

**Compilation map:  
Biometric Vegetation Types &  
Endangered Ecological Communities  
of**



**the Shoalhaven, Eurobodalla  
& Bega Valley  
Local Government Areas**

*A living map Version 2.0*



**Office of  
Environment  
& Heritage**

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Cover photo: River Flat Eucalypt Forest Endangered Ecological Community with an overstorey of *Eucalyptus saligna* and occasional *Casuarina cunninghamiana* subsp. *cunninghamiana*, with a midstorey of *Syzygium smithii*; upper reaches of the Clyde River. Photographer: Michael Feidler, Southern Rivers Catchment Management Authority.

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Information produced as part of a range of mapping and classification programs has been critical to the project. In particular, broad scale mapping undertaken by Tozer (*et al.* 2010), Mills (2000) and NPWS (2000), as well as numerous maps covering smaller areas has formed the basis of the final map products.

Version 2.0 has benefited greatly from ground-verification and suggested amendments from Les Mitchell and Gary Daly, with advice from Phil Craven, Elizabeth Dixon and Michael Smith. Paula Pollock and Tobi Edmonds provided advice on potential Endangered Ecological Communities in the Belowra and Araluen area. Tobi Edmonds split polygons as suggested by the ground-verification process.

## EXECUTIVE SUMMARY

Whilst vegetation mapping across a range of scales and vegetation classifications exist for all of the Shoalhaven, Eurobodalla and Bega Valley local government areas (LGAs), there is an imminent need to combine all suitable datasets and convert to Biometric vegetation types to guide a range of conservation planning and assessment decisions. Biometric vegetation types underpin a range of ecological assessments under New South Wales (NSW) environmental legislation including the *Environment Planning and Assessment Act 1979*, the *Native Vegetation Act 2003* and the *Threatened Species Conservation Act 1995*.

This project aimed to produce a vegetation map to the Biometric vegetation type classification to assist the Shoalhaven City Council, Eurobodalla Shire Council, Bega Valley Shire Council, the Southern Rivers CMA and OEH regulatory groups in making a range of decisions related to these legislation. *It does not aim to replace or supersede existing mapping products*, rather it incorporates several maps of different vegetation classifications and ‘perceived’ user accuracies to develop a Biometric vegetation map. Additionally, the Biometric map combined with a series of specific Endangered Ecological Community (EEC) maps have been used to develop an EEC map.

The project study area is highly vegetated, and encompasses the Shoalhaven, Eurobodalla and Bega Valley LGAs, covering an area of 1,441,942 hectares. Additionally, the Jervis Bay portion of the Australian Capital Territory (ACT) is included. Within the three LGAs, a total of 930,001 hectares (64.5%) is managed as crown land by the NSW National Parks and Wildlife Service and Forests NSW. However, the majority of this land is in areas of lower fertility and dissected topography. Outside of these areas the majority of the landscape is characterised by clay/loam soils and flat to undulating terrain subjected to development such to urban, peri-urban and rural-residential development, and pressures typical of fertile agricultural landscapes including weed invasion, land clearing, intensive grazing, paddock tree senescence and lack of key species recruitment.

This project classified 1,189,363 ha of native vegetation (80.5% of the project study area), including 132 Biometric vegetation types within 11 NSW Formations and 39 NSW Classes. Within these, a total of 22 EECs are represented.

The project aids in meeting NRM objectives outlined in the NSW 2021 Plan (NSW Government 2011) to “*protect and restore priority land, vegetation and water habitats*”, as the information will be used in NSW government biodiversity regulatory tools to target investment for conservation outcomes and to provide accurate information for use in local and regional scale planning.

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# 1. INTRODUCTION

## 1.1 Study Aims

The specific aims of this project were:

1. To collate and review all existing vegetation mapping data within the project study area, including regional scale, local government scale, reserve scale, publically available development application (site) scale and EEC map products;
2. To consult key end users of vegetation maps within the project study area to determine and prioritise vegetation maps “perceived” to have the greatest spatial and fine-scale vegetation classification (i.e. ‘plant community type’ level or finer) accuracy;
3. For each suitable map product, convert attributes of each original vegetation classification to the Biometric classification;
4. Undertake desktop review to consider the thematic accuracy of maps once Biometric conversion has taken place (and correct as necessary);
5. Based on the “perceived” best available information, develop a:
  - (a) Biometric vegetation map; and
  - (b) Threatened Ecological Communities map; and
6. Provide this information to local government, the Southern Rivers CMA and OEH to assist in guiding regulatory assessments under relevant NSW environmental legislation.

## 1.2 Study Area

The project study area comprises a total of 1,441,942 hectares, and includes the Shoalhaven, Eurobodalla and Bega Valley local government areas (Fig. 1) within the Southern Rivers CMA, as well as the Jervis Bay jurisdiction of the ACT. Botanically, it primarily sits within the South Coast (SC) botanical subdivision, with western portions within the Southern Tablelands (ST), and the northern Shoalhaven within the Central Coast (CC) botanical subdivision. (Anderson 1961). The majority of the Eurobodalla and Bega Valley LGAs lie within the South East Corner bioregion, with small areas in the west of these LGAs within the Southern Tablelands bioregion. The Shoalhaven LGA is primarily within the Sydney Basin bioregion, with the southern third within the South East Corner bioregion and small western portions part of the South Eastern Highlands (Thackway & Cresswell 1995).

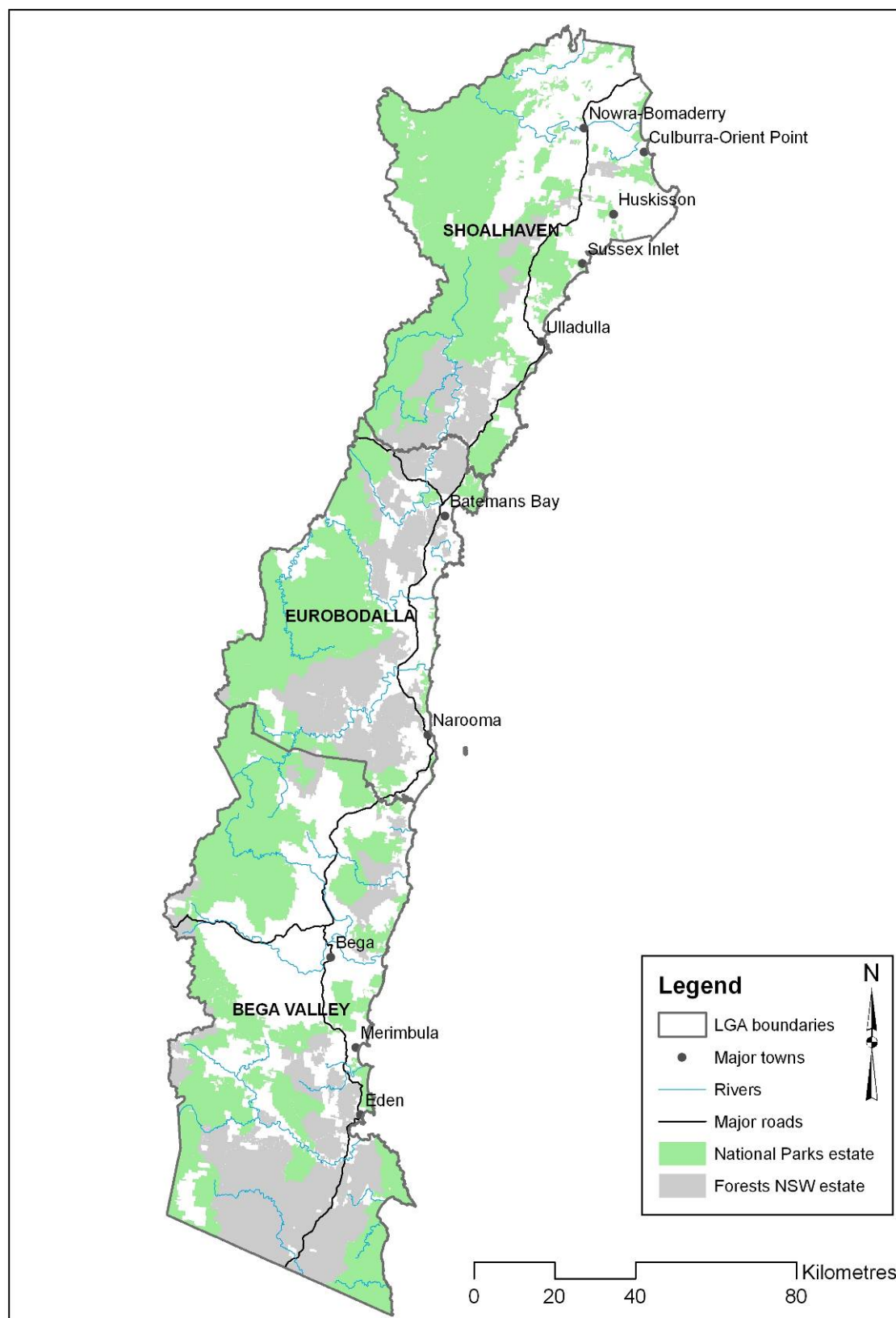
Towns within the study area include:

- Shoalhaven LGA: Nowra, Berry, Bomaderry, Greenwell Point, Huskisson, Milton, Orient Point, Sanctuary Point, Shoalhaven Heads, Sussex Inlet, Tomerong and Ulladulla.
- Eurobodalla LGA: Moruya, Batemans Bay, Bodalla, Narooma and Tuross Heads.
- Bega Valley LGA: Bega, Bermagui, Candelo, Cobargo, Eden, Merimbula, Pambula and Tathra.

Peri-urban areas around these towns and major villages are subject to residential and rural-residential development pressures. Generally, lowland areas characterised by clay/loam soils and flat to undulating terrain are subjected to development pressures such as those above, and pressures typical of agricultural landscapes including weed invasion, land clearing, paddock tree senescence and lack of key species recruitment.

A total of 930,001 hectares (64.5%) of the study area is managed by NSW government as National Parks and Wildlife Service (NPWS) or Forests NSW estate. Major national parks and nature reserves include (in order of area) Morton NP, Deua NP, South East Forests NP, Wadbilliga NP, Nadgee NR, Budawang NP, Monga NP, Biamanga NP, Murrumurang NP, Conjola NP, Kooraban NP and Ben Boyd NP. Major state forests include Yambulla, Dampier, Bodalla, East Boyd, Nadgee, Nullica, Mogo, Currawan and Yadborra State Forests. Relative to the coastal lowlands and valleys, most of these generally occupy areas of lower fertility and dissected topography.

**Fig. 1.** The study area showing LGA boundaries, major towns, major roads, rivers, National Parks and Forests NSW estate.





### 1.2.1 Climate

The climate within the project study area is temperate, characterised by warm summers and cool winters. Precipitation increases in areas of greater topographic relief in the west and is generally more prevalent in warmer months, although heavy rainfall events can occur in any season. Due primarily to altitude, mean daily maximum and minimum temperatures are likely to be lower in western parts of the project study area, however there is a lack of reliable weather station data in these primarily forested areas. Climatic data for key weather stations within the study area is presented in Table 1 (BoM 2012).

**Table 1.** Climate data for key weather stations within the study area (BoM 2012).

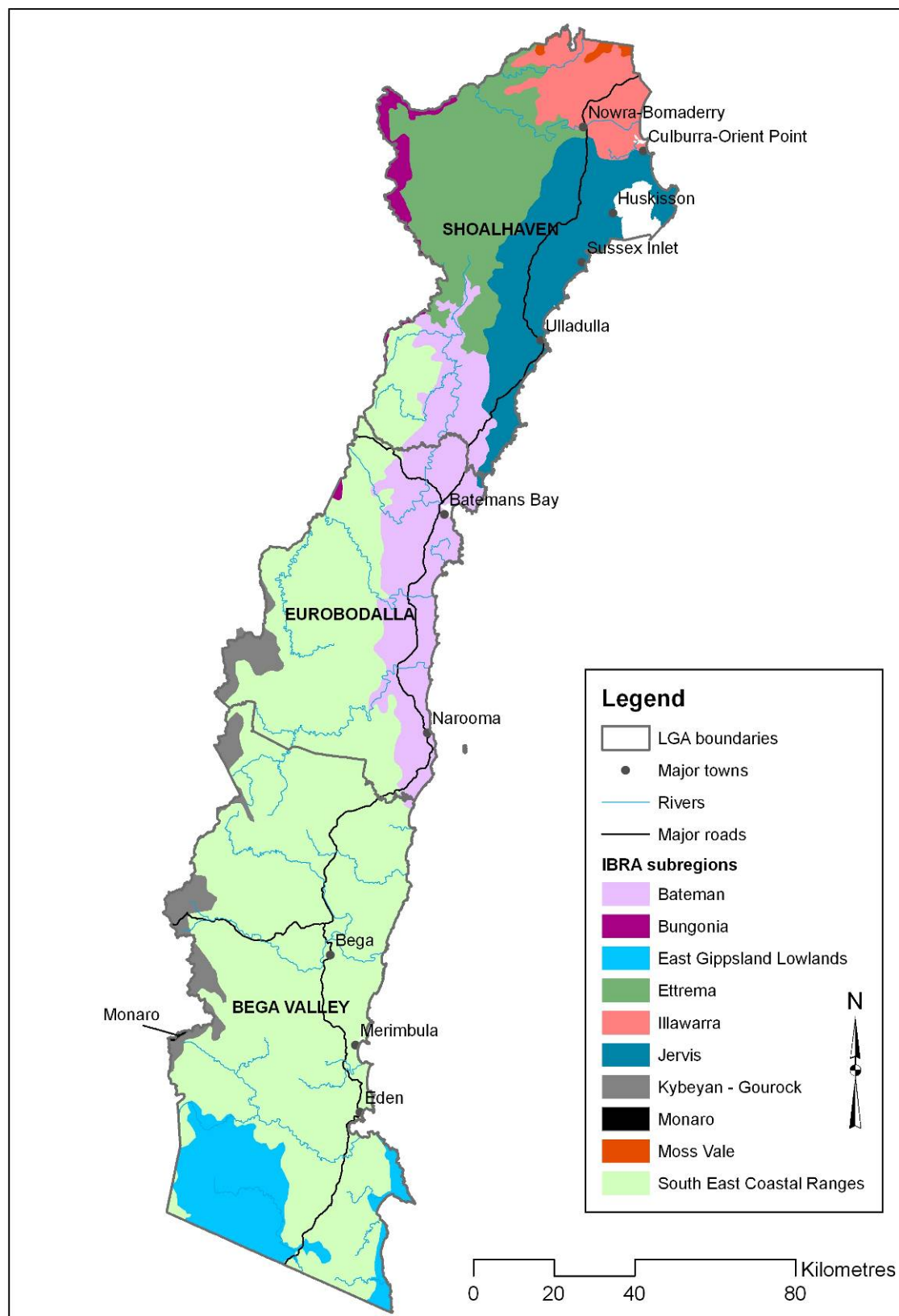
Location	LGA	Altitude (m)	Mean daily max temp (°C) (Jan)	Mean daily min temp (°C) (Jul)	Lowest mean monthly rainfall (mm)	Highest mean monthly rainfall (mm)	Mean annual rainfall (mm)
Bega	Bega Valley	50	27.0	1.4	50 (Jul)	95 (Mar)	857
Moruya	Eurobodalla	17	23.9	5.9	54 (Aug)	106 (Mar)	952
Nowra	Shoalhaven	8	27.5	7.5	55 (Aug)	104 (Jun)	975

### 1.2.2 Biophysical Landscapes

The project study area is characterised by two distinctive bioregions (or IBRAs); the South East Corner and Sydney Basin (Thackway & Cresswell 1995). In Version 7 of the IBRA classification, the South East Corner covers approximately 71% of the project study area, with the Sydney Basin occurring over 25% (i.e. the northern two-thirds of the Shoalhaven LGA). In western portions of the project study area, approximately 4% is within of the South Eastern Highlands.

Most bioregions contain multiple subregions (Fig. 2), based on finer differences in biophysical attributes such as vegetation, geology and soil type (NPWS 2003). The South East Corner contains three IBRA subregions (Bateman, East Gippsland Lowlands and South East Coastal Ranges), all occurring within the project study area. The Sydney Basin contains 13 IBRA subregions, of which five (Burragorang, Ettrema, Illawarra, Jervis Bay, Moss Vale) occur within the project study area. The South Eastern Highlands contains 10 IBRA subregions, with three (Bungonia, Kybeayan-Gourock, Monaro) occurring within the project study area.

**Fig. 2:** IBRA subregions of the study area.



Subregions of the project study area are characterised by Morgan (2001; summarised in NPWS 2003) and Mitchell (2003) (Table 2). The Burragarang subregion is not described as it contains only eight hectares within the study area.

**Table 2:** Characteristics of IBRA subregions within the study area.

Subregion	Area (ha)	Geology	Characteristic Landforms	Typical Soils	Vegetation
<b>Ettrema (SB)</b>	162,600	Permian horizontal quartz sandstone alternating with shales. Deep gorges expose Silurian volcanics and Carboniferous granite in underlying Lachlan Fold Belt. Limited Tertiary basalt with river gravels.	Low stepped hills on plateau with deeply incised streams off plateau edge below waterfalls on the escarpment.	Alternating sandstone and shale create bare rock benches and soil benches with shallow, often saturated sand. Structured red brown clay loams on basalt.	Very prominent contour vegetation pattern. Lichens, mosses and low heath patches on rock, woodlands with dwarfed Red Bloodwood, Silvertop Ash, tall heath and sedgeland on soil benches. Better soils have Messmate and Brown Barrel. Gullies support rainforest elements with Turpentine, Plumwood, Coachwood, Lilly Pilly and Mountain Pepper.
<b>Illawarra (SB)</b>	62,039	Permian siltstones, shale, sandstones and interbedded volcanics on and below the coastal escarpment. Quaternary alluvium and coastal sands.	Vegetated cliff faces on coastal escarpment with waterfalls and steep streams. Boulderly debris slopes with sandy clay matrix and low hills and alluvial valleys on coastal ramp. Barrier system at Lake Illawarra and Nowra.	Structured red and red-brown loams and clay loams with some areas of mellow texture contrast soils. Fertility high and good water holding capacity. Siliceous sands on beaches and dunes, podsol profiles in older dunes, peaty sands and organics silts in swamps and estuaries.	Mixed warm temperate and subtropical rainforest complexes on rich shale soils and alluvium under the escarpment. Coachwood, Native Tamarind, Cabbage Tree Palm, Port Jackson Fig, Cheese Tree, with a Soft Tree Fern and Rough Tree Fern understorey. Adjacent tall forests; Sydney Peppermint, Brown Barrel, Yellow Stringybark, Coastal White Box. Coastal dunes with Coast Wattle, Tea-tree, Banksia and Blackbutt. Common Reed in fresh swamps and lakes, Mangroves and limited Saltmarsh in estuaries.
<b>Jervis (SB)</b>	129,340	Permian quartz sandstone and mixed shale and lithic sandstones. Tertiary trachyte intrusives at Milton. Limited Tertiary sands and more extensive Quaternary coastal sands.	Escarpment faces west and south and sandstone plateau rises to small peaks like Pigeon House. Waterfalls and gorges off the escarpment, with low hills and coastal ramp on siltstones to Jervis Bay. Well-developed coastal barrier with Jervis bay enclosed by tied islands. Pleistocene cliff top dunes on the peninsula with fresh lakes created by water table windows.	Poor shallow sands on quartz sandstone plateau similar to Ettrema. Deep texture contrast soils with loam topsoils on coastal shales, moderate fertility but waterlogged valley floors. Coastal barriers extend from clean dune sands to deep podsols in Pleistocene dunes. Organic sands and muds in swamps and estuaries.	Coastal forests on shale dominated by Spotted Gum, Blackbutt, Silvertop Ash and Bangalay. Rainforest elements on trachyte, Water Gum along streams. Open understorey with Burrawang. Sand dunes have barrier sequence of Tea-tree, Banksia, Wattles merging to protected forests and scrubs with Smooth-barked Apple, Red Bloodwood, Forest Oak, Bangalay and Blackbutt. Gahnia sedgelands with Black Wattle in steep wet gullies. Common Reed swamps and sedgelands in wide valleys on shale and behind dunes. Swamp Oak, Saltmarsh and Mangrove sequence in estuaries.
<b>Moss Vale (SB)</b>	3,397	Triassic Wianamatta Group shales, Tertiary basalts and trachyte intrusions. Large Quaternary peat swamp occurs outside the project study area.	Shale and basalt plateau with rolling hills and shallow valleys. Very large peat swamp at Wingecarribee (outside project study area).	Structured red and red-brown clay loams and loams, and loamy alluvium with high fertility. Areas of sandstone at the margins with thin, waterlogged sandy soils. Organic peat in swamps. Stony slope debris on larger intrusions.	Tall forest of Narrow-leaved Peppermint, Sydney Peppermint, Monkey Gum, Silvertop Ash, Messmate, Coastal White Box and Brown Barrel on shale and basalts. Extensive sedgelands and hanging swamps on sandstone, and raised Sphagnum bog. Sydney Peppermint, Narrow-leaved Peppermint and Gully Gum on trachyte domes.
<b>Bateman (SEC)</b>	174,066	Tightly folded fine grained Ordovician metamorphic rocks with several intrusions of granite. Western margin is a tight synclinal fold in Devonian sandstone and siltstone. Small areas of Tertiary basalt and quartz sands behind the coastal headlands. Quaternary alluvium on main valley floors and in estuaries.	Steep hills below the Great Escarpment oriented north-south and controlled by rock structures. Lines of hills become lower toward the coast with a slight up turn along the coastal margin. Coastal barrier systems are small and estuarine fills limited.	Mostly texture contrast soils. Red clay subsoils with thin topsoil on metamorphic rocks, deeper coarser grained profiles on granite. Red brown structured loams on basalt and deep siliceous sands with some podsol development on Tertiary sands and coastal dunes.	Hakea, Melaleuca, Coast Rosemary and dwarfed Red Bloodwood heath on headlands. Red Bloodwood and Spotted Gums forests to 300m. Yellow Stringybark, Grey Ironbark and Woollybutt to 550m. Brown Barrel, Silvertop Ash, Sydney Peppermint, Large-fruited Red Mahogany, Sydney Blue Gum and Monkey Gum to 900m, then Snow Gum.

