have either a fully integrated LEP for Tweed Shire (Schedule 2 of the NVC Act) or an integrated Tweed LEP and RVMP as potential long term options”.*

CONCLUSION

The preferred option by Council of preparing a comprehensive Tweed Local Environmental Plan (Tweed LEP) to obtain full exclusion from the operation of the Native Vegetation Conservation Act does not have the support of the Minister. Council’s second preferred option, an integrated Tweed LEP and Tweed Regional Vegetation Management Plan (Tweed RVMP) is becoming increasingly difficult to prepare. DLWC and NPWS have raised significant concerns/issues with the planning framework adopted by Council’s Steering Committee. It is highly likely that the framework will need to be amended to ensure the RVMP is consistent with draft Regional Plans prepared for the Clarence and Richmond River Catchments (**not yet finalised**) and the outcomes of the review of State clearing exemptions (**not yet finalised**).

The difficulties and frustration of trying to implement integrated planning for vegetation management in the Tweed suggest that Council and Committee resources would, at this stage, be better utilised in assisting Council in finalising the Tweed Vegetation Management Strategy and preparation of a draft Tweed LEP (short term). This option would not include assisting DLWC in the preparation of a draft Tweed RVMP. In the long term Council can reconsider its options once the State Government has finalised the Clarence or Richmond RVMP and the Statewide clearing exemptions under the NVC Act. Council will then be in a better position to review State Government Policy on vegetation management before putting resources into developing a 'stand alone' Tweed LEP or integrated Tweed LEP and Tweed RVMP.

It is also recommended that Council requests the Minister of DLWC to initiate a review of the NVC Act, and possibly other State Acts, to address legal and policy impediments that restrict Councils from preparing 'stand alone' LEPs to obtain full exclusion from the operation of the NVC Act (Schedule 2).

The 'Terms of Reference' of the Council Steering Committee should be amended in accordance with Council's resolution.

Appendix 17

Comparison of Proposed Changes to LEP

Zone	Tweed Local Environmental Plan 2000	Draft Tweed Local Environmental Plan 2000 (Amendment 21)
Rural Zones	Current provisions for clearing Vegetation under Tweed LEP 2000	Proposed Provisions for Clearing Vegetation under draft LEP
1 (a) Rural Zone 1(b) Agricultural Protection Zone	<p>1. There are no specific provisions for clearing vegetation. Clearing associated with agriculture or forestry or exempt development does not generally require consent from council for these zones.</p> <p>2. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>3. Consent to clear trees on land affected by council's <i>Tree Preservation Order</i> may require consent of council</p> <p>4. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by D to clear vegetation overrides Council's LEP</p>	<p>1. There are no specific provisions for clearing vegetation for these zones</p> <p>2. Agriculture, forestry, bushfire hazard reduction, environmental facilities and noxious weed control do not require consent of council unless affected by the <i>Bushland Overlay</i> on the <i>Catchment Map</i> and clearing consent required (unless it is exempt development). Note: Clearing consent not required where approval has been obtained from another government agency or where the clearing is a 'permitted activity' or permitted clearing' under the Native Vegetation Act 2003 e.g. clearing for Routine Agricultural Management Activities (RAMA)</p> <p>3. An amendment to DCP 40 (Exempt and Complying Development) substantially increases in the number and type of exemptions for clearing vegetation and other land uses</p> <p>4. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p>
Rural 1(a1) (Steep Land/ Escarpment) Zone (Land identified as 18 degrees slope or greater generally consistent with areas mapped as State Protected Land Category a) in Tweed Shire.	Not applicable. No such zone under the current Tweed LEP 2000	<p>New Zone</p> <p>1. There are no specific provisions for clearing vegetation for these zones.</p> <p>2. Agriculture and Forestry do not require consent of council unless affected by the <i>Bushland Overlay</i> on the <i>Catchment Map</i> and clearing consent required (unless it is exempt development). Note: Clearing consent not required where approval has been obtained from another government agency or where the clearing is a 'permitted activity' or permitted clearing' under the Native Vegetation Act 2003 e.g. clearing for Routine Agricultural Management Activities (RAMA)</p> <p>3. Land use table altered to reflect capability or suitability of a land use on 18 degrees slope</p> <p>4. Amendment to DCP 40 substantially increases in the number and type of exemptions for clearing vegetation and other land uses</p> <p>5. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p>
1 (c) Rural Living	<p>1. No specific provisions for clearing vegetation under this zone. Council consent required for various land uses including agriculture and forestry.</p> <p>2. Clearing associated with environmental facilities or exempt development do not require consent from council</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>4. Consent to clear trees on land affected by council's <i>Tree Preservation Order</i> may</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Clearing vegetation on land that is affected by the <i>Bushland overlay</i> on the <i>Catchment Map</i> however will require the consent of council unless it is exempt development. Note: Clearing consent not required where approval has been obtained from another government agency or where the clearing is a 'permitted activity' or permitted clearing' under the Native Vegetation Act 2003 e.g. clearing for Routine Agricultural Management Activities (RAMA). Council consent may be required for land use eg agriculture and forestry.</p>