Biometric vegetation types & endangered ecological communities of the  
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<b>East Gippsland Lowlands (SEC)</b>	88,178	Granites in the head of the Genoa River. Small areas of Devonian sandstone overlain by Tertiary sands and Quaternary coastal dunes near Cape Howe.	Low rounded coastal hills on granite, higher and steeper on Devonian sandstones. Beach, dune and lagoon barrier development on the main streams with dunes some distance inland at Cape Howe.	Coarse texture contrast soils on granite, subject to high rates of erosion even under forest cover. Deep sands in dunes. Peaty sands in lagoons and swamps.	Coastal sequence on dunes with thickets of Coast Tea-tree and sedge communities around swamps. Stunted Silvertop Ash and Red Bloodwood clumps close to coast becoming taller inland with Bangalay, Rough-barked Apple, River Peppermint, Coast Grey Box, Black She-oak and Blue Gum.
<b>South East Coastal Ranges (SEC)</b>	744,943	Extensive areas of granite amongst Ordovician and Silurian metamorphosed sedimentary and volcanic rocks; slates, cherts, quartzites. Gently folded red and purple Devonian sandstone and shales, limited areas of Tertiary basalt and sand deposits. Quaternary coastal sediments and small areas of alluvium.	Very abrupt margin on the Great Escarpment. Deep gorges with rapids and waterfalls in the main streams including the lower Snowy River. Extensive subdued basin with rolling hills on Bega granite with steep hill slopes at the contact aureole. Streams carry large volumes of sand to valley floors and estuaries. Small beach, dune, lagoon barrier system.	Coarse texture contrast soils on granite, thinner profiles on metamorphics with red and yellow clay subsoils. Deep coarse sands in granite derived alluvium often deposited in swampy valley flats. Deep fine sands in dunes. Peaty sands in lagoons and swamps.	Red Bloodwood and Spotted Gum Forests to 300m. Spotted Gum less common in the south. Yellow Stringybark, Grey Ironbark, Silvertop Ash, Yertchuk and Woollybutt to 550m. Brown Barrel, Silvertop Ash, Large-fruited Mahogany and Monkey Gum to 900m, then Snow Gum.
<b>Bungonia (SEH)</b>	16,901	Primarily fine-grained Palaeozoic sedimentary and meta-sedimentary rocks, with minor areas of acid volcanics and limestone. Areas of Tertiary river terrestrial sediments and low sand sheets in the south with very limited basalt.	Distinct plateau with steep, very deep margins on the Great Escarpment dropping into the Shoalhaven River. Strong linear ridges on resistant sandstones and volcanics, wide valleys with some cold air drainage and inverted tree lines.	Mostly yellow texture contrast soils with some harsh clay subsoils. Shallow structured organic loams on limestone and basalt, deep siliceous sands and clayey sands on Tertiary sediments.	Brittle Gum, Broad-leaved Peppermint, Inland Scribbly Gum, Red Stringybark, and Silvertop Ash forests and woodlands. Snow Gum with Snow Grass in cold pockets. Black She-oak common as understorey and in regeneration areas.
<b>Kybeyan Gourock (SEH)</b>	45,827	Devonian quartz-rich sedimentary rocks with minor areas of limestone, and areas of Silurian-Devonian granitoids at higher elevations in the south. Ordovician quartz-rich sedimentary and metamorphic rocks in the west.	Rocky ranges, moderate to steep lower to and mid slopes. Stony outcrops along ridgelines.	Red and yellow texture contrast soils, becoming deeper and more poorly drained down slope. Thin brown stony loams and transitional alpine humus derived from granitoids at higher elevations in the south.	Brown Barrel, Ribbon Gum and Narrow-leaved Peppermint on hill slopes, with Yellow Box, Blakely's Red Gum and Brittle Gum at lower elevations. Some west facing patches of <i>Allocasuarina nana</i> heathland. Strong aspect influences on plant associations.
<b>Monaro (SEH)</b>	455	Block faulted ranges and closed lake basins in Silurian and Devonian acid fine grained sedimentary and metamorphic rocks with some granites. Extensive areas of thin Tertiary basalt flows over lake and river sediments.	Sloping plateau rising from 600 to 1,300 m north to south. Structural ridges of more resistant rock. Stepped plains on basalt with intervening low areas of granite or sedimentary rocks. Numerous shallow lakes and swamps, a few permanent. Many and closed basins and periodically dry. Area is in rain shadow with rainfall 450 to 750 mm.	Harsh yellow texture contrast soils in general. Shallow red brown to black stony loams on basalt.	Snow Gum, Ribbon Gum, Candlebark, Broad-leaved Peppermint and Mountain Gum woodlands with Kangaroo Grass understorey. Inland Scribbly Gum and Brittle Gum on hills. Extensive grasslands of Snow Grass, Spear Grass and Wallaby Grass on the driest plains with clumps of various Snow Grass spp. amongst rocky outcrops.

SB = Sydney Basin; SEC = South East Corner; SEH = South Eastern Highlands

Source: NPWS (2003), Mitchell (2003)

### 1.2.3 Existing vegetation mapping

A number of regional, local and fine-scale vegetation maps exist in the project study area, and many of these have been used to guide the spatial distribution of Biometric vegetation types. Key vegetation classification, mapping and condition studies include:

- The South Coast Illawarra Vegetation Inventory (also known as 'SCIVI') vegetation mapping and classification undertaken by Tozer *et al.* (2010). This mapping and classification incorporates previous studies undertaken by Tindall *et al.* (2004) and Keith & Bedward (1999). Much of the classification completed as part these projects have been incorporated into the Biometric vegetation type dataset.
- Forest Ecosystem classification and mapping for the Southern Comprehensive Regional Assessment region (Thomas *et al.* 2000).
- Shoalhaven City Council vegetation mapping undertaken by Mills (2000), which has since been partially refined via ground-truthing by Shoalhaven City Council officers and consultant ecologists.
- Terrestrial Ecosystems of the Eurobodalla Local Government Area (NPWS 2000), which has been partially refined via ground-truthing by Shoalhaven City Council officers and consultant ecologists including NGH (2007).
- Numerous national parks reserve maps including Colymea State Conservation Area (MacKenzie & Tozer 2011); Buderoo National Park (Proust 2000); Bugong National Park, Camberwarra and Tapitallee Nature Reserves (EcoGIS 2004); Conjola National Park and eastern portions of Morton National Park (NGH 2004a); Meroo National Park and Barnunj State Conservation Area (NGH 2002a); Murrumurang National Park (NGH 2002b); and Narawallee National Park (NGH 2004b). Additional reserve scale maps are not listed as they are either coarse in nature, based on unrefined existing mapping, or contained significant attribution errors.
- Forest Type mapping (also known as Research Note 17 mapping) undertaken on native Forests NSW estate (Baur 1965).
- Land cover and NSW Vegetation Class mapping by Beukers & Miles (2006).
- A number of fine-scale development application and biocertification maps including those by BES (2007, 2009), Cardno Forbes Rigby (2009), Ecological Australia (2009), ERM (2004, 2008), Garret Barry Planning Services (2011), Kiah Infranet (2007), Locale Consulting (2011), NGH (2004c, 2005, 2011a, 2011b), Shoalhaven City Council (2012), SRCMA (2008) and Whelans Insites (2008).
- A report on the state of the vegetation of the Bega Valley Shire (Miles 2000).

A number of EEC mapping and condition assessment projects have also been completed, most notably:

- Mapping of EECs on council managed lands within the Shoalhaven LGA (AHA 2010).
- EEC survey and mapping in the Eurobodalla LGA (NGH 2007), which has been incorporated by Eurobodalla Shire Council into NPWS (2000).
- A report on the recognition and management of EECs in the South East Corner of NSW (Miles 2006).

Approximately 7,800 full-floristic and 'canopy only' plots have been surveyed within the study area and are stored within 'YETI', the OEH corporate vegetation survey database (Bedward *et al.* 2011).

## 2. METHODOLOGY

### 2.1 Biometric vegetation map

#### 2.1.1 Consultation and data collation

All vegetation mapping data held corporately within the OEH system was collated, with additional mapping products from local government and development applications also sourced. Map users from the Shoalhaven City Council, Eurobodalla Shire Council, Bega Valley Council, Southern Rivers CMA and OEH (Parks and Wildlife & Conservation and Regulation Divisions) were consulted as part of the data collation and ranking process (outlined in 2.1.4). On-going advice was sought from stakeholders as required throughout the study.

#### 2.1.2 Spatial data review

Based on results from the stakeholder consultation, all suitable existing vegetation map data was collated and reviewed in a Geographic Information System (GIS) against ADS-40 (50cm GSD) digital imagery to determine the spatial accuracy of woody/non-woody polygons, as well as the attribution of some discrete vegetation features easily recognised from remote imagery (e.g. wetlands, heathlands, rainforest). Along with map product feedback from end users, information from this review guided the data ranking process.

#### 2.1.3 Digitising fine-scale development application maps

Hard copies of a number of fine-scale publically available development application maps were digitised in a 2-dimensional environment using ADS-40 imagery as a backdrop. This enabled maps to be refined based on fine-scale image observations which were often not captured in the initial assessment, including small wetland features and narrow linear strips. Additionally, maps were modified to exclude vegetation that had been removed as part of any approved development.

#### 2.1.4 Data Ranking

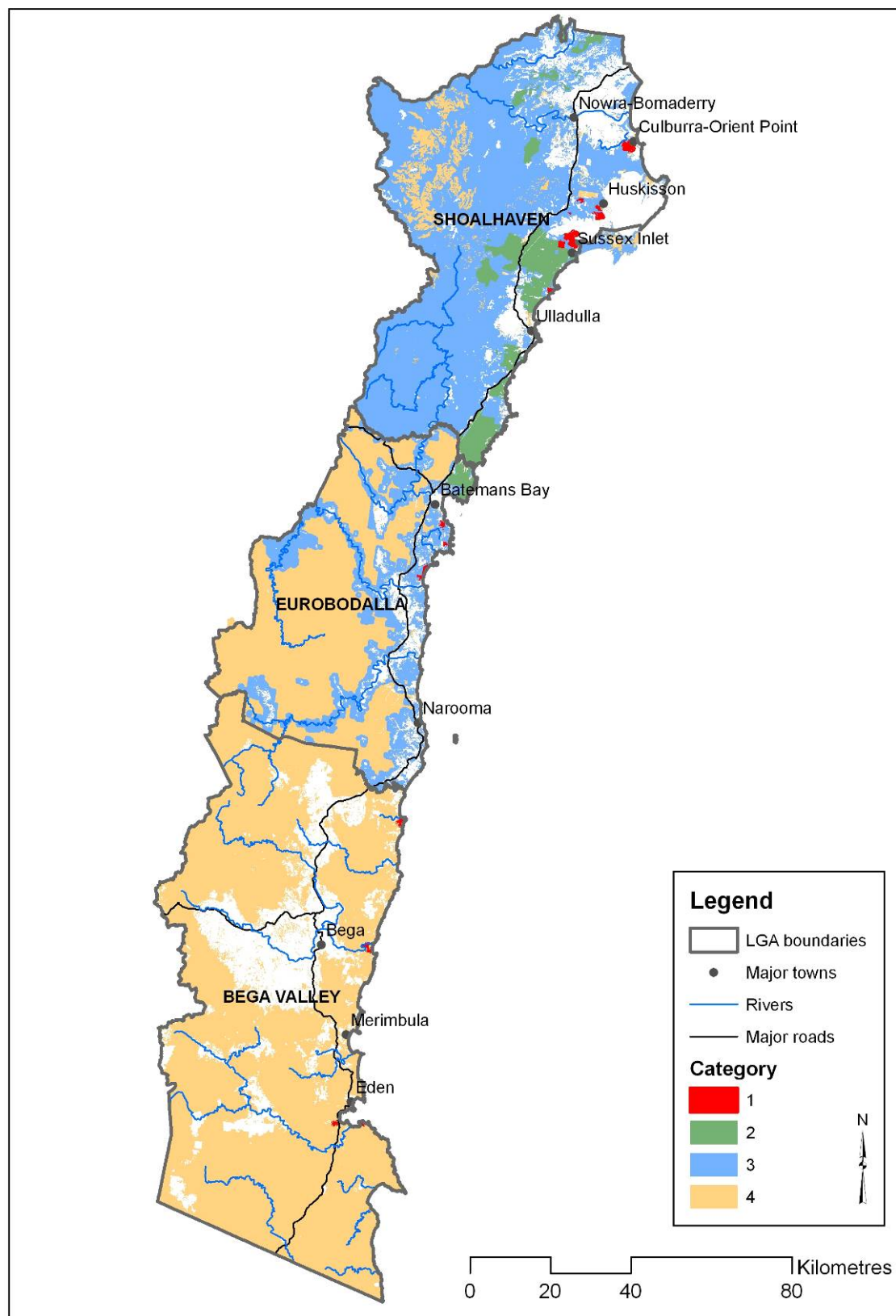
Vegetation map products were ranked based on their perceived spatial and thematic accuracy from stages 2.1 and 2.2. Rankings (Table 3) were as follows:

**Table 3:** Ranking of map products used in the map compilation.

<b>Category 1:</b>	Fine-scale development maps
<b>Category 2:</b>	New and refined reserve-scale mapping
<b>Category 3:</b>	LGA mapping
<b>Category 4:</b>	Regional scale (i.e. 'SCIVI') mapping
<b>Category 5:</b>	Not suitable. Coarse / canopy only classification, obvious coarse spatial inaccuracies or limited purpose
<b>Category 5:</b>	'EEC only' maps (i.e. not all vegetation communities). Not used in the Biometric map.

Note that when considering mapping products from categories 2 to 5, they may vary considerably in thematic and spatial accuracy depending on the quality of data capture and field information within a locality. Both modelling and aerial photograph interpretation (API)-based products are subject to certain biases, however it was beyond the general scope of this project to select identify particular areas within each product that may be better than another in a particular location. Rather, map users guiding the selection and ranking of entire map products did so based on general observation, reticent of the fact that the lesser-ranked product may provide better information at a particular location. Exceptions to this are outlined in 2.1.5. The distribution of map categories used in the compilation map is shown below (Fig. 3); note that clear (white) sections are areas without mapped native vegetation.

**Fig. 3:** Spatial extent of categorised maps used in the Biometric map collation.



### 2.1.5 Re-attribution to Biometric type

Particular vegetation classifications for individual maps were reviewed and aligned to the equivalent (or nearest) Biometric vegetation type as described in OEH (unpub.). There is some subjectivity in this process, as the Biometric vegetation type dataset and most of the vegetation classifications used (except 'SCIVI' by Tozer *et al.* 2010) did not have associated species fidelity information to quantify relationships.

Landscape position, general floristics and structure provided primary guidance in correlating the Biometric vegetation type dataset with classifications used in individual vegetation maps. Where Biometric vegetation types aligned directly with the 'SCIVI' vegetation map (Tozer *et al.* 2010), the broad distribution of these types was used as a primary guide in determining the appropriate distribution of Biometric vegetation types within individual map products. Where necessary for LGA-scale maps, the same vegetation type as part of the LGA-scale maps were split into multiple Biometric vegetation types based on broad distribution information from Tozer *et al.* (2010).

Some individual vegetation map products contained attributes representing derived vegetation types (e.g. 'Acacia scrub'). In these instances, Biometric vegetation type attributes were allocated based on aligning with regional 'SCIVI' mapping, or where these were missing, by considering image patterns, landscape position etc. of surrounding polygons. Similarly, where maps that were identified as the preferred spatial product for an area had obvious coarse types/polygons, these areas were replaced with products that mapped these areas with finer linework (in these instances, 'SCIVI' mapping).

Based on information in and review of the Biometric vegetation type dataset, relevant types were assigned EEC status, as well as attributes based on broader Class and Formation classifications as defined by Keith (2004).

### 2.1.6 Spatial data collation

#### *Biometric vegetation map*

Based on ranking categories outlined in section 2.1.4, all maps were combined into one shapefile, with the highest ranked map incorporated relevant to each area.

This process was undertaken through multiple clipping and merging stages in shapefile format. All residual polygons <0.25 hectares were merged in with nearest neighbour polygons (longest shared border) using the 'Eliminate' function in the 'ET Geowizards' ArcGIS extension. End users indicated that a shapefile had greater utility than a raster-based map.

Additional attribute fields including Biometric identifier code, NSW formation, NSW class, % remaining (clearing rates), >70% cleared, EEC status and EEC name were added for each Biometric vegetation type. EEC information was extracted for incorporation into the EEC map (refer to 2.2).

### 2.1.7 Updating maps

Three blank attributes were added to the shapefiles to facilitate updates to polygon attributes by map users, being "User Edits", "Editor Name" and "Editor Comments". These fields may be updated by map users when errors are found in the Biometric type field; this information may be used to extract updated polygons on an annual basis to feed into subsequent versions of the map. A formal process has not been set up, and OEH Queanbeyan will regularly liaise with key end users to facilitate information upload.

### 2.1.8 Limitations

While the vegetation maps produced as part of this project will provide a *useful guide* to the distribution of Biometric vegetation types and EECs, there are limitations that the user should consider when using the maps, including:

#### *Base maps selected on 'perceived' user accuracy*

Individual maps were selected and prioritised for reattribution to Biometric vegetation types based on their 'perceived' (i.e. unquantified) user accuracy *relative* to the particular classification used for the individual map product. As such, accuracy is likely to be variable across and within source products with respect to both spatial and thematic (classification) accuracy.



While reattribution of individual map products was made to the closest Biometric vegetation type, in some instances there may be more than one suitable Biometric type. Where applicable, reattribution was split based on landscape position.

No maps used in the collation process have been systematically validated to determine map accuracy. Maps associated with development applications are likely to be the most accurate as these are likely to have been validated through significant field efforts. Coarsely speaking, modelled maps may vary in accuracy based on the ability of the model to incorporate ecological variation (i.e. “ecology is an imperfect science”) within a rules-based approach; attribution of API may be open to subjective bias where an interpreter preferentially attributes recognisable or conspicuous species. Additionally, some API-based products (e.g. Mills 2000) have subjective plant community classifications.

Given potential error levels in spatial representing fine-scale vegetation types such as that of the Biometric vegetation type classification, it is suggested that map accuracy be assessed by assigning ‘degrees of correctness’ as outlined below (Table 4). Using such an assessment, closely related vegetation types of similar ecological character may be considered acceptably accurate for course planning purposes. Note that when undertaking site-scale assessment, site validation is necessary to ensure ‘level 1’ accuracy.

**Table 4:** ‘Degrees of correctness’ for map accuracy.

Accuracy level	Degree of correctness	Description
1	Absolutely right	No doubt about the match. <b>Perfect</b>
2	Reasonable or acceptable answer	May not be the best possible but is acceptable; this does not pose a problem to the user as it is seen on the map. <b>Right</b>
3	Understandable but wrong	Not good; there is something about the site that makes the answer understandable but there is clearly a better answer. This answer would pose a problem for users of the map. <b>Not Right</b>
4	Absolutely wrong	Absolutely unacceptable. <b>Very wrong</b>

Adapted from Gopal & Woodcock (1994)

#### *Non-alignment of various mapping products*

Vegetation maps used to form the composite Biometric vegetation map are borne from a range of methodologies (API and vegetation distribution modelling), scales (regional, local and fine-scale) and vegetation type classifications (numerical, subjective). Merging such products does not facilitate ‘seamless’ spatial representation of Biometric vegetation types, rather it gives end-users a guide as to the most likely Biometric vegetation type to occur at a given site [*Important note: Site assessment is required to validate mapping for development decisions*].

Vegetation types described by Tozer *et al.* (2010) are relatively congruent (and often equivalent) with the Biometric vegetation types, whereas some types described by Mills (2000) and NPWS (2000) represent sub-types of the Biometric vegetation type classification, or in some instances, may represent elements of more than one type. Additionally, most classifications lack species fidelity information to compare relative cover and abundance of key taxa in plant communities, which is an issue when aligning complex and highly variable vegetation groups (e.g. rainforest associations) to Biometric types.

Additionally, as maps used in the composite product are of various temporal lineage, there are likely to be areas mapped as native vegetation that have been cleared since the original product was produced. There is currently no accurate native / non-native vegetation layer to guide data exclusion for this purpose.

*Potential for some Biometric vegetation types to not be represented, or represented within similar types*

There may be some Biometric vegetation types present in the project study area which are not spatially represented. This is due to two main factors: some Biometric vegetation types are not spatially explicit (or apparent) in the existing mapping used in this project; some types are closely related and as such may be represented by a more common type. Traditionally, vegetation map alignment projects combine similar vegetation types into 'broad floristic types' (i.e. a floristic assemblage level somewhere between Biometric type and coarser NSW Classes; e.g. DEC 2006), however this would not provide Biometric vegetation type level attribution.

As Biometric vegetation type community descriptions are from a number of sources (some of which are not spatially represented), it is difficult to quantify the number of types which are missed. However, a data audit suggests that there is only one type considered present in the study area which is not mapped, being *SR546: Forest Red Gum - Woollybutt - Pithy Sword-sedge swamp woodland in dune swales near Pambula, southern South East Corner*. This type is not represented by any of the map products used in this project, and is only known from a single dune swale wetland in Ben Boyd National Park, east of Pambula (OEH unpub.).

*Loss of some original data attributes*

Many individual vegetation maps used in the project contain attributes unique to that specific project. Some of this information was not required for the composite Biometric and EEC vegetation maps, but may be useful for particular local studies. In such instances, the original vegetation maps should be sourced and used in conjunction with the Biometric vegetation type map as necessary.

## 2.2 EEC map

Category 5 'EEC only' layers from specific EEC mapping projects were combined with attributed EECs from the Biometric vegetation map to produce a separate EEC layer for the study area. [Note: Category 5 'EEC only' layers were not incorporated the Biometric vegetation map as EECs are often represented by more than one Biometric type, or are partially represented within one type]. As such, the same processes and limitations outlined section 2.1 apply. The EEC map should be used in conjunction with the Biometric vegetation map for any assessment, or if appropriate, combined for specific site assessment purposes.

### 3. RESULTS

The project used portions (and for category 1 and 2 maps, all) of 27 vegetation maps across the project study area, spatially representing a total of 132 Biometric vegetation types within the Shoalhaven, Eurobodalla and Bega Valley LGAs and the Jervis Bay portion of the ACT. The project study area contained a total of 1,189,363 hectares of native vegetation, representing 82.5% of the total area. Of this, 1,105,561 hectares contained treed woody vegetation, 36,750 hectares contained heathland, 36,349 hectares contained rainforest, 10,427 hectares contained wetland/lagoon and 277 hectares contained native grassland.

Biometric vegetation types mapped within the project study area are shown in Table 5 and described in Appendix A, with EECs shown in Table 6. For each local government area, these are summarised in Appendix B1, B2 and B3 respectively. For complete information on the ecological character, threats and recovery actions for EECs refer to the OEH 'threatened species, ecological communities and populations of NSW' website (OEH 2012).

**Table 5:** Biometric vegetation types in the project study area, categorised by NSW Vegetation Formation and Class (Keith 2004).

BVT ID	Vegetation type	Hectares
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#### Dry Sclerophyll Forests (Shrub/grass subformation)

##### *Central Gorge Dry Sclerophyll Forests*

SR534	Coast Grey Box - Stringybark dry woodland on slopes of the Shoalhaven Gorges, southern Sydney Basin	742
SR547	Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin and South Eastern Highlands	7,420
SR549	Grey Gum - Blue-leaved Stringybark open forest on gorge slopes, southern Sydney Basin and north east South Eastern Highlands	2,381
SR550	Grey Ironbark - Grey Gum shrubby open forest of the gorges of Shoalhaven catchment, southern Sydney Basin	161

##### *Southern Hinterland Dry Sclerophyll Forests*

SR511	Apple-topped Gum - White Stringybark open forest on ridges and upper slopes in the Waalimma area, far southern South East Corner	1,329
SR573	Maiden's Gum - White Stringybark shrubby open forest on granitic foothills, southern South East Corner	22,978
SR626	Silvertop Ash - Messmate - Mountain Grey Gum shrubby open forest of the hinterland ranges, southern South East Corner	21,329
SR666	White Stringybark - Maiden's Gum grassy open forest on granitic foothills, southern South East Corner	25,793
SR667	White Stringybark - Mountain Grey Gum - Maiden's Gum grassy open forest on granitic foothills and ranges, southern South East Corner	1,887

#### Dry Sclerophyll Forests (Shrubby subformation)

##### *South Coast Sands Dry Sclerophyll Forests*

SR512	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner <sup>1</sup>	7,571
SR530	Coast Banksia - Coast Tea-tree low moist forest on coastal sands and headlands, Sydney Basin and South East Corner <sup>1</sup>	275
SR531	Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner	4,044
SR640	Spinifex beach strand grassland, Sydney Basin and South East Corner	29

### ***South East Dry Sclerophyll Forests***

SR517	Blue-leaved Stringybark shrubby open forest of hinterland ranges, far southern South East Corner	723
SR554	Gully Gum - Wallaby Bush shrubby woodland on rocky ridges of the ranges, southern South East Corner	1,310
SR559	Ironbark - Woollybutt - White Stringybark open forest on coastal hills, South East Corner	13,911
SR560	Jilliga Ash dry shrubby open forest on rhyolite in the Deua NP area, South East Corner	14
SR566	Kybean Mallee Ash - Snow Gum heathy low open forest on the Wadbilliga Plateau, South East Corner	1,102
SR577	Messmate dry shrubby forest on sandstone, far southern South East Corner	114
SR581	Mountain Grey Gum - White Stringybark open forest on sandstone mountain slopes, far south west South East Corner	1,025
SR596	Red Bloodwood - Silvertop Ash - White Stringybark heathy open forest on coastal foothills, southern South East Corner	14,197
SR611	Rough-barked Apple - White Stringybark dry open forest on lower slopes in the upper Tuross and Brogo River valleys, South East Corner	12,492
SR620	Silvertop Ash - Black She-oak shrubby open forest on hills of the Bega Valley, South East Corner	4,551
SR621	Silvertop Ash - Blue-leaved Stringybark - Red Bloodwood dry shrubby open forest on ridges of the hinterland foothills, northern South East Corner	54,681
SR622	Silvertop Ash - Blue-leaved Stringybark - Woollybutt shrubby open forest on coastal foothills central South East Corner	45,139
SR623	Silvertop Ash - Blue-leaved Stringybark shrubby open forest on hinterland hills, far southern South East Corner	31,465
SR624	Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands	2,516
SR627	Silvertop Ash - Mountain Grey Gum shrubby dry open forest on ridges in Wadbilliga NP, South East Corner	6,608
SR628	Silvertop Ash - Narrow-leaved Peppermint open forest on ridges of the eastern tableland, South Eastern Highlands and South East Corner	1,376
SR630	Silvertop Ash - Rough-barked Apple shrubby open forest on the hinterland hills, far southern South Eastern Corner	17,048
SR631	Silvertop Ash - White Stringybark shrubby open forest of the escarpment ranges, southern South East Corner	1,634
SR633	Silvertop Ash open forest on exposed ridges of the escarpment ranges, far southern South East Corner	942
SR634	Silvertop Ash shrubby open forest on escarpment ridges, central and northern South East Corner	14,647
SR668	White Stringybark - Narrow-leaved Peppermint dry open forest on hinterland hills, far south of the South East Corner	10,994
SR673	Yellow Stringybark - Mountain Grey Gum shrubby open forest on slopes of the hinterland ranges, southern South East Corner	15,889
SR674	Yellow Stringybark - Silvertop Ash open forest on dry slopes of the escarpment ranges, northern South East Corner	44,376
SR675	Yertchuk - Silvertop Ash - Blue-leaved Stringybark shrubby open forest of the Wallagaraugh catchment, far southern South East Corner	22,945

### ***Southern Tableland Dry Sclerophyll Forests***

SR522	Broad-leaved Peppermint - Brittle Gum shrubby open forest on the eastern tablelands, South Eastern Highlands	1,802
SR558	Inland Scribbly Gum - Brittle Gum low woodland of the eastern tablelands, South Eastern Highlands	4,020

### ***Southern Wattle Dry Sclerophyll Forests***

SR519	Bodalla Silver Wattle very tall shrubland in the Brogo River and Desert Creek catchments, South East Corner	5,748
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### ***Sydney Coastal Dry Sclerophyll Forests***

SR594	Red Bloodwood - Hard-leaved Scribbly Gum - Silvertop Ash heathy open forest on sandstone plateaux of the lower Shoalhaven Valley, Sydney Basin	48,070
SR595	Red Bloodwood - Scribbly gum heathy woodland on sandstone plateaux, Sydney Basin	634
SR629	Silvertop Ash - Red Bloodwood - Sydney Peppermint heathy open forest on moist sandstone plateaux, southern Sydney Basin	31,468

### ***Sydney Hinterland Dry Sclerophyll Forests***

SR593	Red Bloodwood - Grey Gum shrubby open forest on shale-sandstone interface of the lower Shoalhaven valleys, southern Sydney Basin	31,550
SR632	Silvertop Ash - Yertchuk heathy woodland on sandstone plateaux, southern Sydney Basin	1,765

### ***Sydney Montane Dry Sclerophyll Forests***

SR625	Silvertop Ash - Hard-leaved Scribbly Gum - Blue-leaved Stringybark heathy woodland on sandstone plateaux, southern Sydney Basin	17,580
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## **Wet Sclerophyll Forests (Shrubby subformation)**

### ***North Coast Wet Sclerophyll Forests***

SR516	Blackbutt - Turpentine - Bangalay moist open forest on sheltered slopes and gullies, southern Sydney Basin	21,297
SR652	Sydney Blue Gum x Bangalay - Lilly Pilly moist forest in gullies and on sheltered slopes, southern Sydney Basin	11,561

### ***South Coast Wet Sclerophyll Forests***

SR582	Mountain Grey Gum - Yellow Stringybark moist shrubby open forest in gullies of the coastal ranges, northern South East Corner	52,233
SR583	Mountain Grey Gum ferny tall moist forest on coastal ranges, southern South East Corner	26,682
SR609	River Peppermint - Rough-barked Apple moist open forest on sheltered sites, southern South East Corner	25,445
SR612	Rough-barked Apple shrubby open forest on gully flats, southern South East Corner	13,674
SR647	Swamp Gum - Ribbon Gum open forest on flats of the coastal and hinterland lowlands, southern South East Corner <sup>1</sup>	3,480
SR654	Sydney Peppermint - Spotted Gum - Lilly Pilly wet forest in gullies of the coastal foothills, northern South East Corner and southern Sydney Basin	5,147

SR671	Yellow Stringybark - Coast Grey Box shrubby open forest on the coastal ranges, South East Corner	10,598
SR672	Yellow Stringybark - Mountain Grey Gum moist shrubby open forest on coastal ranges, southern South East Corner	25,755

### ***Southern Escarpment Wet Sclerophyll Forests***

SR525	Brown Barrel - Mountain Grey Gum - Blanket Bush moist very tall open forest of the southern escarpment ranges, South Eastern Highlands and South East Corner	12,839
SR526	Brown Barrel - Mountain Grey Gum tall moist forest on basalts of the Southern Highlands, Sydney Basin	261
SR527	Brown Barrel - Narrow-leaved Peppermint moist tall open forest on escarpment ranges, southern South Eastern Highlands	17,594
SR553	Gully Gum - Sydney Peppermint - Yellow Stringybark moist open forest of coastal escarpments, southern Sydney Basin	8,288
SR576	Messmate - Mountain Grey Gum moist open forest of granitic foothills, southern South East Corner	18,726
SR580	Mountain Grey Gum - Brown Barrel very tall moist forest on escarpment ranges, central and southern South East Corner	32,452
SR586	Narrow-leaved Peppermint - Mountain Gum - Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands	323
SR607	River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin and South East Corner	6,775
SR619	Shining Gum - Brown Barrel very tall wet forest of the southern escarpment ranges, South East Corner	1,503
SR655	Sydney Peppermint - White Stringybark moist shrubby forest on elevated ridges, Sydney Basin	2,592
SR663	White Ash - Silvertop Ash - Brown Barrel shrubby open forest of the escarpment ridges, South Eastern Highlands and South East Corner	23,112

## **Wet Sclerophyll Forests (Grassy subformation)**

### ***Southern Lowland Wet Sclerophyll Forests***

SR533	Coast Grey Box - Mountain Grey Gum - Stringybark moist shrubby open forest in coastal gullies, southern South East Corner	26,248
SR592	Red Bloodwood - Blackbutt - Spotted Gum shrubby open forest on coastal foothills, southern Sydney Basin	10,179
SR641	Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin and northern South East Corner	46,670
SR642	Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal flats, southern Sydney Basin and South East Corner	14,190
SR643	Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner	47,842
SR658	Turpentine - Red Bloodwood - Sydney Peppermint shrubby open forest on the foothills, southern Sydney Basin and northern South East Corner	19,096

### ***Southern Tableland Wet Sclerophyll Forests***

SR601	Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin and South Eastern Highlands <sup>1</sup>	1,028
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## Grassy Woodlands

### *Coastal Valley Grassy Woodlands*

SR543	Forest Red Gum - Coast Grey Box shrubby open forest on steep hills in the Bega Valley, South East Corner <sup>1</sup>	5,301
SR544	Forest Red Gum - Rough-barked Apple - White Stringybark grassy woodlands on hills in dry valleys, southern South East Corner	17,702
SR545	Forest Red Gum - Thin-leaved Stringybark grassy woodland on coastal lowlands, southern Sydney Basin <sup>1</sup>	2,049
SR574	Maiden's Gum - Yellow Box - Forest Red Gum grassy open forest of the Araluen Valley, South East Corner	179
SR669	Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin and South East Corner <sup>1</sup>	636

### *Southern Tableland Grassy Woodlands*

SR670	Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands <sup>1</sup>	5
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### *Subalpine Woodlands*

SR584	Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands	1,038
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### *Tableland Clay Grassy Woodlands*

SR602	Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands <sup>1</sup>	1,143
SR603	Ribbon Gum - Snow Gum grassy open forest on flats and undulating hills of the eastern tableland, South Eastern Highlands <sup>1</sup>	16,503

## Rainforests

### *Cool Temperate Rainforests*

SR590	Plumwood - Soft Tree-fern cool temperate rainforest on cool, moist slopes and gullies of the escarpment ranges, South East Corner	2,198
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### *Dry Rainforests*

SR551	Grey Myrtle - Lilly Pilly dry rainforest in dry gullies, Sydney Basin and South East Corner	6,283
SR552	Grey Myrtle dry rainforest of the Sydney Basin and South East Corner	7
SR613	Rusty Fig - Sweet Pittosporum dry rainforest on rocky slopes, southern South East Corner <sup>1</sup>	188
SR662	Whalebone Tree - Native Quince dry subtropical rainforest on dry fertile slopes, southern Sydney Basin	66

### *Littoral Rainforests*

SR571	Lilly Pilly littoral rainforest of the southern Sydney Basin and South East Corner <sup>1</sup>	161
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### **Northern Warm Temperate Rainforests**

SR529	Coachwood - Lilly Pilly warm temperate rainforest in moist sandstone gullies, Sydney Basin	1,100
SR567	Lilly Pilly - Coachwood warm temperate rainforest on moist sheltered slopes and gullies, Sydney Basin and South East Corner	12,697

### **Southern Warm Temperate Rainforests**

SR528	Coachwood - Brown Possumwood warm temperate rainforest in sheltered gullies of the Illawarra Escarpment, southern Sydney Basin	19
SR569	Lilly Pilly - Sassafras warm temperate rainforest in moist sheltered gullies, Sydney Basin and South East Corner	2,196
SR570	Lilly Pilly - Sweet Pittosporum - Rough Tree-fern warm temperate rainforest in steep sheltered gullies, southern South East Corner	8,897
SR615	Sassafras - Blackwood - Lilly Pilly temperate rainforest on basalt soils in the Robertson area, southern Sydney Basin <sup>1</sup>	2

### **Subtropical Rainforests**

SR568	Lilly Pilly - Sassafras - Stinging Tree subtropical/warm temperate rainforest on moist fertile lowlands, southern Sydney Basin	2,285
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## **Forested Wetlands**

### **Coastal Floodplain Wetlands**

SR542	Floodplain wetlands of the coastal lowlands, southern South East Corner <sup>1</sup>	2,201
SR649	Swamp Oak - Prickly Tea-tree - Swamp Paperbark swamp forest on coastal floodplains, Sydney Basin and South East Corner <sup>1</sup>	4,320
SR650	Swamp Oak swamp forest fringing estuaries, Sydney Basin and South East Corner <sup>1</sup>	736
SR651	Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner <sup>1</sup>	1,639

### **Coastal Swamp Forests**

SR648	Swamp Mahogany swamp sclerophyll forest on coastal lowlands, Sydney Basin and South East Corner <sup>1</sup>	1,173
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### **Eastern Riverine Forests**

SR606	River Oak open forest of major streams, Sydney Basin and South East Corner	2,376
SR608	River Peppermint - Rough-barked Apple - River Oak herb/grass riparian forest of coastal lowlands, southern Sydney Basin and South East Corner	3,915
SR660	Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin	3
SR661	Water Gum - tea-tree- River Peppermint riparian scrub along streams, far southern South East Corner	354
SR665	White Sally Wattle - <i>Leptospermum emarginatum</i> riparian scrub of the Bega and Towamba valleys, southern South East Corner	346



## Freshwater Wetlands

### *Coastal Freshwater Lagoons*

SR536	Coastal freshwater lagoons of the Sydney Basin and South East Corner <sup>1</sup>	1,303
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### *Coastal Heath Swamps*

SR538	Crimson Bottlebrush - Scented Paperbark wet heath in the hinterland hills, southern South East Corner	344
SR587	Needlebush - Banksia wet heath on sandstone plateaux of the Sydney Basin	131
SR591	Prickly Tea-tree - sedge wet heath on sandstone plateaux, central and southern Sydney Basin	533
SR616	Scented Paperbark wet heath on coastal lowlands in far southern South East Corner	1,590

### *Montane Bogs and Fens*

SR579	Montane wet heath and bog of the eastern tablelands, South Eastern Highlands <sup>1</sup>	250
SR604	Ribbon Gum - tea-tree - River Tussock riparian scrub along tablelands streambanks, South East Corner	6
SR656	Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands <sup>1</sup>	4

## Saline Wetlands

### *Mangrove Swamps*

SR575	Mangrove forest in estuaries of the Sydney Basin and South East Corner	2,104
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### *Saltmarshes*

SR614	Saltmarsh in estuaries of the Sydney Basin and South East Corner <sup>1</sup>	1,742
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## Heathlands

### *Coastal Headland Heaths*

SR521	Bracelet Honey-myrtle - Coast Tea-tree tall shrubland on headlands, South Eastern Corner	97
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### *South Coast Heaths*

SR617	Scrub She-oak - Swamp Banksia coastal lowland heath, southern South East Corner	1,947
SR646	Swamp Banksia - Slender Tea-tree wet heath on Mt Nadgee, southern South East Corner	359

### *Southern Montane Heaths*

SR520	Bracelet Honey-myrtle - Australian Indigo dry shrubland on volcanics, southern Sydney Basin	48
SR541	Dwarf She-oak closed heathland of escarpment ranges, South Eastern Highlands	266

SR564	<i>Kunzea ambigua</i> - Bracelet Honey-myrtle shrubland on rhyolite outcrops, southern South East Corner	48
SR565	<i>Kunzea ambigua</i> - <i>Correa reflexa</i> shrubland on skeletal granitic substrates, southern South East Corner	147

### **Sydney Coastal Heaths**

SR556	Hairpin (Heath-leaved) Banksia - <i>Kunzea ambigua</i> - <i>Allocasuarina distyla</i> heath on coastal sandstone plateaux, Sydney Basin	2
SR557	Hairpin Banksia - Slender Tea-tree heath on coastal sandstone plateaux, Sydney Basin	2,193
SR618	She-oak – Hairpin (Heath-leaved) Banksia heathland on sandstone headlands of the Sydney Basin	114

### **Sydney Montane Heaths**

SR513	Banksia - Red Bloodwood - Hard-leaved Scribbly Gum heathy open woodland on sandstone plateaux, southern Sydney Basin	28,334
SR548	Fringe Myrtle - Blue Mountains Mallee Ash heath on skeletal sandstone plateaux of Morton NP, southern Sydney Basin	2,879

### **Wallum Sand Heaths**

SR589	Old-man Banksia - she-oak - Red Bloodwood heathland on coastal sands, southern Sydney Basin	245
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## **Grasslands**

### **Maritime Grasslands**

SR563	Kangaroo Grass sod tussock grassland of coastal areas of the Sydney Basin and South East Corner <sup>1</sup>	30
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### **Temperate Montane Grasslands**

SR540	Derived grasslands of the South Eastern Highlands and South East Corner	2
SR610	River Tussock - Tall Sedge - Kangaroo Grass moist grasslands of the South Eastern Highlands <sup>1</sup>	245

<sup>1</sup> Contains EEC

Note: Hectare figures for each local government area are found in Appendix B1, B2 and B3 respectively.