Zone	Tweed Local Environmental Plan 2000	Draft Tweed Local Environmental Plan 2000 (Amendment 21)
	<p>require consent of council</p> <p>5. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP</p>	<p>3. Works that include clearing vegetation on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>5. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003.</p>
Residential, Village and Township Zones		
<p>2 (a) Low Density Residential</p> <p>2 (b) Medium Density Residential</p> <p>2 (d) Village</p> <p>2 (e) Residential Tourist</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Consent to clear trees on land affected by council's Tree Preservation Order may require consent of council</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>4. These zones excluded from Native Vegetation Act 2003</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Clearing associated environmental facilities do not require consent from council</p> <p>3. Clearing vegetation on land that is affected by the <i>Bushland overlay</i> on the <i>Catchment Map</i> however will require the consent of council unless it is exempt development. Note: Clearing consent not required where approval has been obtained from another government agency. See Definition of 'clearing vegetation'</p> <p>4. Works that include clearing vegetation on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>5. All of these zones excluded from Native Vegetation Act 2003. Consent to clear vegetation not required from DLWC.</p>
<p>2(c) Urban Expansion Zone</p> <p>2 (f) Tourism Zone</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Consent to clear trees on land affected by council's Tree Preservation Order may require consent of council</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>4. Unclear if these zones are excluded from Native Vegetation Act 2003. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Clearing associated environmental facilities do not require consent from council</p> <p>3. Clearing vegetation on land that is affected by the <i>Bushland overlay</i> on the <i>Catchment Map</i> however will require the consent of council unless it is exempt development. Note: Clearing consent not required where approval has been obtained from another government agency. See Definition of 'clearing vegetation'</p> <p>4. Works that include clearing vegetation for agriculture or forestry on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>5. All of these zones excluded from Native Vegetation Act 2003 by amending descriptions of zones to be consistent with zone descriptions under clause 9(a) of the Native Vegetation Act 2003. Consent to clear vegetation not required from DLWC.</p>
Business Zones		
<p>3 (a) Sub-regional Business</p> <p>3 (b) General Business</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Consent to clear trees on land affected by council's Tree Preservation Order may require consent of council</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Works that include clearing vegetation for agriculture or forestry on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>3. All of these zones excluded from Native Vegetation Act 2003. Consent to clear vegetation not required from DLWC.</p>