Some Biometric types were mapped over a small extent as they were either:

- naturally restricted in distribution
- highly cleared within the region or the study area
- Represented at the edge of their geographic distribution.
- Represented within another highly similar type (refer to limitations section)

A total of 22 EECs are known to occur in the study area. Many of these EECs are either restricted in geographic distribution or persist in highly disturbed landscapes. Where linked to Biometric vegetation types, some EECs may be represented in only part of a type; conversely, a Biometric type may represent more than one EEC.

**Table 6:** Endangered ecological communities mapped within the Shoalhaven, Eurobodalla and Bega Valley LGAs.

EEC Name	Hectares
Araluen Scarp Grassy Forest in the South East Corner Bioregion	179
Bangalay sand forest in the Sydney Basin and the South East Corner bioregions	7,188
Brogo wet vine forest in the South East Corner bioregion	5,301
Coastal saltmarsh in the NSW North Coast, Sydney Basin and the South East Corner bioregions	2,052
Dry rainforest of the south east forests in the South East Corner bioregion	188
Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	3,536
Illawarra lowlands grassy woodland in the Sydney Basin bioregion	4,472
Illawarra subtropical rainforest in the Sydney Basin bioregion	2,812
Littoral rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions	522
Lowland grassy woodland in the South East Corner bioregion	16,571
Milton Ulladulla subtropical rainforest in the Sydney Basin bioregion	106
Montane peatlands and swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps	250
Natural temperate grassland of the Southern Tablelands (NSW and ACT)	245
River-flat eucalypt forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	7,280
Robertson basalt tall open-forest in the Sydney Basin bioregion	560
Robertson rainforest in the Sydney Basin bioregion	63
Swamp Oak floodplain forest of the NSW North Coast, Sydney Basin and South east Corner bioregions	6,125
Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	3,224
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands bioregions <sup>1</sup>	1,028
Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions <sup>2</sup>	7,877
<i>Themeda</i> grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner bioregions	30
White Box Yellow Box Blakely's Red Gum woodland	5

<sup>1</sup> may contain areas of Robertson basalt tall open-forest in the Sydney Basin bioregion EEC

<sup>2</sup> much of this EEC is made up of two grassy/shrubby Biometric vegetation types which may only be considered EEC in their grassy form. Many of the remaining remnants are highly degraded.

Note: Hectare figures for each local government area are found in Appendix B1, B2 and B3 respectively.

Two ArcGIS shapefiles have been produced as part of this project:

- **BioMetric\_ShoalhavenEurobodallaBega\_v2.shp**
- **EECs\_ShoalhavenEurobodallaBega\_v2.shp**

Refer to Appendix C1 and C2 for metadata information on these shapefiles, which can be obtained through contacting the Office of Environment and Heritage Queanbeyan office at:

Level 3, 11 Farrer Place  
PO Box 733  
Queanbeyan NSW 2620  
Phone: 02 6229 7188

### 3.1 Version 2.0 amendments

Based on external review, further consideration of EEC distribution and ground-verification, several amendments were made from Version 1.0. These include:

- Reducing the extent of 'Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions' EEC to exclude areas below 600m asl.
- Recoding 'Lowland grassy woodland in the South East Corner bioregion' EEC polygons occurring in the Sydney Basin bioregion as 'Illawarra lowlands grassy woodland in the Sydney Basin bioregion' EEC.
- Changing lowland areas around Belowra (Eurobodalla LGA) from 'SR611: Rough-barked Apple - White Stringybark dry open forest on lower slopes in the upper Tuross and Brogo River valleys, South East Corner' to 'SR544: Forest Red Gum - Rough-barked Apple - White Stringybark grassy woodlands on hills in dry valleys, southern South East Corner'. These areas require further investigation, but may be 'Lowland grassy woodland in the South East Corner bioregion' EEC.
- Removal of vegetated polygons from Montague Island, which are dominated by Kikuyu (*Pennisetum clandestinum*).
- Recoding 92 polygons to verified Biometric types (including splitting 9 polygons) and confirming the correctness of 31 within the Shoalhaven LGA. Note: most of the errors from Version 1.0 were polygons allocated to Biometric types within the same Vegetation Class or Structural Formation.

For Version 3.0. it is suggested that any recent improved mapping be incorporated, including fine-scale development applications and almost completed State Forest EEC mapping.

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## APPENDIX A: Descriptions of Biometric vegetation types mapped within the project study area

ID	Vegetation type	Page
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### Dry Sclerophyll Forests (Shrub/grass subformation)

#### *Central Gorge Dry Sclerophyll Forests*

SR534	Coast Grey Box - Stringybark dry woodland on slopes of the Shoalhaven Gorges, southern Sydney Basin	33
SR547	Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin and South Eastern Highlands	33
SR549	Grey Gum - Blue-leaved Stringybark open forest on gorge slopes, southern Sydney Basin and north east South Eastern Highlands	34
SR550	Grey Ironbark - Grey Gum shrubby open forest of the gorges of Shoalhaven catchment, southern Sydney Basin	34

#### *Southern Hinterland Dry Sclerophyll Forests*

SR511	Apple-topped Gum - White Stringybark open forest on ridges and upper slopes in the Waalimma area, far southern South East Corner	35
SR573	Maiden's Gum - White Stringybark shrubby open forest on granitic foothills, southern South East Corner	35
SR626	Silvertop Ash - Messmate - Mountain Grey Gum shrubby open forest of the hinterland ranges, southern South East Corner	36
SR666	White Stringybark - Maiden's Gum grassy open forest on granitic foothills, southern South East Corner	36
SR667	White Stringybark - Mountain Grey Gum - Maiden's Gum grassy open forest on granitic foothills and ranges, southern South East Corner	37

### Dry Sclerophyll Forests (Shrubby subformation)

#### *South Coast Sands Dry Sclerophyll Forests*

SR512	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	38
SR530	Coast Banksia - Coast Tea-tree low moist forest on coastal sands and headlands, Sydney Basin and South East Corner	38
SR531	Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner	39
SR640	Spinifex beach strand grassland, Sydney Basin and South East Corner	39

#### *South East Dry Sclerophyll Forests*

SR517	Blue-leaved Stringybark shrubby open forest of hinterland ranges, far southern South East Corner	40
SR554	Gully Gum - Wallaby Bush shrubby woodland on rocky ridges of the ranges, southern South East Corner	40
SR559	Ironbark - Woollybutt - White Stringybark open forest on coastal hills, South East Corner	41
SR560	Jilliga Ash dry shrubby open forest on rhyolite in the Deua NP area, South East Corner	41
SR566	Kybean Mallee Ash - Snow Gum heathy low open forest on the Wadbilliga Plateau, South East Corner	42
SR577	Messmate dry shrubby forest on sandstone, far southern South East Corner	42



SR581	Mountain Grey Gum - White Stringybark open forest on sandstone mountain slopes, far south west South East Corner	43
SR596	Red Bloodwood - Silvertop Ash - White Stringybark heathy open forest on coastal foothills, southern South East Corner	43
SR611	Rough-barked Apple - White Stringybark dry open forest on lower slopes in the upper Tuross and Brogo River valleys, South East Corner	44
SR620	Silvertop Ash - Black She-oak shrubby open forest on hills of the Bega Valley, South East Corner	44
SR621	Silvertop Ash - Blue-leaved Stringybark - Red Bloodwood dry shrubby open forest on ridges of the hinterland foothills, northern South East Corner	45
SR622	Silvertop Ash - Blue-leaved Stringybark - Woollybutt shrubby open forest on coastal foothills central South East Corner	45
SR623	Silvertop Ash - Blue-leaved Stringybark shrubby open forest on hinterland hills, far southern South East Corner	46
SR624	Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands	46
SR627	Silvertop Ash - Mountain Grey Gum shrubby dry open forest on ridges in Wadbilliga NP, South East Corner	47
SR628	Silvertop Ash - Narrow-leaved Peppermint open forest on ridges of the eastern tableland, South Eastern Highlands and South East Corner	47
SR630	Silvertop Ash - Rough-barked Apple shrubby open forest on the hinterland hills, far southern South Eastern Corner	48
SR631	Silvertop Ash - White Stringybark shrubby open forest of the escarpment ranges, southern South East Corner	48
SR633	Silvertop Ash open forest on exposed ridges of the escarpment ranges, far southern South East Corner	49
SR634	Silvertop Ash shrubby open forest on escarpment ridges, central and northern South East Corner	49
SR668	White Stringybark - Narrow-leaved Peppermint dry open forest on hinterland hills, far south of the South East Corner	50
SR673	Yellow Stringybark - Mountain Grey Gum shrubby open forest on slopes of the hinterland ranges, southern South East Corner	50
SR674	Yellow Stringybark - Silvertop Ash open forest on dry slopes of the escarpment ranges, northern South East Corner	51
SR675	Yertchuk - Silvertop Ash - Blue-leaved Stringybark shrubby open forest of the Wallagaraugh catchment, far southern South East Corner	51

### ***Southern Tableland Dry Sclerophyll Forests***

SR522	Broad-leaved Peppermint - Brittle Gum shrubby open forest on the eastern tablelands, South Eastern Highlands	52
SR558	Inland Scribbly Gum - Brittle Gum low woodland of the eastern tablelands, South Eastern Highlands	52

### ***Southern Wattle Dry Sclerophyll Forests***

SR519	Bodalla Silver Wattle very tall shrubland in the Brogo River and Desert Creek catchments, South East Corner	53
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### ***Sydney Coastal Dry Sclerophyll Forests***

SR594	Red Bloodwood - Hard-leaved Scribbly Gum - Silvertop Ash heathy open forest on sandstone plateaux of the lower Shoalhaven Valley, Sydney Basin	53
SR595	Red Bloodwood - scribble gum heathy woodland on sandstone plateaux, Sydney Basin	54
SR629	Silvertop Ash - Red Bloodwood - Sydney Peppermint heathy open forest on moist sandstone plateaux, southern Sydney Basin	54

### ***Sydney Hinterland Dry Sclerophyll Forests***

SR593	Red Bloodwood - Grey Gum shrubby open forest on shale-sandstone interface of the lower Shoalhaven valleys, southern Sydney Basin	55
SR632	Silvertop Ash - Yertchuk heathy woodland on sandstone plateaux, southern Sydney Basin	55

### ***Sydney Montane Dry Sclerophyll Forests***

SR625	Silvertop Ash - Hard-leaved Scribbly Gum - Blue-leaved Stringybark heathy woodland on sandstone plateaux, southern Sydney Basin	56
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## **Wet Sclerophyll Forests (Shrubby subformation)**

### ***North Coast Wet Sclerophyll Forests***

SR516	Blackbutt - Turpentine - Bangalay moist open forest on sheltered slopes and gullies, southern Sydney Basin	57
SR652	Sydney Blue Gum x Bangalay - Lilly Pilly moist forest in gullies and on sheltered slopes, southern Sydney Basin	57

### ***South Coast Wet Sclerophyll Forests***

SR582	Mountain Grey Gum - Yellow Stringybark moist shrubby open forest in gullies of the coastal ranges, northern South East Corner	58
SR583	Mountain Grey Gum ferny tall moist forest on coastal ranges, southern South East Corner	58
SR609	River Peppermint - Rough-barked Apple moist open forest on sheltered sites, southern South East Corner	59
SR612	Rough-barked Apple shrubby open forest on gully flats, southern South East Corner	59
SR647	Swamp Gum - Ribbon Gum open forest on flats of the coastal and hinterland lowlands, southern South East Corner	60
SR654	Sydney Peppermint - Spotted Gum - Lilly Pilly wet forest in gullies of the coastal foothills, northern South East Corner and southern Sydney Basin	60
SR671	Yellow Stringybark - Coast Grey Box shrubby open forest on the coastal ranges, South East Corner	61
SR672	Yellow Stringybark - Mountain Grey Gum moist shrubby open forest on coastal ranges, southern South East Corner	61

### ***Southern Escarpment Wet Sclerophyll Forests***

SR525	Brown Barrel - Mountain Grey Gum - Blanket Bush moist very tall open forest of the southern escarpment ranges, South Eastern Highlands and South East Corner	62
SR526	Brown Barrel - Mountain Grey Gum tall moist forest on basalts of the Southern Highlands, Sydney Basin	62
SR527	Brown Barrel - Narrow-leaved Peppermint moist tall open forest on escarpment ranges, southern South Eastern Highlands	63
SR553	Gully Gum - Sydney Peppermint - Yellow Stringybark moist open forest of coastal escarpments, southern Sydney Basin	63
SR576	Messmate - Mountain Grey Gum moist open forest of granitic foothills, southern South East Corner	64
SR580	Mountain Grey Gum - Brown Barrel very tall moist forest on escarpment ranges, central and southern South East Corner	64
SR586	Narrow-leaved Peppermint - Mountain Gum - Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands	65
SR607	River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin and South East Corner	65

SR619	Shining Gum - Brown Barrel very tall wet forest of the southern escarpment ranges, South East Corner	66
SR655	Sydney Peppermint - White Stringybark moist shrubby forest on elevated ridges, Sydney Basin	66
SR663	White Ash - Silvertop Ash - Brown Barrel shrubby open forest of the escarpment ridges, South Eastern Highlands and South East Corner	67

## Wet Sclerophyll Forests (Grassy subformation)

### *Southern Lowland Wet Sclerophyll Forests*

SR533	Coast Grey Box - Mountain Grey Gum - Stringybark moist shrubby open forest in coastal gullies, southern South East Corner	68
SR592	Red Bloodwood - Blackbutt - Spotted Gum shrubby open forest on coastal foothills, southern Sydney Basin	68
SR641	Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin and northern South East Corner	69
SR642	Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal flats, southern Sydney Basin and South East Corner	69
SR643	Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner	70
SR658	Turpentine - Red Bloodwood - Sydney Peppermint shrubby open forest on the foothills, southern Sydney Basin and northern South East Corner	70

### *Southern Tableland Wet Sclerophyll Forests*

SR601	Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin and South Eastern Highlands	71
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## Grassy Woodlands

### *Coastal Valley Grassy Woodlands*

SR543	Forest Red Gum - Coast Grey Box shrubby open forest on steep hills in the Bega Valley, South East Corner	72
SR544	Forest Red Gum - Rough-barked Apple - White Stringybark grassy woodlands on hills in dry valleys, southern South East Corner	72
SR545	Forest Red Gum - Thin-leaved Stringybark grassy woodland on coastal lowlands, southern Sydney Basin	73
SR574	Maiden's Gum - Yellow Box - Forest Red Gum grassy open forest of the Araluen Valley, South East Corner	73
SR669	Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin and South East Corner	74

### *Southern Tableland Grassy Woodlands*

SR670	Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands	74
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### *Subalpine Woodlands*

SR584	Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands	75
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### *Tableland Clay Grassy Woodlands*

SR602	Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands	75
SR603	Ribbon Gum - Snow Gum grassy open forest on flats and undulating hills of the eastern tableland, South Eastern Highlands	76

## Rainforests

### ***Cool Temperate Rainforests***

SR590	Plumwood - Soft Tree-fern cool temperate rainforest on cool, moist slopes and gullies of the escarpment ranges, South East Corner	77
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### ***Dry Rainforests***

SR551	Grey Myrtle - Lilly Pilly dry rainforest in dry gullies, Sydney Basin and South East Corner	77
SR552	Grey Myrtle dry rainforest of the Sydney Basin and South East Corner	78
SR613	Rusty Fig - Sweet Pittosporum dry rainforest on rocky slopes, southern South East Corner	78
SR662	Whalebone Tree - Native Quince dry subtropical rainforest on dry fertile slopes, southern Sydney Basin	79

### ***Littoral Rainforests***

SR571	Lilly Pilly littoral rainforest of the southern Sydney Basin and South East Corner	79
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### ***Northern Warm Temperate Rainforests***

SR529	Coachwood - Lilly Pilly warm temperate rainforest in moist sandstone gullies, Sydney Basin	80
SR567	Lilly Pilly - Coachwood warm temperate rainforest on moist sheltered slopes and gullies, Sydney Basin and South East Corner	80

### ***Southern Warm Temperate Rainforests***

SR528	Coachwood - Brown Possumwood warm temperate rainforest in sheltered gullies of the Illawarra Escarpment, southern Sydney Basin	81
SR569	Lilly Pilly - Sassafras warm temperate rainforest in moist sheltered gullies, Sydney Basin and South East Corner	81
SR570	Lilly Pilly - Sweet Pittosporum - Rough Tree-fern warm temperate rainforest in steep sheltered gullies, southern South East Corner	82
SR615	Sassafras - Blackwood - Lilly Pilly temperate rainforest on basalt soils in the Robertson area, southern Sydney Basin	82

### ***Subtropical Rainforests***

SR568	Lilly Pilly - Sassafras - Stinging Tree subtropical/warm temperate rainforest on moist fertile lowlands, southern Sydney Basin	83
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## Forested Wetlands

### ***Coastal Floodplain Wetlands***

SR542	Floodplain wetlands of the coastal lowlands, southern South East Corner	84
SR649	Swamp Oak - Prickly Tea-tree - Swamp Paperbark swamp forest on coastal floodplains, Sydney Basin and South East Corner	84
SR650	Swamp Oak swamp forest fringing estuaries, Sydney Basin and South East Corner	85
SR651	Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner	85

### ***Coastal Swamp Forests***

SR648	Swamp Mahogany swamp sclerophyll forest on coastal lowlands, Sydney Basin and South East Corner	86
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### **Eastern Riverine Forests**

SR606	River Oak open forest of major streams, Sydney Basin and South East Corner	86
SR608	River Peppermint - Rough-barked Apple - River Oak herb/grass riparian forest of coastal lowlands, southern Sydney Basin and South East Corner	87
SR660	Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin	87
SR661	Water Gum - tea-tree- River Peppermint riparian scrub along streams, far southern South East Corner	88
SR665	White Sally Wattle - <i>Leptospermum emarginatum</i> riparian scrub of the Bega and Towamba valleys, southern South East Corner	88

## **Freshwater Wetlands**

### **Coastal Freshwater Lagoons**

SR536	Coastal freshwater lagoons of the Sydney Basin and South East Corner	89
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### **Coastal Heath Swamps**

SR538	Crimson Bottlebrush - Scented Paperbark wet heath in the hinterland hills, southern South East Corner	89
SR587	Needlebush - Banksia wet heath on sandstone plateaux of the Sydney Basin	90
SR591	Prickly Tea-tree - sedge wet heath on sandstone plateaux, central and southern Sydney Basin	90
SR616	Scented Paperbark wet heath on coastal lowlands in far southern South East Corner	91

### **Montane Bogs and Fens**

SR579	Montane wet heath and bog of the eastern tablelands, South Eastern Highlands	91
SR604	Ribbon Gum - tea-tree - River Tussock riparian scrub along tablelands streambanks, South East Corner	92
SR656	Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands	92

## **Saline Wetlands**

### **Mangrove Swamps**

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## NSW Formation: Dry Sclerophyll Forests (Shrub/grass subformation)

### NSW Class: Central Gorge Dry Sclerophyll Forests

**Biometric ID:** SR534

**Common Name:** Coast Grey Box - Stringybark dry woodland on slopes of the Shoalhaven Gorges, southern Sydney Basin

**LGA:** Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (743 ha).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 15%

**Dominant canopy species:** Coast Grey Box (*Eucalyptus bosistoana*), Red Stringybark (*Eucalyptus macrorhyncha*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

**Main associated canopy species:** Argyle Apple (*Eucalyptus cinerea*).

**Characteristic midstorey species:** *Olearia viscidula*, *Lissanthe strigosa*, *Cassinia uncata*, *Daviesia leptophylla*, *Clematis microphylla*.

**Characteristic groundcover species:** *Dianella revoluta* var. *revoluta*, *Lomandra filiformis*, *Lomandra multiflora*, *Goodenia hederacea*, *Senecio* sp. E, *Hydrocotyle laxiflora*, *Opercularia varia*, *Rytidosperma longifolium*.

**Landscape position:** Occurs on loams on slates and shales on gorges slopes between about 350m and 600m in the Shoalhaven gorge area.

**Other diagnostic features:** Open forest or woodland with sparse understorey of shrubs and grasses.

**Equivalent/related vegetation types:** DSFp27: Bungona Slates Woodland (Tozer *et al.* 2010); BOS-EUG Coast Grey Box - Thin-leaved Stringybark Open Forest (Mills 2000).

**Biometric ID:** SR547

**Common Name:** Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin and South Eastern Highlands

**LGA:** Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (7,435 ha).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 50%

**Dominant canopy species:** Forest Red Gum (*Eucalyptus tereticornis*), Yellow Box (*Eucalyptus melliodora*).

**Main associated canopy species:** Kurrajong (*Brachychiton populneus* subsp. *populneus*), Thin-leaved Stringybark (*Eucalyptus eugenoides*), Grey Box (*Eucalyptus moluccana*).

**Characteristic midstorey species:** *Olearia viscidula*, *Bursaria spinosa* subsp. *spinosa*, *Lissanthe strigosa*, *Glycine clandestina*, *Clematis aristata*.

**Characteristic groundcover species:** *Dichondra repens*, *Cheilanthes sieberi* subsp. *sieberi*, *Desmodium varians*, *Lomandra multiflora*, *Lomandra longifolia*, *Aristida ramosa*, *Cheilanthes distans*, *Dichelachne micrantha*, *Microlaena stipoides* var. *stipoides*, *Desmodium brachypodium*, *Hypericum gramineum*, *Veronica plebeia*, *Wahlenbergia gracilis*.

**Landscape position:** Occurs on shallow loams on dry slopes within rocky gorges between 150m and 700m in the southern parts of the Sydney Basin. Known from the Wollondilly, Shoalhaven, Cox's and Jenolan Gorges.

**Other diagnostic features:** Woodland with an open understorey and ground layer of forbs and grasses.

**Equivalent/related vegetation types:** DSFp35: Wollondilly-Cox-Shoalhaven Gorge Woodland (Tozer *et al.* 2010); TER-WDL Forest Red Gum Woodland (Mills 2000).

**Biometric ID: SR549**

**Common Name:** Grey Gum - Blue-leaved Stringybark open forest on gorge slopes, southern Sydney Basin and north east South Eastern Highlands

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (2,385 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 20%

Dominant canopy species: Grey Gum (*Eucalyptus punctata*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Main associated canopy species: White Stringybark (*Eucalyptus globoidea*).

Characteristic midstorey species: *Persoonia linearis*, *Phyllanthus hirtellus*, *Hibbertia obtusifolia*, *Olearia viscidula*, *Podolobium ilicifolium*.

Characteristic groundcover species: *Goodenia hederacea*, *Pomax umbellata*, *Dianella revoluta* var. *revoluta*, *Lomandra multiflora*, *Lomandra filiformis*, *Opercularia diphylla*, *Hardenbergia violacea*, *Billardiera scandens*

Landscape position: Occurs on dry upper slopes of rocky gorges between 400m and 850m.

Other diagnostic features: Occurs in upper parts of the Wollondilly, Wingecarribee, Nattai, Tarlo and Shoalhaven Gorges. Open forest with an open understorey of sclerophyll shrubs and ground layer of grasses and forbs.

Equivalent/related vegetation types: DSFp11: Elevated Gorge Forest (Tozer *et al.* 2010); PUN-AGG Grey Gum - Stringybark Forest/Woodland (Mills 2000).

**Biometric ID: SR550**

**Common Name:** Grey Ironbark - Grey Gum shrubby open forest of the gorges of Shoalhaven catchment, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (162 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Grey Ironbark (*Eucalyptus paniculata* subsp. *paniculata*), Grey Gum (*Eucalyptus punctata*).

Main associated canopy species: None noted.

Characteristic midstorey species: *Acacia cognata*, *Babingtonia pluriflora*, *Lomatia myricoides*, *Notelaea longifolia*, *Olearia viscidula*, *Pittosporum undulatum*, *Prostanthera incana*, *Stenocarpus salignus*, *Astrotricha latifolia*, *Backhousia myrtifolia*, *Goodenia ovata*, *Leucopogon attenuatus*.

Characteristic groundcover species: *Lepidosperma laterale*, *Rytidosperma longifolium*, *Deyeuxia decipiens*, *Pellaea falcata*, *Plectranthus parviflorus*, *Pyrrosia rupestris*.

Landscape position: Occurs on the rocky slopes of the Ettrema, Shoalhaven, Danjera and Yarramunmun Gorges where sediments underlying the Sydney Basin are exposed.

Other diagnostic features: Open forest with a dense mixed mesophyll-sclerophyll shrub stratum and an open groundcover.

Equivalent/related vegetation types: DSFp84: Ettrema Gorge Forest (Tozer *et al.* 2010).



## **NSW Class: Southern Hinterland Dry Sclerophyll Forests**

### **Biometric ID: SR511**

**Common Name:** Apple-topped Gum - White Stringybark open forest on ridges and upper slopes in the Waalimma area, far southern South East Corner

LGA: Bega Valley (1,326 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Apple-topped Gum (*Eucalyptus angophoroides*), White Stringybark (*Eucalyptus globoidea*).

Main associated canopy species: *Eucalyptus tricarpa*, Red Box (*Eucalyptus polyanthemos* subsp. *vestita*), Coast Grey Box (*Eucalyptus bosistoana*).

Characteristic midstorey species: *Acacia mucronata* subsp. *longifolia*, *Acacia stricta*, *Acrotriche serrulata*, *Astroloma humifusum*, *Bossiaea prostrata*, *Epacris impressa*, *Hibbertia empetrifolia* subsp. *empetrifolia*, *Leptospermum continentale*, *Leucopogon lanceolatus*, *Lissanthe strigosa*, *Olearia erubescens*.

Characteristic groundcover species: *Deyeuxia quadriseta*, *Dianella revoluta* var. *revoluta*, *Dichelachne micrantha*, *Dichelachne rara*, *Euchiton gymnocephalus*, *Gahnia radula*, *Gonocarpus tetragynus*, *Helichrysum scorpioides*, *Hypericum gramineum*, *Lepidosperma laterale*, *Lomandra multiflora* subsp. *multiflora*, *Tetradlea thymifolia*, *Themeda australis*.

Landscape position: Restricted distribution around Mt Waalimma close to the Victorian border, primarily on State Forest.

Other diagnostic features: Occurs on broad ridges and upper slopes on metasediments and granitic substrates at 350m to 500m elevation.

Equivalent/related vegetation types: DSFe27: Waalimma Dry Grass Forest (Tozer *et al.* 2010)

### **Biometric ID: SR573**

**Common Name:** Maiden's Gum - White Stringybark shrubby open forest on granitic foothills, southern South East Corner

LGA: Bega Valley (22,548 ha); Eurobodalla (398 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 35%

Dominant canopy species: Maiden's Gum (*Eucalyptus maidenii*), White Stringybark (*Eucalyptus globoidea*).

Main associated canopy species: Coast Grey Box (*Eucalyptus bosistoana*), Blue Box (*Eucalyptus baueriana*), Yellow Stringybark (*Eucalyptus muelleriana*), River Peppermint (*Eucalyptus elata*).

Characteristic midstorey species: *Acacia falciformis*, *Acacia mearnsii*, *Cassinia longifolia*, *Indigofera australis*, *Senecio linearifolius*, *Clematis aristata*, *Tylophora barbata*.

Characteristic groundcover species: *Desmodium varians*, *Dichondra repens*, *Echinopogon ovatus*, *Hydrocotyle laxiflora*, *Hypericum gramineum*, *Lepidosperma laterale*, *Lomandra longifolia*, *Microlaena stipoides* var. *stipoides*, *Rytidosperma longifolium*, *Plectranthus parviflorus*, *Poa meionectes*.

Landscape position: Occurs at 150m to 700m elevation on steep to moderate, dry granitic slopes surrounding the Bega and Towamba valleys and further north between Mumbulla Mountain and Central Tilba.

Other diagnostic features: Grassy tall open forest.

Equivalent/related vegetation types: DSFe35: Southeast Escarpment Dry Grass Forest (Tozer *et al.* 2010); 47: Far Southern Hinterland Herb/Grass Moist Forest (NPWS 2000).

**Biometric ID: SR626**

**Common Name:** Silvertop Ash - Messmate - Mountain Grey Gum shrubby open forest of the hinterland ranges, southern South East Corner

LGA: Bega Valley (21,282 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Messmate (*Eucalyptus obliqua*).

Main associated canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Blue-leaved Stringybark (*Eucalyptus agglomerata*), Yellow Stringybark (*Eucalyptus muelleriana*).

Characteristic midstorey species: *Acacia obtusifolia*, *Epacris impressa*, *Leucopogon lanceolatus*, *Lomatia ilicifolia*, *Persoonia linearis*, *Platysace lanceolata*, *Pultenaea daphnoides*, *Billardiera scandens*.

Characteristic groundcover species: *Dianella caerulea*, *Entolasia stricta*, *Gonocarpus teucroides*, *Hierochloa rariflora*, *Lepidosperma laterale*, *Lomandra longifolia*, *Poa meionectes*, *Pteridium esculentum*, *Stylidium graminifolium*, *Tetrarrhena juncea*, *Viola hederacea*.

Landscape position: Occurs on sheltered slopes on metasediments or granitic substrates at 150m to 650m elevation in the coastal ranges and hinterland south from Merimbula.

Other diagnostic features: Open to tall open forest with a shrubby understorey.

Equivalent/related vegetation types: WSFe42 Southeast Inland Intermediate Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR666**

**Common Name:** White Stringybark - Maiden's Gum grassy open forest on granitic foothills, southern South East Corner

LGA: Bega Valley (25,742 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 20%

Dominant canopy species: White Stringybark (*Eucalyptus globoidea*), Maiden's Gum (*Eucalyptus maidenii*).

Main associated canopy species: Apple-topped Gum (*Eucalyptus angophoroides*), Mountain Grey Gum (*Eucalyptus cypellocarpa*), Silvertop Ash (*Eucalyptus sieberi*), River Peppermint (*Eucalyptus elata*), Yellow Stringybark (*Eucalyptus muelleriana*), Coast Grey Box (*Eucalyptus bosistoana*).

Characteristic midstorey species: *Cassinia aculeata*, *Coprosma quadrifida*, *Hibbertia obtusifolia*, *Leucopogon lanceolatus*, *Senecio linearifolius*, *Clematis aristata*, *Glycine clandestina*.

Characteristic groundcover species: *Poa meionectes*, *Microlaena stipoides* var. *stipoides*, *Lomandra longifolia*, *Dichelachne rara*, *Lomandra multiflora*, *Dichondra repens*, *Viola hederacea*, *Hypericum gramineum*, *Lagenifera stipitata*, *Veronica calycina*, *Pteridium esculentum*, *Gonocarpus tetragynus*.

Landscape position: Widespread on undulating granitic terrain at 250m to 700 m elevation in the hinterland and foothills mainly south of the Bega Valley.

Other diagnostic features: Open forest with a sparse shrub layer and diverse grassy ground cover.

Equivalent/related vegetation types: DSFe31: Southeast Hinterland Dry Grass Forest (Tozer *et al.* 2010).

**Biometric ID: SR667**

**Common Name:** White Stringybark - Mountain Grey Gum - Maiden's Gum grassy open forest on granitic foothills and ranges, southern South East Corner

LGA: Bega Valley (1,883 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 35%

Dominant canopy species: White Stringybark (*Eucalyptus globoidea*), Mountain Grey Gum (*Eucalyptus cypellocarpa*), Maiden's Gum (*Eucalyptus maidenii*).

Main associated canopy species: Apple-topped Gum (*Eucalyptus angophoroides*), Blue-leaved Stringybark (*Eucalyptus agglomerata*), Silvertop Ash (*Eucalyptus sieberi*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), Swamp Gum (*Eucalyptus ovata*).

Characteristic midstorey species: *Leucopogon lanceolatus*, *Hibbertia obtusifolia*, *Senecio linearifolius*, *Cassinia aculeata*, *Epacris impressa*.

Characteristic groundcover species: *Poa meionectes*, *Agrostis avenacea*, *Notodanthonia pilosa*, *Ajuga australis*, *Geranium potentilloides*, *Poranthera microphylla*, *Viola hederacea*, *Lomandra longifolia*, *Microlaena stipoides* var. *stipoides*, *Luzula flaccida*, *Gonocarpus tetragynus*.

Landscape position: Occurs on lower slopes at 400-850 m elevation on granitic substrates in the southern parts of the escarpment ranges.

Other diagnostic features: Open or tall open forest with a scattered shrub layer and grassy ground cover.

Equivalent/related vegetation types: This type combines DSFe28: Wog Wog Dry Grass Forest and DSFe29: Nalbaugh Dry Grass Forest (Tozer *et al.* 2010).

## NSW Formation: Dry Sclerophyll Forests (Shrubby subformation)

### NSW Class: South Coast Sands Dry Sclerophyll Forests

#### **Biometric ID: SR512**

**Common Name:** Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner

**LGA:** Bega Valley (1,081 ha); Eurobodalla (1,915 ha); Shoalhaven (2,842 ha).

**EEC:** Bangalay sand forest in the Sydney Basin and South East Corner bioregions.

**Cleared estimate (nearest 5%):** 50%

**Dominant canopy species:** Bangalay (*Eucalyptus botryoides*), Old-man Banksia (*Banksia serrata*), Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*), Blackbutt (*Eucalyptus pilularis*).

**Main associated canopy species:** Rough-barked Apple (*Angophora floribunda*), Red Bloodwood (*Corymbia gummifera*), Swamp Mahogany (*Eucalyptus robusta*).

**Characteristic midstorey species:** *Glochidion ferdinandi*, *Breynia oblongifolia*, *Allocasuarina littoralis*, *Macrozamia communis*, *Platysace lanceolata*.

**Characteristic groundcover species:** *Pteridium esculentum*, *Lomandra longifolia*, *Imperata cylindrica* var. *major*, *Dianella caerulea*, *Pomax umbellata*, *Hardenbergia violacea*.

**Landscape position:** Occurs in near coastal areas on the Central and South Coasts.

**Other diagnostic features:** Occurs on deep coastal sands.

**Equivalent/related vegetation types:** DSFP64: Coastal Sand Forest (Tozer *et al.* 2010); BOT-BAN Bangalay Forest, BOT-LRF Bangalay - Rainforest Forest (Mills 2000); Bangalay Sand Forest (NPWS 2000).

#### **Biometric ID: SR530**

**Common Name:** Coast Banksia - Coast Tea-tree low moist forest on coastal sands and headlands, Sydney Basin and South East Corner

**LGA:** Bega Valley (76 ha); Eurobodalla (28 ha); Shoalhaven (125 ha).

**EEC:** Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions.

**Cleared estimate (nearest 5%):** 50%

**Dominant canopy species:** Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*), Coast Teatree (*Leptospermum laevigatum*), Bangalay (*Eucalyptus botryoides*).

**Main associated canopy species:** Lilly Pilly (*Syzygium smithii*).

**Characteristic midstorey species:** *Breynia oblongifolia*, *Monotoca elliptica*, *Notelaea longifolia*.

**Characteristic groundcover species:** *Lomandra longifolia*, *Commelina cyanea*, *Hibbertia scandens*, *Pteridium esculentum*, *Dichondra repens*, *Viola hederacea*, *Oplismenus imbecillis*, *Imperata cylindrica* var. *major*, *Stephania japonica*.

**Landscape position:** Occurs on beach dunes and occasionally clay-soil headlands within 200m of the sea.

**Other diagnostic features:** Tall dense scrub or low forest with an open groundcover.

**Equivalent/related vegetation types:** HLP63: Littoral Thicket (Tozer *et al.* 2010); BAN-FOR Coast Banksia Forest (Mills 2000); 2223: Dune/Headland Scrub and Beach Strand Grassland Complex (NPWS 2000), which may also include SR640: *Spinifex beach strand grassland*, Sydney Basin and South East Corner.

**Biometric ID: SR531**

**Common Name: Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner**

LGA: Bega Valley (1,615 ha); Eurobodalla (929 ha); Shoalhaven (727 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 65%

Dominant canopy species: Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*), Coast Teatree (*Leptospermum laevigatum*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Acacia longifolia* subsp. *sophorae*, *Leucopogon parviflorus*, *Monotoca elliptica*, *Banksia serrata*, *Correa reflexa* var. *reflexa*.

Characteristic groundcover species: *Carpobrotus glaucescens*, *Isolepis nodosa*, *Spinifex sericeus*, *Zoysia macrantha*, *Lomandra longifolia*.

Landscape position: Coastal dune fields usually in exposed locations.

Other diagnostic features: Occurs on loose sands on coastal foredunes below 10m between Broken Bay and Tuross Heads. Dense to open shrub canopy with open groundcover of forbs, sedges and grasses.

Equivalent/related vegetation types: DSFe61: Coastal Foredune Scrub (Tozer *et al.* 2010); 22/23: Dune/Headland Scrub and Beach Strand Grassland Complex (NPWS 2000); ACA-SPH Coast Wattle Shrubland, LEP-LAV Coast Teatree Shrubland (Mills 2000).

**Biometric ID: SR640**

**Common Name: Spinifex beach strand grassland, Sydney Basin and South East Corner**

LGA: Bega Valley (not mapped, but likely to be present); Eurobodalla (not mapped, but likely to be present); Shoalhaven (29 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 50%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: None listed.

Characteristic groundcover species: *Spinifex sericeus*, *Austrofestuca littoralis*, *Actites megalocarpa*, *Calystegia soldanella*, *Carpobrotus glaucescens*, *Isolepis nodosa*

Landscape position: Restricted to mobile, unconsolidated calcareous sands on beach strands directly above the high tide mark on the seaward side of the coastal foredune.

Other diagnostic features: None listed. Note: In the Biometric dataset SR640 is included in NSW Class 'South Coast Sands Dry Sclerophyll Forests', however it best belongs in 'Maritime Grasslands'.

Equivalent/related vegetation types: SPN-GRL Spinifex Grassland (Mills 2000); GRe62: Beach Strand Grassland (Tozer *et al.* 2010); Dune/Headland Scrub and Beach Strand Grassland Complex (NPWS 2000). In the Eurobodalla LGA, this may be mapped as part of SR531: *Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner*.

## **NSW Class: South East Dry Sclerophyll Forests**

### **Biometric ID: SR517**

**Common Name:** Blue-leaved Stringybark shrubby open forest of hinterland ranges, far southern South East Corner

LGA: Bega Valley (722 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Acacia falciformis*, *Acacia terminalis*, *Monotoca scoparia*, *Podolobium ilicifolium*, *Persoonia linearis*, *Platysace lanceolata*, *Cassinia longifolia*, *Lomatia ilicifolia*.

Characteristic groundcover species: *Rytidosperma pallidum* (syn. *Joycea pallida*), *Caustis flexuosa*, *Lomandra longifolia*, *Pomax umbellata*, *Hardenbergia violacea*.