Zone	Tweed Local Environmental Plan 2000	Draft Tweed Local Environmental Plan 2000 (Amendment 21)
	<p>council</p> <p>4. These zones excluded from Native Vegetation Act 2003</p>	<p>vegetation not required from DLWC.</p>
<p>3 (c) Commerce and Trade</p> <p>3 (d) Waterfront Enterprise</p> <p>3 (e) Special Tourist (Jack Evans Boatharbour)</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Consent to clear trees on land affected by council's Tree Preservation Order may require consent of council</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>4. Unclear if these zones are excluded from Native Vegetation Act 2003. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Works that include clearing vegetation for agriculture or forestry on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>3. All of these zones excluded from Native Vegetation Act 2003 by amending descriptions of zones to be consistent with zone descriptions under clause 9(a) of the Native Vegetation Act 2003. Consent to clear vegetation not required from DLWC.</p>
Industrial Zone		
<p>4 (a) Industrial</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Consent to clear trees on land affected by council's Tree Preservation Order may require consent of council</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>4. This zone excluded from Native Vegetation Act 2003</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Clearing vegetation on land that is affected by the <i>Bushland overlay</i> on the <i>Catchment Map</i> however will require the consent of council unless it is exempt development. Note: Clearing consent not required where approval has been obtained from another government agency. See Definition of 'clearing vegetation'</p> <p>3. Works that include clearing vegetation for agriculture or forestry on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>4. All of these zones excluded from Native Vegetation Act 2003 by amending descriptions of zones to be consistent with zone descriptions under clause 9(a) of the Native Vegetation Act 2003. Consent to clear vegetation not required from DLWC.</p>
Special Use Zones		
<p>5 (a) Special Uses</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Consent to clear trees on land affected by council's Tree Preservation Order may require consent of council</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>4. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Clearing vegetation on land that is affected by the <i>Bushland overlay</i> on the <i>Catchment Map</i> however will require the consent of council unless it is exempt development. Note: Clearing consent not required where approval has been obtained from another government agency. See Definition of 'clearing vegetation'</p> <p>3. Works that include clearing on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council</p> <p>4. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. No consent required from Council if a consent is issued by the Department of Infrastructure Planning and</p>

Zone	Tweed Local Environmental Plan 2000	Draft Tweed Local Environmental Plan 2000 (Amendment 21)
		Natural Resources
Open Space and Recreation Zones		
6 (a) Open Space 6 (b) Recreation	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Consent to clear trees on land affected by council's Tree Preservation Order may require consent of council</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) may require consent of council</p> <p>4. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP</p>	<p>1. No specific provisions for clearing vegetation under this zone.</p> <p>2. Clearing vegetation on land that is affected by the <i>Bushland overlay</i> on the <i>Catchment Map</i> however will require the consent of council unless it is exempt development. Note: Clearing consent not required where approval has been obtained from another government agency. See Definition of 'clearing vegetation'</p> <p>3. Works that include clearing vegetation for agriculture or forestry on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) may require consent of council</p> <p>4. All of these zones excluded from Native Vegetation Act 2003 by amending descriptions of zones to be consistent with zone descriptions under clause 9(a) of the Native Vegetation Act 2003. Consent to clear vegetation not required from the Department of Infrastructure Planning and Natural Resources.</p>
Environmental Protection Zones		
7 (a) Environmental Protection (Wetlands and Littoral Rainforests) 7 (d) Environmental Protection (Scenic/Escarpment) 7 (l) Environmental Protection (Habitat)	<p>1. Clearing vegetation requires council consent under clause 25 (7(a) zone), 26 (7(d) Zone) and 28 (7(l) Zone) unless it is exempt development. Limited clearing exemptions i.e. noxious weed control and bush fire hazard reduction.</p> <p>2. Agriculture requires consent of council and forestry is prohibited in 7(a) zone</p> <p>3. Agriculture and forestry require consent of council in 7(d) and 7(l) zone</p> <p>4. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) may require consent of council</p> <p>5. Consent to clear trees on land affected by council's <i>Tree Preservation Order</i> may require consent of council</p> <p>6. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP</p>	<p>1. These zones amalgamated into one environmental protection zone "7(a) (Significant Vegetation/Wildlife Habitat) Zone. Area of environmental protection zones reduced from approximately 13,600 ha to 5,600 ha</p> <p>2. Specific provisions for clearing vegetation under this zone under clause 25.</p> <p>3. Clearing vegetation on land that is affected by the <i>Bushland overlay</i> on the <i>Catchment Map</i> will require the consent of council unless it is exempt development. Note: Clearing consent not required where approval has been obtained from another government agency. See Definition of 'clearing vegetation'</p> <p>4. Works that include clearing vegetation on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) may require consent of council</p> <p>5. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. No consent required from Council if a consent is issued by the Department of Infrastructure Planning and Natural Resources</p>
7 (f) Environmental Protection (Coastal Lands)	<p>1. There are no specific provisions for clearing vegetation.</p> <p>2. Agriculture requires consent of council and forestry is prohibited</p> <p>3. Works that include clearing vegetation for any purpose on land that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) may require consent of council</p> <p>4. Consent to clear trees on land affected by council's <i>Tree Preservation Order</i> may require consent of council</p>	<p>1. No change to zone boundaries. Revision of zone boundaries to be based on outcomes of a proposed Coastal Management Strategy.</p> <p>2. Specific provisions for clearing vegetation under this zone under clause 27.</p> <p>3. Clearing vegetation on land that is affected by the <i>Bushland overlay</i> on the <i>Catchment Map</i> will require the consent of council unless it is exempt development. Note: Clearing consent not required where approval has been obtained from another government agency. See Definition of 'clearing vegetation'</p>