Landscape position: Occurs on dry ridges and slopes on sandstone terrain at 300m to 740m around the Gnoa River and on Mt Imlay.

Other diagnostic features: Dry open forest with a shrubby understorey.

Equivalent/related vegetation types: DSFe50: Gnoa Dry Shrub Forest (Tozer *et al.* 2010).

### **Biometric ID: SR554**

**Common Name:** Gully Gum - Wallaby Bush shrubby woodland on rocky ridges of the ranges, southern South East Corner

LGA: Bega Valley (1,308 ha); Eurobodalla (< 1 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Gully Gum (*Eucalyptus smithii*)

Main associated canopy species: Broad-leaved Hickory (*Acacia falciformis*), *Exocarpos cupressiformis*, Sweet Pittosporum (*Pittosporum undulatum*)

Characteristic midstorey species: *Beyeria lasiocarpa*, *Cassinia longifolia*, *Cassinia trinerva*, *Notelaea venosa*, *Pomaderris cinerea*.

Characteristic groundcover species: *Asplenium flabellifolium*, *Lepidosperma laterale*, *Rytidosperma longifolium*.

Landscape position: Occurs on rocky slopes and ridgelines on granitic and metasediment substrates at intermediate elevations from Burragate Peak to Mt Imlay with an outlying stand on the slopes of Big Jack Mountain.

Other diagnostic features: None listed.

Equivalent/related vegetation types: DSFe3: Rocky Tops Dry Scrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR559**

**Common Name:** Ironbark - Woollybutt - White Stringybark open forest on coastal hills, South East Corner

LGA: Bega Valley (13,892 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: *Eucalyptus tricarpa*, Woollybutt (*Eucalyptus longifolia*), White Stringybark (*Eucalyptus globoidea*).

Main associated canopy species: Yellow Stringybark (*Eucalyptus muelleriana*).

Characteristic midstorey species: *Acacia falciformis*, *Allocasuarina littoralis*, *Daviesia mimosoides*, *Hibbertia aspera*, *Ozothamnus diosmifolius*, *Persoonia linearis*, *Platysace lanceolata*.

Characteristic groundcover species: *Dianella caerulea*, *Entolasia stricta*, *Rytidosperma pallidum* (syn. *Joycea pallida*), *Lagenifera stipitata*, *Lepidosperma laterale*, *Lomandra longifolia*, *Lomandra multiflora* subsp. *multiflora*, *Microlaena stipoides* var. *stipoides*, *Poa meionectes*, *Themeda australis*, *Hardenbergia violacea*.

Landscape position: Occurs on steep slopes and ridges at 50m to 250m elevation on the coastal foothills from Bermagui to Eden.

Other diagnostic features: None listed.

Equivalent/related vegetation types: DSFe32B: Far South Coastal Foothills Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR560**

**Common Name:** Jilliga Ash dry shrubby open forest on rhyolite in the Deua NP area, South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (14 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 0%

Dominant canopy species: Jilliga Ash (*Eucalyptus stenostoma*).

Main associated canopy species: Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Characteristic midstorey species: *Boronia ledifolia*, *Allocasuarina littoralis*, *Persoonia linearis*, *Pimelea linifolia* subsp. *linifolia*, *Hakea dactyloides*, *Pomaderris gilmourii* var. *gilmourii*, *Leucopogon setiger*.

Characteristic groundcover species: *Gahnia microstachya*, *Lepidosperma laterale*, *Lomandra glauca*, *Patersonia longifolia*.

Landscape position: Mainly occurs on rocky rhyolite ridges in Deua National Park.

Other diagnostic features: Low shrubby open forest or woodland. Habitat for several of threatened plant taxa.

Equivalent/related vegetation types: 40: Coastal Hinterland (Deua NP) Dry Shrub Forest (rhyolite) (NPWS 2000).

**Biometric ID: SR566**

**Common Name:** Kybean Mallee Ash - Snow Gum heathy low open forest on the Wadbilliga Plateau, South East Corner

LGA: Bega Valley (1,101 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Kybean Mallee Ash (*Eucalyptus kybeanensis*), Snow Gum (*Eucalyptus pauciflora* subsp. *pauciflora*).

Main associated canopy species: Mountain Gum (*Eucalyptus dalrympleana* subsp. *dalrympleana*), *Eucalyptus latiuscula*.

Characteristic midstorey species: *Acacia obliquinervia*, *Acrotriche serrulata*, *Allocasuarina nana*, *Banksia canei*, *Boronia algida*, *Brachyloma daphnoides*, *Dillwynia sericea*, *Hakea dactyloides*, *Hibbertia pedunculata*, *Kunzea* sp. 'Wadbilliga', *Leptospermum lanigerum*, *Monotoca scoparia*, *Oxylobium ellipticum*, *Persoonia asperula*, *Persoonia silvatica*, *Platysace lanceolata*.

Characteristic groundcover species: *Gahnia sieberiana*, *Lepidosperma laterale*, *Stylidium graminifolium*.

Landscape position: Occurs on dry sites on metamorphosed sandstone plateaux at 1100m to 1350m elevation in the Wadbilliga area.

Other diagnostic features: A low open forest or woodland with a prominent and diverse shrub stratum and groundcover of variable height.

Equivalent/related vegetation types: HLeW3: Wadbilliga Heath Forest (Tozer *et al.* 2010).

**Biometric ID: SR577**

**Common Name:** Messmate dry shrubby forest on sandstone, far southern South East Corner

LGA: Bega Valley (114 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 35%

Dominant canopy species: Messmate (*Eucalyptus obliqua*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Acacia mucronata* subsp. *longifolia*, *Epacris impressa*, *Leucopogon lanceolatus*, *Lomatia ilicifolia*, *Monotoca scoparia*, *Oxylobium arborescens*, *Platysace lanceolata*.

Characteristic groundcover species: *Amperea xiphoclada*, *Dianella tasmanica*, *Gonocarpus tetragynus*, *Gonocarpus teucroides*, *Lomandra longifolia*, *Poa meionectes*, *Pteridium esculentum*, *Tetrarrhena juncea*, *Viola hederacea*.

Landscape position: Occurs on elevated ridges on the Genoa sandstone and nearby sites on quartz-rich granitic substrates and metasediments, usually above 700m. elevation. The main occurrences are on Nungatta Mountain and Mt Tennyson.

Other diagnostic features: Open forest with a shrubby understorey.

Equivalent/related vegetation types: DSFe25: Southeast Sandstone Dry Shrub Forest (Tozer *et al.* 2010).



**Biometric ID: SR581**

**Common Name:** Mountain Grey Gum - White Stringybark open forest on sandstone mountain slopes, far south west South East Corner

LGA: Bega Valley (1,022 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), White Stringybark (*Eucalyptus globoidea*).

Main associated canopy species: Silvertop Ash (*Eucalyptus sieberi*), Blue-leaved Stringybark (*Eucalyptus agglomerata*), *Eucalyptus mackintii*.

Characteristic midstorey species: *Acacia falciformis*, *Cassinia longifolia*, *Daviesia ulicifolia*, *Epacris impressa*, *Exocarpos strictus*, *Leucopogon lanceolatus*, *Olearia erubescens*, *Ozothamnus cuneifolius*, *Persoonia linearis*, *Platysace lanceolata*.

Characteristic groundcover species: *Dianella tasmanica*, *Dichelachne rara*, *Gonocarpus teucroides*, *Hierochloa rariflora*, *Lepidosperma laterale*, *Lomandra longifolia*, *Poa meioneetes*, *Pteridium esculentum*, *Senecio prenanthoides*, *Viola hederacea*.

Landscape position: Mainly occurs in the Nungatta Mountain area on sandstone substrates.

Other diagnostic features: Tall to very tall open forest.

Equivalent/related vegetation types: DSFe43: Southeast Mountain Sandstone Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR596**

**Common Name:** Red Bloodwood - Silvertop Ash - White Stringybark heathy open forest on coastal foothills, southern South East Corner

LGA: Bega Valley (14,174 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Red Bloodwood (*Corymbia gummifera*), Silvertop Ash (*Eucalyptus sieberi*), White Stringybark (*Eucalyptus globoidea*).

Main associated canopy species: Blackbutt (*Eucalyptus pilularis*), Black She-oak (*Allocasuarina littoralis*), Old-man Banksia (*Banksia serrata*).

Characteristic midstorey species: *Acacia suaveolens*, *Acacia terminalis*, *Aotus ericoides*, *Banksia spinulosa*, *Bossiaea obcordata*, *Correa reflexa*, *Epacris impressa*, *Leptospermum trinervium*, *Lomatia ilicifolia*, *Monotoca scoparia*, *Persoonia levis*, *Persoonia linearis*, *Pimelea linifolia* subsp. *linifolia*, *Platysace lanceolata*.

Characteristic groundcover species: *Amperea xiphoclada*, *Anisopogon avenaceus*, *Dianella caerulea*, *Entolasia stricta*, *Gonocarpus teucroides*, *Rytidosperma pallidum* (syn. *Joycea pallida*), *Lepidosperma concavum*, *Lomandra longifolia*, *Patersonia glabrata*, *Pteridium esculentum*, *Xanthosia pilosa*.

Landscape position: Occurs on low ridges and dry slopes in the coastal foothills and plains usually below 150m elevation on metasediments or Tertiary alluvium.

Other diagnostic features: Open forest with a well-developed shrub layer and open ground layer. Some sites on deep sandy soils support relatively tall forest dominated by *Eucalyptus pilularis*.

Equivalent/related vegetation types: DSFe46B: Southeast Lowland Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR611**

**Common Name:** Rough-barked Apple - White Stringybark dry open forest on lower slopes in the upper Tuross and Brogo River valleys, South East Corner

LGA: Bega Valley (8,105 ha); Eurobodalla (4,761 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 15%

Dominant canopy species: Rough-barked Apple (*Angophora floribunda*), White Stringybark (*Eucalyptus globoidea*).

Main associated canopy species: Apple-topped Gum (*Eucalyptus angophoroides*), River Peppermint (*Eucalyptus elata*).

Characteristic midstorey species: *Leucopogon lanceolatus*, *Persoonia linearis*, *Glycine clandestina*, *Hardenbergia violacea*.

Characteristic groundcover species: *Brachyscome spathulata*, *Desmodium varians*, *Dianella caerulea*, *Dichondra repens*, *Hydrocotyle laxiflora*, *Hypericum gramineum*, *Imperata cylindrica* var. *major*, *Lagenifera stipitata*, *Lepidosperma laterale*, *Lomandra longifolia*, *Lomandra multiflora* subsp. *multiflora*, *Microlaena stipoides* var. *stipoides*, *Oxalis perennans*, *Pomax umbellata*, *Pratia purpurascens*, *Pteridium esculentum*.

Landscape position: Restricted to the gorges of Tuross and Brogo Rivers and their tributaries, principally within Wadbilliga National Park where it occurs on steep to moderately steep dry slopes on metasediments and granitic substrates at 200m to 500 m elevation.

Other diagnostic features: None listed.

Equivalent/related vegetation types: DSFeW5: Wadbilliga Gorge Dry Forest (Tozer *et al.* 2010); 56: Escarpment Moist Herb/Fern Grass Forest (NPWS 2000).

**Biometric ID: SR620**

**Common Name:** Silvertop Ash - Black She-oak shrubby open forest on hills of the Bega Valley, South East Corner

LGA: Bega Valley (4,548 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*).

Main associated canopy species: Blue-leaved Stringybark (*Eucalyptus agglomerata*), Black She-oak (*Allocasuarina littoralis*).

Characteristic midstorey species: *Acacia terminalis*, *Bossiaea obcordata*, *Correa reflexa*, *Hakea macraeana*, *Persoonia linearis*, *Platysace lanceolata*, *Pomaderris lanigera*, *Billardiera scandens*, *Clematis aristata*.

Characteristic groundcover species: *Entolasia stricta*, *Rytidosperma pallidum* (syn. *Joycea pallida*), *Lepidosperma laterale*, *Lepidosperma urophorum*, *Lomandra confertifolia* subsp. *rubiginosa*, *Lomandra multiflora* subsp. *multiflora*, *Patersonia glabrata*, *Senecio velleioides*, *Tetradlea thymifolia*, *Xanthosia pilosa*.

Landscape position: Occurs on coastal mountain ridges at 150m to 650 m elevation on Mumbulla and Dr George Mountains. Outlying stands may occur at Mt Imlay and the upper Wog Wog Creek area.

Other diagnostic features: Low open forest up to 20m tall with a small tree layer around 6m tall and a sparse sclerophyllous shrub layer and open groundcover of grasses and graminoids.

Equivalent/related vegetation types: DSFe48: Mumbulla Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR621**

**Common Name:** Silvertop Ash - Blue-leaved Stringybark - Red Bloodwood dry shrubby open forest on ridges of the hinterland foothills, northern South East Corner

LGA: Bega Valley (3,695 ha); Eurobodalla (39,168 ha); Shoalhaven (11,860 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Main associated canopy species: Red Bloodwood (*Corymbia gummifera*), Yertchuk (*Eucalyptus consideniana*), White Stringybark (*Eucalyptus globoidea*).

Characteristic midstorey species: *Persoonia linearis*, *Acacia obtusifolia*, *Platysace lanceolata*, *Podolobium ilicifolium*, *Tetradlea thymifolia*, *Banksia spinulosa*, *Allocasuarina littoralis*.

Characteristic groundcover species: *Entolasia stricta*, *Dianella caerulea*, *Lomandra confertifolia* subsp. *similis*, *Pomax umbellata*.

Landscape position: Occurs on ridges and dry slopes with sandy loams generally between 100m and 600m above seal level between the southern slopes of the Morton plateau and Cobargo.

Other diagnostic features: Woodland with open understorey of sclerophyll shrubs and a ground layer of grasses and forbs.

Equivalent/related vegetation types: DSFp89: Batemans Bay Foothills Forest (Tozer *et al.* 2010); Several subtypes of NPWS (2000) including 1: Southern Coastal Hinterland Intermediate Altitude Shrub Dry Forest, 13: Southern Escarpment Foothills Rainshadow Dry Grass Forest, 138: Northern Plateau and Escarpment Heath Shrub Dry Forest and 179: Eastern Deua dry shrub Forest; AGG-SIE Blue-leaved Stringybark-Silvertop Ash Open Forest (Mills 2000).

**Biometric ID: SR622**

**Common Name:** Silvertop Ash - Blue-leaved Stringybark - Woollybutt shrubby open forest on coastal foothills central South East Corner

LGA: Bega Valley (31,098 ha); Eurobodalla (14,029 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Blue-leaved Stringybark (*Eucalyptus agglomerata*), Woollybutt (*Eucalyptus longifolia*).

Main associated canopy species: Black She-oak (*Allocasuarina littoralis*), Rough-barked Apple (*Angophora floribunda*), Yellow Stringybark (*Eucalyptus muelleriana*).

Characteristic midstorey species: *Acacia obtusifolia*, *Leucopogon lanceolatus*, *Persoonia linearis*, *Platysace lanceolata*, *Podolobium ilicifolium*.

Characteristic groundcover species: *Dianella caerulea*, *Entolasia stricta*, *Rytidosperma pallidum* (syn. *Joycea pallida*), *Lepidosperma laterale*, *Lomandra confertifolia* subsp. *similis*, *Lomandra multiflora* subsp. *multiflora*, *Billardiera scandens*, *Hardenbergia violacea*.

Landscape position: Occurs on metamorphosed sediments and mudstones and is widespread on steep slopes and ridges at 50m to 250 m elevation on the coastal foothills from Brogo to Moruya.

Other diagnostic features: Open forest with a sparse shrub layer and ground layer dominated by tussock grasses.

Equivalent/related vegetation types: DSFe32A: Deua-Brogo Foothills Dry Shrub Forest (Tozer *et al.* 2010); 7: Southern Coastal Hinterland Shrub/Tussock Grass Dry Forest, 8: Far Southern Coastal Shrub Dry Forest (NPWS 2000).

**Biometric ID: SR623**

**Common Name:** Silvertop Ash - Blue-leaved Stringybark shrubby open forest on hinterland hills, far southern South East Corner

LGA: Bega Valley (31,403 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Main associated canopy species: Black She-oak (*Allocasuarina littoralis*).

Characteristic midstorey species: *Acacia obtusifolia*, *Acacia terminalis*, *Cooperhooia barbata*, *Leucopogon lanceolatus*, *Lomatia ilicifolia*, *Monotoca scoparia*, *Persoonia linearis*, *Platysace lanceolata*, *Podolobium ilicifolium*, *Billardiera scandens*.

Characteristic groundcover species: *Dianella caerulea*, *Gonocarpus teucroides*, *Lepidosperma laterale*, *Lomandra multiflora* subsp. *multiflora*, *Patersonia glabrata*, *Pteridium esculentum*, *Stylidium graminifolium*, *Tetratheca thymifolia*, *Xanthosia pilosa*.

Landscape position: Widespread on coastal mountain ridges, dry slopes and coastal plateaux on metasediments between 100m and 500 m elevation.

Other diagnostic features: Open forest with an open shrub layer and sparse ground cover. It may occur up to 900 m elevation on hinterland mountains (Big Jack Mountain, Mt Poole) and in the dissected terrain north of Bemboka.

Equivalent/related vegetation types: DSFe49: Southeast Coastal Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR624**

**Common Name:** Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (2,521 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 40%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Main associated canopy species: White Stringybark (*Eucalyptus globoidea*), Brittle Gum (*Eucalyptus mannifera*).

Characteristic midstorey species: *Persoonia linearis*, *Allocasuarina littoralis*, *Hibbertia obtusifolia*.

Characteristic groundcover species: *Goodenia hederacea*, *Pomax umbellata*, *Lomandra obliqua*, *Microlaena stipoides* var. *stipoides*, *Styandra glauca*, *Billardiera scandens*.

Landscape position: Occurs on sandy loams on ridges on the eastern margin of the tableland between 550 and 900m altitude.

Other diagnostic features: Open forest with an open understorey of sclerophyll shrubs and ground layer of sedges and forbs.

Equivalent/related vegetation types: DSFp10: Eastern Tablelands Dry Forest (Tozer *et al.* 2010); SIE-MAN Silvertop Ash-Brittle Gum Woodland (Mills 2000).

**Biometric ID: SR627**

**Common Name:** Silvertop Ash - Mountain Grey Gum shrubby dry open forest on ridges in Wadbilliga NP, South East Corner

LGA: Bega Valley (6,603 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Mountain Grey Gum (*Eucalyptus cypellocarpa*).

Main associated canopy species: White Ash (*Eucalyptus fraxinoides*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), River Peppermint (*Eucalyptus elata*).

Characteristic midstorey species: *Acacia falciformis*, *Acacia obtusifolia*, *Leucopogon lanceolatus*, *Notelaea venosa*, *Persoonia linearis*, *Platysace lanceolata*, *Polyscias sambucifolia* subsp. B.

Characteristic groundcover species: *Dianella caerulea*, *Dianella tasmanica*, *Lomandra longifolia*, *Pteridium esculentum*.

Landscape position: Occurs on dry steep upper slopes and ridges on metasedimentary substrates in Wadbilliga NP.

Other diagnostic features: Open forest with a shrubby understorey and sparse ground layer.

Equivalent/related vegetation types: DSFeW1: Wadbilliga Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR628**

**Common Name:** Silvertop Ash - Narrow-leaved Peppermint open forest on ridges of the eastern tableland, South Eastern Highlands and South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (1,379 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 20%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*).

Main associated canopy species: Broad-leaved Peppermint (*Eucalyptus dives*), *Eucalyptus blaxlandii*.

Characteristic midstorey species: *Hibbertia obtusifolia*, *Persoonia linearis*, *Leucopogon lanceolatus*, *Monotoca scoparia*.

Characteristic groundcover species: *Gonocarpus tetragynus*, *Pteridium esculentum*, *Lomandra longifolia*, *Dianella revoluta* var. *revoluta*, *Poa sieberiana*.

Landscape position: Occurs on sandy loams on ridges and dry slopes of the eastern tablelands and Great Dividing Range at 650m to 1200m altitude from the western Blue Mountains to Deua National Park.

Other diagnostic features: Open forest with an open understorey of sclerophyll shrubs and ground layer of forbs, sedges and grasses.

Equivalent/related vegetation types: DSFp8: Tableland Ridge Forest (Tozer *et al.* 2010).

**Biometric ID: SR630**

**Common Name:** Silvertop Ash - Rough-barked Apple shrubby open forest on the hinterland hills, far southern South Eastern Corner

LGA: Bega Valley (17,010 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Rough-barked Apple (*Angophora floribunda*).

Main associated canopy species: Black She-oak (*Allocasuarina littoralis*).

Characteristic midstorey species: *Acacia terminalis*, *Epacris impressa*, *Leucopogon lanceolatus*, *Persoonia linearis*, *Platysace lanceolata*, *Pultenaea daphnoides*, *Billardiera scandens*.

Characteristic groundcover species: *Dianella caerulea*, *Gahnia radula*, *Gonocarpus teucroides*, *Lomandra longifolia*, *Pteridium esculentum*, *Tetrarrhena juncea*, *Xanthosia pilosa*.

Landscape position: Occurs on coastal mountain ridges and coastal plateaux up to 800m elevation on metasediments between Nadgee and Mt Imlay.

Other diagnostic features: Open forest with an open shrub layer and groundcover comprising a mixture of grasses, graminoids, herbs and Bracken.

Equivalent/related vegetation types: DSFe47: Eden Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR631**

**Common Name:** Silvertop Ash - White Stringybark shrubby open forest of the escarpment ranges, southern South East Corner

LGA: Bega Valley (1,630 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), White Stringybark (*Eucalyptus globoidea*).

Main associated canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Messmate (*Eucalyptus obliqua*).

Characteristic midstorey species: *Leucopogon lanceolatus*, *Persoonia linearis*, *Platysace lanceolata*, *Billardiera scandens*, *Clematis aristata*.

Characteristic groundcover species: *Dianella caerulea*, *Gonocarpus teucroides*, *Hierochloa rariflora*, *Lagenifera stipitata*, *Lepidosperma laterale*, *Lomandra longifolia*, *Lomandra multiflora* subsp. *multiflora*, *Poa meionectes*, *Poranthera microphylla*, *Pteridium esculentum*, *Tetrarrhena juncea*, *Viola hederacea*.

Landscape position: Occurs on exposed ridges and slopes of the coastal and escarpment ranges usually at 500m to 900m elevation on granitic substrates or more rarely on metasediments.

Other diagnostic features: Open to tall open forest with a shrubby understorey and mixed ground layer.

Equivalent/related vegetation types: DSFe44: Southeast Foothills Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR633**

**Common Name:** Silvertop Ash open forest on exposed ridges of the escarpment ranges, far southern South East Corner

LGA: Bega Valley (940 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Acacia terminalis*, *Epacris impressa*, *Leucopogon lanceolatus*, *Lomatia ilicifolia*, *Monotoca scoparia*, *Persoonia linearis*, *Platysace lanceolata*, *Billardiera scandens*.

Characteristic groundcover species: *Rytidosperma pallidum* (syn. *Joycea pallida*), *Lepidosperma laterale*, *Lomandra longifolia*, *Lomandra multiflora* subsp. *multiflora*, *Poa meionectes*, *Pteridium esculentum*, *Stylidium graminifolium*.

Landscape position: Occurs on exposed stony ridges and upper slopes at 600m to 1000m elevation on granitic substrates or more rarely on metasediments on the escarpment range and hinterland mountains.

Other diagnostic features: Open to tall open forest clearly dominated by Silvertop Ash with a shrubby understorey and ground layer of tussock grasses and matt-rushes.

Equivalent/related vegetation types: DSFe45: Southeast Mountain Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR634**

**Common Name:** Silvertop Ash shrubby open forest on escarpment ridges, central and northern South East Corner

LGA: Bega Valley (239 ha); Eurobodalla (14,297 ha); Shoalhaven (115 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*).

Main associated canopy species: Jilliga Ash (*Eucalyptus stenostoma*), White Stringybark (*Eucalyptus globoidea*), Yellow Stringybark (*Eucalyptus muelleriana*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*).

Characteristic midstorey species: *Acacia obtusifolia*, *Persoonia linearis*, *Amperea xiphoclada*, *Leucopogon lanceolatus*, *Platysace lanceolata*, *Podolobium ilicifolium*, *Tetratheca thymifolia*.

Characteristic groundcover species: *Pteridium esculentum*, *Dianella caerulea*.

Landscape position: Occurs on sandy loams on dry ridges from 250m to 1100m elevation between Wog Wog Mountain and Dampier State Forest.

Other diagnostic features: Dry open forest with a shrubby understorey and sparse ground layer.

Equivalent/related vegetation types: DSFp98: Clyde-Deua Ridgetop Forest (Tozer *et al.* 2010); 59: Eastern Tableland and Escarpment Shrub/Fern Dry Forest (NPWS 2000).

**Biometric ID: SR668**

**Common Name:** White Stringybark - Narrow-leaved Peppermint dry open forest on hinterland hills, far south of the South East Corner

LGA: Bega Valley (10,967 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 40%

Dominant canopy species: White Stringybark (*Eucalyptus globoidea*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*).

Main associated canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Messmate (*Eucalyptus obliqua*).

Characteristic midstorey species: *Acacia mucronata* subsp. *longifolia*, *Acrotriche serrulata*, *Epacris impressa*, *Leucopogon lanceolatus*, *Monotoca scoparia*, *Persoonia linearis*.

Characteristic groundcover species: *Dianella caerulea*, *Dichelachne rara*, *Gonocarpus tetragynus*, *Helichrysum scorpioides*, *Hibbertia obtusifolia*, *Hydrocotyle laxiflora*, *Hypericum gramineum*, *Lagenifera stipitata*, *Lomandra longifolia*, *Lomandra multiflora* subsp. *multiflora*, *Microlaena stipoides* var. *stipoides*, *Poa meionectes*, *Pteridium esculentum*, *Senecio prenanthoides*, *Viola hederacea*.

Landscape position: Occurs on ridges and dry slopes on metasediments and granitic substrates at 300m to 850 m elevation in the far south.

Other diagnostic features: Open to tall open forest with an open shrub layer and sparse ground cover.

Equivalent/related vegetation types: DSFe26: Southeast Tableland Dry Shrub Forest (Tozer *et al.* 2010).

**Biometric ID: SR673**

**Common Name:** Yellow Stringybark - Mountain Grey Gum shrubby open forest on slopes of the hinterland ranges, southern South East Corner

LGA: Bega Valley (15,860 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Yellow Stringybark (*Eucalyptus muelleriana*), Mountain Grey Gum (*Eucalyptus cypellocarpa*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Acacia falciformis*, *Cassinia aculeata*, *Cassinia longifolia*, *Leucopogon lanceolatus*, *Tylophora barbata*.

Characteristic groundcover species: *Desmodium varians*, *Dianella caerulea*, *Dichelachne rara*, *Gonocarpus teucroides*, *Hypericum gramineum*, *Lagenifera stipitata*, *Lepidosperma laterale*, *Lomandra longifolia*, *Lomandra multiflora* subsp. *multiflora*, *Opercularia aspera*, *Poa labillardierei* var. *labillardierei*, *Poa meionectes*, *Pteridium esculentum*, *Wahlenbergia gracilis*.

Landscape position: Widespread on dry to intermediate slopes of the coastal and hinterland ranges south of Bega, primarily on metasediments at 100m to 600m elevation.

Other diagnostic features: Tall to very tall open forest with a prominent understorey of small trees and shrubs and a sparse groundcover.

Equivalent/related vegetation types: DSFe33: Southeast Coastal Range Dry Shrub Forest (Tozer *et al.* 2010).



**Biometric ID: SR674**

**Common Name:** Yellow Stringybark - Silvertop Ash open forest on dry slopes of the escarpment ranges, northern South East Corner

LGA: Bega Valley (7,091 ha); Eurobodalla (37,036 ha); Shoalhaven (265 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Yellow Stringybark (*Eucalyptus muelleriana*), Silvertop Ash (*Eucalyptus sieberi*).

Main associated canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Gully Gum (*Eucalyptus smithii*), Blue-leaved Stringybark (*Eucalyptus agglomerata*), Rough-barked Apple (*Angophora floribunda*).

Characteristic midstorey species: *Acacia falciformis*, *Persoonia linearis*, *Leucopogon lanceolatus*, *Acacia obtusifolia*, *Platysace lanceolata*, *Clematis aristata*.

Characteristic groundcover species: *Pteridium esculentum*, *Dianella caerulea*.

Landscape position: Occurs on sandy loams on dry slopes of the southern escarpment and ranges, at elevations between 300m to 950m mainly from the Yadboro River to Deua NP.

Other diagnostic features: Open forest with an open understorey and sparse ground cover.

Equivalent/related vegetation types: DSFp91: Clyde-Deua Open Forest (Tozer *et al.* 2010); 18/19: Southern Coastal Hinterland Shrub/Vine/Grass Moist Forest (NPWS 2000).

**Biometric ID: SR675**

**Common Name:** Yertchuk - Silvertop Ash - Blue-leaved Stringybark shrubby open forest of the Wallagaraugh catchment, far southern South East Corner

LGA: Bega Valley (22,887 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Yertchuk (*Eucalyptus consideniana*), Silvertop Ash (*Eucalyptus sieberi*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Main associated canopy species: White Stringybark (*Eucalyptus globoidea*).

Characteristic midstorey species: *Acacia terminalis*, *Aotus ericoides*, *Correa reflexa*, *Daviesia buxifolia*, *Epacris impressa*, *Hibbertia empetrifolia* subsp. *empetrifolia*, *Hovea linearis*, *Leucopogon lanceolatus*, *Lomatia ilicifolia*, *Monotoca scoparia*, *Persoonia levis*, *Persoonia linearis*, *Platylobium formosum*, *Platysace lanceolata*.

Characteristic groundcover species: *Caustis flexuosa*, *Gahnia radula*, *Tetrarrhena juncea*, *Lomandra longifolia*, *Poa meionectes*, *Lepidosperma laterale*, *Gonocarpus teucroides*, *Patersonia glabrata*, *Pteridium esculentum*.

Landscape position: Occurs on low ridges and slopes in undulating terrain on granitic substrates at 50m to 300m elevation in the middle to lower reaches of the Wallagaraugh River catchment.

Other diagnostic features: Open forest with a well developed shrubby understorey and sparse ground layer.

Equivalent/related vegetation types: DSFe46A: Timbillica Dry Shrub Forest (Tozer *et al.* 2010).

## **NSW Class: Southern Tablelands Dry Sclerophyll Forests**

### **Biometric ID: SR522**

**Common Name:** Broad-leaved Peppermint - Brittle Gum shrubby open forest on the eastern tablelands, South Eastern Highlands

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (1,866 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 55%

Dominant canopy species: Broad-leaved Peppermint (*Eucalyptus dives*), Brittle Gum (*Eucalyptus mannifera*).

Main associated canopy species: Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), Candle Bark (*Eucalyptus rubida* subsp. *rubida*).

Characteristic midstorey species: *Brachyloma daphnoides*, *Lomatia ilicifolia*, *Gompholobium minus*, *Acacia gunnii*.

Characteristic groundcover species: *Goodenia hederacea*, *Dianella revoluta* var. *revoluta*, *Hovea linearis*, *Stylidium graminifolium*, *Gonocarpus tetragynus*, *Poa sieberiana* var. *sieberiana*, *Hibbertia obtusifolia*, *Lomandra multiflora*.

Landscape position: Occurs on the eastern edge of the Southern Tablelands between Nerriga and Captains Flat.

Other diagnostic features: Low open forest on rises in gently undulating terrain with deep sandy loams or coarse sands between 600m and 900m elevation.

Equivalent/related vegetation types: DIV-MAN Broad-leaved Peppermint-Brittle Gum Woodland (Mills 2000); DSFP15: Braidwood Dry Forest (Tozer *et al.* 2010).

### **Biometric ID: SR558**

**Common Name:** Inland Scribbly Gum - Brittle Gum low woodland of the eastern tablelands, South Eastern Highlands

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (4,028 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 60%

Dominant canopy species: Inland Scribbly Gum (*Eucalyptus rossii*), Brittle Gum (*Eucalyptus mannifera*).

Main associated canopy species: Broad-leaved Peppermint (*Eucalyptus dives*), Red Stringybark (*Eucalyptus macrorhyncha*).

Characteristic midstorey species: *Brachyloma daphnoides*, *Persoonia linearis*, *Hibbertia obtusifolia*, *Allocasuarina littoralis*, *Melichrus urceolatus*.

Characteristic groundcover species: *Goodenia hederacea*, *Lepidosperma gunnii*, *Dianella revoluta* var. *revoluta*, *Lomandra obliqua*, *Gonocarpus tetragynus*, *Rytidosperma pallidum* (syn. *Joycea pallida*), *Lomandra multiflora*, *Lomandra filiformis*, *Patersonia sericea*.

Landscape position: Occurs on sandy loams mainly derived from fine-grained sedimentary rocks on low ridges of the tableland between 550 and 800m from Moss Vale to Braidwood.

Other diagnostic features: Low woodland or open forest with open understorey of sclerophyll shrubs and ground layer of sedges, grass and forbs.

Equivalent/related vegetation types: ROS-GLB Inland Scribbly Gum-White Stringybark Woodland (Mills 2000); DSFP9: Tableland Low Woodland (Tozer *et al.* 2010).

## **NSW Class: Southern Wattle Dry Sclerophyll Forests**

**Biometric ID:** SR519

**Common Name:** Bodalla Silver Wattle very tall shrubland in the Brogo River and Desert Creek catchments, South East Corner

**LGA:** Bega Valley (3,856 ha); Eurobodalla (1,890 ha); Shoalhaven (not mapped).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 10%

**Dominant canopy species:** Bodalla Silver Wattle (*Acacia silvestris*), *Acacia blayana*.

**Main associated canopy species:** Black Wattle (*Acacia mearnsii*), Gully Gum (*Eucalyptus smithii*), *Eucalyptus wilcoxii*.

**Characteristic midstorey species:** *Beyeria lasiocarpa*, *Cassinia trinerva*, *Notelaea venosa*, *Philothea trachyphylla*, *Pomaderris brogoensis*.

**Characteristic groundcover species:** *Plectranthus parviflorus*.

**Landscape position:** Occurs in small to moderate-sized patches in steep gorges on metasediments in the Brogo River and Desert Creek catchments. Most stands are in Wadbilliga and Bemboka National Parks, although small stands occur on private land at Brogo Pass and Alsop's Creek.

**Other diagnostic features:** None listed.

**Equivalent/related vegetation types:** DSFe4: Brogo Shrub Forest (Tozer *et al.* 2010); 35: South Coast Acacia Scrubs - *Acacia silvestris* (NPWS 2000).

## **NSW Class: Sydney Coastal Dry Sclerophyll Forests**

**Biometric ID:** SR594

**Common Name:** Red Bloodwood - Hard-leaved Scribbly Gum - Silvertop Ash heathy open forest on sandstone plateaux of the lower Shoalhaven Valley, Sydney Basin

**LGA:** Bega Valley (not mapped); Eurobodalla (8 ha); Shoalhaven (48,134 ha).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 20%

**Dominant canopy species:** Red Bloodwood (*Corymbia gummifera*), Hard-leaved Scribbly Gum (*Eucalyptus sclerophylla*), Silvertop Ash (*Eucalyptus sieberi*).

**Main associated canopy species:** Sydney Peppermint (*Eucalyptus piperita*), Yertchuk (*Eucalyptus consideniana*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

**Characteristic midstorey species:** *Lambertia formosa*, *Persoonia levis*, *Banksia spinulosa*, *Petrophile pedunculata*, *Leptospermum trinervium*, *Lomatia ilicifolia*, *Bossiaea heterophylla*, *Hakea laevipes*, *Platysace linearifolia*, *Pimelea linifolia*, *Tetratheca thymifolia*.

**Characteristic groundcover species:** *Lomandra obliqua*, *Patersonia sericea*, *Entolasia stricta*, *Caustis flexuosa*, *Cyathochaeta diandra*.

**Landscape position:** Occurs on sandstone plateaux up to 700m elevation in the lower Shoalhaven area.

**Other diagnostic features:** Open forest or woodland with an understorey of sclerophyll shrubs and groundcover of sedges.

Equivalent/related vegetation types: Mills (2000) contains several subtypes of this broad type including SCL-GUM Scribbly Gum - Bloodwood Woodland/Open Woodland, SCL-CAS Scribbly Gum - Casuarina Forest, SIE-GUM Silvertop Ash - Bloodwood Forest, CON-GUM Yertchuk - Bloodwood Woodland; DSFp148: Shoalhaven Sandstone Forest (Tozer *et al.* 2010).

**Biometric ID: SR595**

**Common Name: Red Bloodwood - scribble gum heathy woodland on sandstone plateaux, Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (635 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 25%

Dominant canopy species: Red Bloodwood (*Corymbia gummifera*), Scribbly Gum (*Eucalyptus haemastoma* and *Eucalyptus racemosa*).

Main associated canopy species: *Eucalyptus oblonga*, Bastard White Mahogany (*Eucalyptus umbra*), Yellow Bloodwood (*Corymbia eximia*), Smooth-barked Apple (*Angophora costata*), Silvertop Ash (*Eucalyptus sieberi*), Narrow-leaved Apple (*Angophora bakeri*), Sydney Peppermint (*Eucalyptus piperita*).

Characteristic midstorey species: *Leptospermum trinervium*, *Lambertia formosa*, *Persoonia levis*, *Banksia serrata*, *Platysace linearifolia*, *Acacia suaveolens*, *Isopogon anemonifolius*, *Dillwynia retorta*, *Petrophile pulchella*, *Banksia spinulosa*, *Bossiaea heterophylla*, *Banksia ericifolia*, *Acacia ulicifolia*, *Monotoca scoparia*, *Hakea dactyloides*, *Phyllota phyllicoides*, *Angophora hispida*.

Characteristic groundcover species: *Caustis flexuosa*, *Lomandra obliqua*, *Dampiera stricta*, *Entolasia stricta*, *Actinotus minor*, *Cyathochaeta diandra*, *Lomandra glauca*, *Platysace linearifolia*, *Patersonia sericea*, *Ptilothrix deusta*, *Lepyrodia scariosa*.

Landscape position: Occurs on crests, ridges and exposed slopes on coastal sandstone plateaux.

Other diagnostic features: Low open forest with a diverse sclerophyll shrub layer and an open groundcover of sedges.

Equivalent/related vegetation types: DSFp131: Coastal Sandstone Ridgetop Woodland (Tozer *et al.* 2010). EXI-WDL Yellow Bloodwood Woodland (Mills 2000) is a subtype within this type.

**Biometric ID: SR629**

**Common Name: Silvertop Ash - Red Bloodwood - Sydney Peppermint heathy open forest on moist sandstone plateaux, southern Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (17 ha); Shoalhaven (31,498 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 20%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Red Bloodwood (*Corymbia gummifera*), Sydney Peppermint (*Eucalyptus piperita*).

Main associated canopy species: *Eucalyptus dendromorpha*.

Characteristic midstorey species: *Bossiaea kiamensis*, *Aotus ericoides*, *Banksia paludosa*, *Leptospermum trinervium*, *Amperea xiphoclada*, *Acacia obtusifolia*, *Banksia serrata*, *Epacris longifolia*.

Characteristic groundcover species: *Lomandra longifolia*, *Gahnia sieberiana*, *Gleichenia dicarpa*, *Empodisma minus*.

Landscape position: Occurs on periodically damp, elevated sandstone plateaux between 550m and 1000m on the Budderoo and Morton plateaux.

Other diagnostic features: Low open forest with a dense sclerophyll shrub layer and open groundcover mainly of sedges.

Equivalent/related vegetation types: PIL-PUN Blackbutt - Grey Gum Forest (Mills 2000); DSFp141: Budderoo-Morton Plateau Forest (Tozer *et al.* 2010).

## **NSW Class: Sydney Hinterland Dry Sclerophyll Forests**

### **Biometric ID: SR593**

**Common Name: Red Bloodwood - Grey Gum shrubby open forest on shale-sandstone interface of the lower Shoalhaven valleys, southern Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (31,109 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 15%

Dominant canopy species: Red Bloodwood (*Corymbia gummifera*), Grey Gum (*Eucalyptus punctata*), Turpentine (*Syncarpia glomulifera*).

Main associated canopy species: Spotted Gum (*Corymbia maculata*), Broad-leaved or Red Ironbark (*Eucalyptus fibrosa*).

Characteristic midstorey species: *Persoonia linearis*, *Lomandra obliqua*, *Macrozamia communis*, *Podolobium ilicifolium*.