Zone	Tweed Local Environmental Plan 2000	Draft Tweed Local Environmental Plan 2000 (Amendment 21)
	5. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP	4. Works on land that that is affected by clause 35 (Acid soils and the <i>Acid Sulfate Planning Map</i>) <u>may</u> require consent of council 5. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP
National Park and Nature Reserve Zone		
8 (a) National Parks and Nature Reserves	1. Reserved Crown land for a Nature Reserve or National Park. There are no specific provisions for clearing vegetation. 2. Council consent not required for any use authorised under the National Parks and Wildlife Act 1974	1. Reserved Crown land for a Nature Reserve or National Park. There are no specific provisions for clearing vegetation. 2. Council consent not required for any use authorised under the National Parks and Wildlife Act 1974
Tree Preservation Order	1. Council consent is required for clearing vegetation or trees where land identified by TPO 1990 or 2004 map or other vegetation specified in TPO 1990 schedule 2. The TPO 1990 and 2004 have various exclusions	New Tree Preservation Order To be revised. It is likely that the TPO will be amended to identify individual trees/ shrubs that should be retained because they have significant environmental or amenity value
Bushland Overlay on Catchment Map	Not applicable. No <i>Catchment Map</i> under current LEP	New Map 1. New map prepared as part of Tweed LEP 2000 (Amendment 21). Bushland mapped by Ecograph from 2000 AND 2001 air photos requires consent from Tweed Shire Council unless it is exempt development or where clearing approval has been obtained from another government agency. See Definition of 'clearing vegetation' 2. Provisions associated with the Catchment Map do not apply to environmental protection zones. These zones have separate clearing provisions. 3. Provisions associated with the Catchment Map do not apply to business zones and lots with a lot size of up to 4,000 m ² with a dwelling entitlement 4. Clearing provisions associated with the Catchment Map do not apply to 'permitted activities' or 'permitted clearing' as described under the Native Vegetation Act 2003 e.g. routine agricultural management activities and non-protected regrowth. 5. Consent to clear vegetation may be required from the Department of Infrastructure Planning and Natural Resources under the Native Vegetation Act 2003. A consent issued by DLWC to clear vegetation overrides Council's LEP
DCP 40 Exempt and Complying Development This document list works that do not require Council consent or approval under Part 5 of the	Specific clearing exemptions for <ul style="list-style-type: none"> • Bush fire hazard reduction • Noxious weeds Note: These exemptions are subject to meeting certain criteria outlined in DCP 40	Specific clearing exemptions for; <ul style="list-style-type: none"> • Bush fire hazard reduction • Emergency work • Noxious weed control • Maintain a public utility and maintain access to a public utility

Zone	Tweed Local Environmental Plan 2000	Draft Tweed Local Environmental Plan 2000 (Amendment 21)
Environmental Planning and Assessment Act 1979		<p>access to a public utility</p> <ul style="list-style-type: none"> • Clearing vegetation, beach maintenance or an environmental facility on public owned land (consistent with an adopted plan of management) • Clearing of vegetation that is not indigenous to Tweed Shire • Clearing within 10 metres of a lawful existing dwelling <p>Note: These exemptions are subject to meeting a number of criteria outlined in DCP 40</p>

Appendix 18

Catchment and Management Targets from the Northern Rivers Catchment Blueprint (NRCMB 2002)

1.1.1.1 Northern Rivers Catchment Blueprint

The Northern Rivers Catchment Blueprint (NRCMB 2002) has been prepared by the Northern Rivers Catchment Management Board (NRCMB) to provide strategic direction for action and investment by all stakeholders in the catchment's (Tweed, Brunswick and Richmond rivers) natural resources. The Blueprint makes use of targets that are intended to result in measurable change in the short to medium term, and also identifies who will be responsible for implementation. The Blueprint will be endorsed by the Minister for Land and Water Conservation, signed off by State Cabinet and endorsed by stakeholders identified as being responsible for its implementation. Although advisory it is expected that the Blueprint will represent a whole-of-government approach to the implementation of the catchment management targets. The NRCMB will initiate and endorse and direct funding (e.g. Natural Heritage Trust funds) to proposals consistent with the Blueprint.

The Blueprint identifies five areas of concern each with a *Catchment Target* and several related *Management Targets* (see below and Blueprint for clarification of definitions). Considering that the NRCMB will be responsible for the distribution of significant funding, these targets are of obvious interest. Further details of the relationship between the Blueprint and the priorities for rehabilitation and management suggested in this Strategy is addressed in Volume 1.

1. Biodiversity

Catchment Target

An additional 50% of the area of priority and high-risk conservation value (HCV) ecosystems outside reserves or State Forests brought under active management by 2011.

Management Targets

1.1 - High Conservation Value (HCV) riparian vegetation at highest risk under active management by 2006.

1.2 - 50% of HCV remnants in identified corridors under active management with an increase of 5% in area by 2006.

1.3 - 50% of targeted areas of HCV rainforest, coastal dune and heathland, mangroves, seagrass beds, saltmarshes under active management with an increase of 10% in identified areas by 2006

1.4 - Ecological function of targeted wetlands maintained and restoration of 30% of wetlands with high recovery potential commenced by 2006

1.5 - Aquatic habitat management and rehabilitation plans implemented in all priority HCV sub-catchments by 2006.

2. Landuse

Catchment Target

A landuse planning framework, which overcomes three principal sources of conflict between human settlement and sustainable use of rural resources, operational by 2010.

Management Targets

2.1 - Permanently protect in agricultural reserves those large contiguous areas of land mapped as most important for current and/or future food, fibre and timber production, and rural employment by 2008.

2.2 - Human settlement limits defined by 2005.

2.3 - Reduce conflict-related impediments to sustainable use of rural resources by reversing the impacts of all targeted small rural lots by 2010.

3. Water Quality

Catchment Target

Environmental and hydrological stress indices in priority subcatchments lowered by 2011

Management Targets

3.1 - Water sharing plans established in priority subcatchments by 2006.

3.2 - A coordinated and integrated approach to water quality data collection, storage and reporting established and implemented by 2004.

3.3 - A minimum 10% reduction in 2001 per capita reticulated water usage achieved by 2011.

3.4 - Best Management Practices (BMP's) to address water quality issues to be developed, promoted and adopted for key industries and local government by 2006.

3.5 - Streambanks rehabilitated and protected on targeted stream sections by 2006.

*3.6 - All treated effluent discharged from municipal STP's to either: a. be of reuse standard by 2011 or
b. reuse 50% of all dry weather flow for non-potable purposes by 2011.*

4. Acid Sulphate Soils

Catchment Target

50% reduction in acid outflow from targeted hotspots and specific problem sites by 2015

Management Targets

4.1 - 100 % of land in McLeod Creek-Main Trust Canal Hotspot operating under an active management program by 2002.

4.2 - 70 % of land in the Cudgen Lake Catchment Hotspot operating under an active management program by 2004, and 100% by 2007.

4.3 - 100 % of land in Dulguigan Hotspot operating under an active management program by 2004.

4.5 - 100 % of land in Belongil Swamp Hotspot operating under an active management program by 2004.

4.6 - 100 % of land in other specific problem sites operating under an active management program by 2008.

4.7 - 100 % of land in Tuckean Swamp Hotspot operating under an active management program by 2007.

4.8 - 100 % of land in Bungawalbin/Sandy Creek Hotspot operating under an active management program by 2007.

4.9 - 100 % of land in Rocky Mouth Creek Hotspot operating under an active management program by 2009.

4.10 - 100 % of land in Newrybar/North Creek Hotspot operating under an active management program by 2009.

4.11 - 100 % of land in Emigrant/Maguire's Creek Hotspot operating under an active management program by 2009.

4.12 - 100 % of land in other specific problem sites operating under an active management program by 2012.