Characteristic groundcover species: *Entolasia stricta*, *Pomax umbellata*, *Patersonia sericea*, *Lepidosperma laterale*, *Lomandra multiflora*, *Phyllanthus hirtellus*, *Dianella revoluta* var. *revoluta*, *Goodenia hederacea*, *Panicum simile*, *Lomandra confertifolia* subsp. *rubiginosa*, *Glycine clandestina*, *Hardenbergia violacea*.

Landscape position: Loamy soils on ridges and slopes at 100m and 600m elevation between Yalwal and Wandandian.

Other diagnostic features: Open forest with mixed understorey of shrubs, sedges, forbs and grasses.

Equivalent/related vegetation types: DSFp246: Yalwal Shale-Sandstone Transition Forest (Tozer *et al.* 2010); PUN-AGG Grey Gum - Stringybark Forest/Woodland (Mills 2000).

### **Biometric ID: SR632**

**Common Name: Silvertop Ash - Yertchuk heathy woodland on sandstone plateaux, southern Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (271 ha); Shoalhaven (1,497 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Yertchuk (*Eucalyptus consideniana*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Banksia spinulosa*, *Lomatia ilicifolia*, *Persoonia levis*, *Leptospermum trinervium*, *Tetratheca thymifolia*, *Acacia obtusifolia*, *Isopogon anemonifolius*, *Monotoca scoparia*, *Petrophile pedunculata*, *Acacia terminalis*, *Amperea xiphioclada*, *Phyllota phyllicoides*, *Pimelea linifolia* subsp. *linifolia*, *Podolobium ilicifolium*.

Characteristic groundcover species: *Patersonia glabrata*, *Lomandra obliqua*, *Lomandra glauca*, *Caustis flexuosa*.

Landscape position: Occurs on sandy loams on elevated sandstone slopes up to 750m in the southern parts of Morton-Budawang area.

Other diagnostic features: Woodland with mixed understorey of shrubs, sedges, forbs and grasses.

Equivalent/related vegetation types: DSFp248: Morton-Budawang Sandstone Woodland (Tozer *et al.* 2010); CON-GUM Yertchuk - Bloodwood Woodland (Mills 2000).

## ***NSW Class: Sydney Montane Dry Sclerophyll Forests***

**Biometric ID: SR625**

**Common Name: Silvertop Ash - Hard-leaved Scribbly Gum - Blue-leaved Stringybark heathy woodland on sandstone plateaux, southern Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (17,613 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Silvertop Ash (*Eucalyptus sieberi*), Hard-leaved Scribbly Gum (*Eucalyptus sclerophylla*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Main associated canopy species: Brittle Gum (*Eucalyptus mannifera*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*).

Characteristic midstorey species: *Hakea dactyloides*, *Leptospermum trinervium*, *Banksia spinulosa*, *Acacia terminalis*, *Amperea xiphoclada*, *Leptospermum polygalifolium*, *Allocasuarina littoralis*.

Characteristic groundcover species: *Entolasia stricta*, *Microlaena stipoides* var. *stipoides*, *Lomandra obliqua*, *Lepidosperma urophorum*, *Patersonia glabrata*, *Patersonia sericea*.

Landscape position: Occurs mainly on the elevated sandstone country of the Morton, Ettrema and Danjera plateaux from Penrose south to Corang Hill.

Other diagnostic features: Low eucalypt woodland with abundant sclerophyll shrubs and open groundcover.

Equivalent/related vegetation types: SCL-AGG Hard-leaved Scribbly Gum-Blue-leaved Stringybark Open Forest (Mills 2000); DSFp149: Moreton Sandstone Heath Woodland (Tozer *et al.* 2010).

## NSW Formation: Wet Sclerophyll Forests (Shrubby subformation)

### NSW Class: North Coast Wet Sclerophyll Forests

#### **Biometric ID: SR516**

**Common Name:** Blackbutt - Turpentine - Bangalay moist open forest on sheltered slopes and gullies, southern Sydney Basin

**LGA:** Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (23,326 ha).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 50%

**Dominant canopy species:** Blackbutt (*Eucalyptus pilularis*), Bangalay (*Eucalyptus botryoides*), *Eucalyptus saligna* x *botryoides*, Turpentine (*Syncarpia glomulifera*).

**Main associated canopy species:** Grey Ironbark (*Eucalyptus paniculata* subsp. *paniculata*), Cabbage-tree Palm (*Livistona australis*).

**Characteristic midstorey species:** *Synoum glandulosum*, *Breynia oblongifolia*, *Notelaea longifolia*.

**Characteristic groundcover species:** *Lomandra longifolia*, *Pteridium esculentum*, *Dianella caerulea*, *Entolasia stricta*, *Oplismenus imbecillis*, *Imperata cylindrica* var. *major*, *Pseuderanthemum variabile*, *Eustrephus latifolius*, *Tylophora barbata*, *Hibbertia scandens*, *Glycine clandestina*, *Hibbertia dentata*, *Geitonoplesium cymosum*.

**Landscape position:** Occurs from the Hacking River catchment along the Illawarra scarp south to Mt Keira, on coastal lowlands near Berry, and scattered through coastal foothills and lowlands from Nowra south to Batemans Bay.

**Other diagnostic features:** Open or tall open forest. Occurs on sheltered slopes and gullies with loamy soils with an annual rainfall in the range of 1000mm to 1700mm. On the northern Illawarra escarpment, it occupies elevations up to 400m, however south of Nowra rarely exceeds 200m.

**Equivalent/related vegetation types:** WSFp99: Illawarra Gully Wet Forest (Tozer *et al.* 2010). A number of subtypes described by Mills (2000) including PIL-SYN Blackbutt Tall Forest, SYN-FOR Turpentine Forest, SAL-PIL Blue Gum - Blackbutt Forest and SAL-SYN Blue Gum Tall Forest.

#### **Biometric ID: SR652**

**Common Name:** Sydney Blue Gum x Bangalay - Lilly Pilly moist forest in gullies and on sheltered slopes, southern Sydney Basin

**LGA:** Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (11,573 ha).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 45%

**Dominant canopy species:** *Eucalyptus saligna* x *botryoides*, White-topped Box (*Eucalyptus quadrangulata*), Lilly Pilly (*Syzygium smithii*), Cabbage-tree Palm (*Livistona australis*).

**Main associated canopy species:** Blackbutt (*Eucalyptus pilularis*), Scentless Rosewood (*Synoum glandulosum*), Sweet Pittosporum (*Pittosporum undulatum*), Jackwood (*Cryptocarya glaucescens*).

**Characteristic midstorey species:** *Notelaea venosa*, *Clerodendrum tomentosum*, *Eupomatia laurina*, *Smilax australis*, *Pandorea pandorana*, *Morinda jasminoides*, *Marsdenia rostrata*, *Stephania japonica*.

**Characteristic groundcover species:** *Doodia aspera*, *Pseuderanthemum variabile*, *Oplismenus imbecillis*, *Gymnostachys anceps*, *Blechnum cartilagineum*, *Eustrephus latifolius*, *Tylophora barbata*, *Geitonoplesium cymosum*.

**Landscape position:** Occurs on sheltered slopes in gullies and on escarpments with loamy soils below 400m south from the Illawarra.

Other diagnostic features: Open or tall open forest with a dense subcanopy of rainforest species and a moist shrubby understorey.

Equivalent/related vegetation types: WSFp110: Warm Temperate Layered Forest (Tozer *et al.* 2010); SAL-QUD Blue Gum - White Box Tall Forest and QUD-PAN White-topped Box-Grey Ironbark Tall Forest (Mills 2000) are potentially subtypes of this type.

## **NSW Class: South Coast Wet Sclerophyll Forests**

### **Biometric ID: SR582**

**Common Name:** Mountain Grey Gum - Yellow Stringybark moist shrubby open forest in gullies of the coastal ranges, northern South East Corner

LGA: Bega Valley (8,481 ha); Eurobodalla (32,713 ha); Shoalhaven (11,068 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Yellow Stringybark (*Eucalyptus muelleriana*).

Main associated canopy species: Brown Barrel (*Eucalyptus fastigata*).

Characteristic midstorey species: *Cyathea australis*, *Elaeocarpus reticulatus*, *Pittosporum undulatum*, *Synoum glandulosum* subsp. *glandulosum*, *Leucopogon lanceolatus*, *Notelaea venosa*, *Persoonia linearis*, *Pittosporum revolutum*, *Cissus hypoglauca*, *Eustrephus latifolius*, *Geitonoplesium cymosum*, *Pandorea pandorana*, *Smilax australis*.

Characteristic groundcover species: *Blechnum cartilagineum*, *Calochlaena dubia*, *Desmodium varians*, *Dianella caerulea*, *Doodia aspera*, *Gahnia melanocarpa*, *Lomandra longifolia*, *Oplismenus imbecillis*, *Poa meioneetes*, *Pteridium esculentum*, *Schelhammra undulata*, *Viola hederacea*.

Landscape position: Occurs in moist sheltered gullies and slopes on the low coastal ranges from Yadboro to Bega but does not occur east of the Clyde River.

Other diagnostic features: Tall open forest with a well-developed mesic understorey and dense ground layer.

Equivalent/related vegetation types: WSFn183: South Coast Hinterland Wet Forest (Tozer *et al.* 2010); 20: Coastal Hinterland Gully Rainforest (NPWS 2000). MUL-CYP Whipstick Ash-Mountain Grey Gum Forest (Mills 2000) is considered a subtype of this type.

### **Biometric ID: SR583**

**Common Name:** Mountain Grey Gum ferny tall moist forest on coastal ranges, southern South East Corner

LGA: Bega Valley (26,644 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*).

Main associated canopy species: Yellow Stringybark (*Eucalyptus muelleriana*), River Peppermint (*Eucalyptus elata*).

Characteristic midstorey species: *Acacia falciformis*, *Coprosma quadrifida*, *Indigofera australis*, *Pimelea axiflora*, *Pomaderris aspera*, *Senecio linearifolius*, *Eustrephus latifolius*, *Rubus parvifolius*, *Smilax australis*, *Tylophora barbata*.



Characteristic groundcover species: *Blechnum cartilagineum*, *Calochlaena dubia*, *Doodia aspera*, *Echinopogon ovatus*, *Geranium potentilloides*, *Hydrocotyle peduncularis*, *Lagenifera stipitata*, *Lomandra longifolia*, *Oplismenus imbecillis*, *Poa meionectes*, *Pteridium esculentum*, *Schelhammera undulata*, *Stellaria flaccida*, *Viola hederacea*.

Landscape position: Widespread in gullies and moist sheltered slopes below 800m elevation.

Other diagnostic features: Tall open forest with a ground layer dominated by ferns.

Equivalent/related vegetation types: WSFe13: Southeast Hinterland Wet Fern Forest (Tozer *et al.* 2010).

#### **Biometric ID: SR609**

**Common Name:** River Peppermint - Rough-barked Apple moist open forest on sheltered sites, southern South East Corner

LGA: Bega Valley (20,827 ha); Eurobodalla (4,598 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 65%

Dominant canopy species: River Peppermint (*Eucalyptus elata*), Rough-barked Apple (*Angophora floribunda*).

Main associated canopy species: Blue Box (*Eucalyptus baueriana*), White Stringybark (*Eucalyptus globoidea*), Ribbon Gum (*Eucalyptus viminalis*), Apple-topped Gum (*Eucalyptus angophoroides*).

Characteristic midstorey species: *Acacia mearnsii*, *Cassinia trinerva*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Senecio linearifolius*, *Solanum pungetium*, *Clematis glycinoides* var. *glycinoides*, *Eustrephus latifolius*, *Rubus parvifolius*, *Tylophora barbata*.

Characteristic groundcover species: *Carex longebrachiata*, *Desmodium varians*, *Dichondra repens*, *Echinopogon ovatus*, *Entolasia marginata*, *Glycine clandestina*, *Hydrocotyle laxiflora*, *Lomandra longifolia*, *Microlaena stipoides* var. *stipoides*, *Oplismenus imbecillis*, *Pellaea falcata*, *Poa meionectes*, *Pratia purpurascens*, *Pteridium esculentum*, *Stellaria flaccida*.

Landscape position: Occurs in dry lowland valleys between Yowrie-Wandella and Towamba, including the lower gorges of the Tuross and Wadbilliga Rivers, on sheltered slopes and in gullies up to 300m elevation.

Other diagnostic features: Open forest with a prominent understorey and a dense and diverse ground layer.

Equivalent/related vegetation types: DSFe19: Bega Wet Shrub Forest (Tozer *et al.* 2010); 48/49: Coastal Lowlands Riparian Herb-Twiners-Grass Forest-Variou Eucalypts (NPWS 2000).

#### **Biometric ID: SR612**

**Common Name:** Rough-barked Apple shrubby open forest on gully flats, southern South East Corner

LGA: Bega Valley (13,645 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Rough-barked Apple (*Angophora floribunda*).

Main associated canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Brown Stringybark (*Eucalyptus baxteri*), White Stringybark (*Eucalyptus globoidea*).

Characteristic midstorey species: *Allocasuarina littoralis*, *Acacia longifolia*, *Exocarpos strictus*, *Hibbertia aspera* subsp. *aspera*, *Leucopogon lanceolatus*, *Persoonia linearis*, *Pultenaea daphnoides*, *Billardiera scandens*, *Eustrephus latifolius*, *Glycine clandestina*, *Hibbertia dentata*, *Kennedia rubicunda*.

Characteristic groundcover species: *Dianella caerulea*, *Dichondra repens*, *Entolasia stricta*, *Gonocarpus teucroides*, *Goodenia ovata*, *Imperata cylindrica* var. *major*, *Lomandra longifolia*, *Poa meionelectes*, *Pteridium esculentum*, *Schelhammera undulata*, *Viola hederacea*.

Landscape position: Occurs on gully flats either on Tertiary alluvium, Holocene sands or on deep colluvial sandy soils. It is most common in the Nadgee- Timbillica area below 100m elevation.

Other diagnostic features: Includes the "Monkey Gum flats" that provide important resource-rich fauna habitat with dense groundcover in an area largely covered by open dry sclerophyllous forests.

Equivalent/related vegetation types: WSFe37: Southeast Lowland Gully Shrub Forest (Tozer *et al.* 2010).

#### **Biometric ID: SR647**

**Common Name:** Swamp Gum - Ribbon Gum open forest on flats of the coastal and hinterland lowlands, southern South East Corner

LGA: Bega Valley (3,474 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Grassy examples of this type are considered part of the Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes bioregions EEC.

Cleared estimate (nearest 5%): 20%

Dominant canopy species: Swamp Gum (*Eucalyptus ovata*), Ribbon Gum (*Eucalyptus viminalis*).

Main associated canopy species: Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), Blackwood (*Acacia melanoxylon*).

Characteristic midstorey species: *Leptospermum continentale*.

Characteristic groundcover species: *Lomandra longifolia*, *Pteridium esculentum*, *Acaena novae-zealandiae*, *Geranium potentilloides*, *Gonocarpus tetragynus*, *Hydrocotyle laxiflora*, *Poa meionelectes*, *Stellaria* spp., *Viola hederacea*, *Blechnum nudum*.

Landscape position: Occurs on gentle slopes or flats on granitic substrates in open valleys, usually around low-order drainage lines.

Other diagnostic features: Open forest with an open understorey and dense ground cover. Occurs in dry, low-relief, low-rainfall areas to the east and west of the escarpment range south of the Bega Valley.

Equivalent/related vegetation types: FoWe17: Southeast Flats Swamp Forest (Tozer *et al.* 2010).

#### **Biometric ID: SR654**

**Common Name:** Sydney Peppermint - Spotted Gum - Lilly Pilly wet forest in gullies of the coastal foothills, northern South East Corner and southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (2,386 ha); Shoalhaven (2,769 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Sydney Peppermint (*Eucalyptus piperita*), Spotted Gum (*Corymbia maculata*).

Main associated canopy species: Blackbutt (*Eucalyptus pilularis*), Grey Ironbark (*Eucalyptus paniculata* subsp. *paniculata*), *Acacia mabellae*, Brush Cherry (*Syzygium australe*), Cabbage-tree Palm (*Livistona australis*).

Characteristic midstorey species: *Elaeocarpus reticulatus*, *Callicoma serratifolia*, *Cyathea australis*, *Synoum glandulosum*, *Tristaniopsis collina*, *Cissus hypoglauca*, *Smilax australis*, *Hibbertia dentata*, *Pandorea pandorana*, *Eustrephus latifolius*, *Tylophora barbata*.

Characteristic groundcover species: *Blechnum cartilagineum*, *Calochlaena dubia*, *Lomandra longifolia*, *Pteridium esculentum*, *Dianella caerulea*, *Schelhammera undulata*, *Oplismenus imbecillis*.

Landscape position: Occurs in moist sheltered gullies with sandy loams below 600m between Nowra and Batemans Bay.

Other diagnostic features: Open or tall open forest with a well developed midstorey of small trees and vines.

Equivalent/related vegetation types: WSFp103: Clyde Gully Wet Forest (Tozer *et al.* 2010); MAC-SYN Spotted Gum Tall Forest, PIP-PIL Peppermint - Blackbutt Forest (Mills 2000).

**Biometric ID: SR671**

**Common Name: Yellow Stringybark - Coast Grey Box shrubby open forest on the coastal ranges, South East Corner**

LGA: Bega Valley (87 ha); Eurobodalla (10,505 ha); Shoalhaven (13 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Yellow Stringybark (*Eucalyptus muelleriana*), Coast Grey Box (*Eucalyptus bosistoana*).

Main associated canopy species: Gully Gum (*Eucalyptus smithii*), Spotted Gum (*Corymbia maculata*).

Characteristic midstorey species: *Acacia maidenii*, *Pittosporum undulatum*, *Breynia oblongifolia*, *Indigofera australis*, *Notelaea venosa*, *Clematis glycinoides* var. *glycinoides*, *Eustrephus latifolius*, *Geitonoplesium cymosum*, *Marsdenia rostrata*, *Pandorea pandorana*, *parvifolius*, *Smilax australis*, *Tylophora barbata*.

Characteristic groundcover species: *Dichondra repens*, *Doodia aspera*, *Gahnia melanocarpa*, *Goodenia ovata*, *Lepidosperma laterale*, *Microlaena stipoides* var. *stipoides*, *Oplismenus imbecillis*, *Pellaea falcata*, *Plectranthus parviflorus*, *Pratia purpurascens*, *Stellaria flaccida*.

Landscape position: Occurs mainly on sandy loam soils on the coastal range from Currowan to Tathra with isolated examples also found further west around Wadbilliga.

Other diagnostic features: Open to tall open forest with a moist shrubby understorey.

Equivalent/related vegetation types: 6: Southern Coastal Lowlands Shrub/Tussock Grass Dry Forest (NPWS 2000); WSFn184: Clyde-Tuross Hinterland Forest (Tozer *et al.* 2010).

**Biometric ID: SR672**

**Common Name: Yellow Stringybark - Mountain Grey Gum moist shrubby open forest on coastal ranges, southern South East Corner**

LGA: Bega Valley (24,365 ha); Eurobodalla (1,347 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Yellow Stringybark (*Eucalyptus muelleriana*).

Main associated canopy species: River Peppermint (*Eucalyptus elata*), Silvertop Ash (*Eucalyptus sieberi*), Messmate (*Eucalyptus obliqua*).

Characteristic midstorey species: *Acacia cognata*, *Elaeocarpus reticulatus*, *Goodia lotifolia*, *Leucopogon lanceolatus*, *Notelaea venosa*, *Clematis aristata*, *Eustrephus latifolius*, *Pandorea pandorana*, *Smilax australis*, *Tylophora barbata*.

Characteristic groundcover species: *Dianella caerulea*, *Gonocarpus teucroides*, *Goodenia ovata*, *Hierochloe rariflora*, *Lomandra longifolia*, *Poa meioneetes*, *Pteridium esculentum*, *Schelhammerya undulata*, *Senecio velleioides*, *Tetrarrhena juncea*, *Viola hederacea*.

Landscape position: Widespread mainly in gullies and steep moist sheltered slopes below 500m elevation, predominantly on metasediments of the coastal ranges.

Other diagnostic features: Tall to very tall open forest with a prominent understorey of small trees and shrubs and a groundcover dominated by forbs and grasses.

Equivalent/related vegetation types: WSFe14: Southeast Hinterland Wet Shrub Forest (Tozer *et al.* 2010); 18: Southern Coastal Hinterland Shrub/Vine/Grass Moist Forest (NPWS 2000).

## **NSW Class: Southern Escarpment Wet Sclerophyll Forests**

### **Biometric ID: SR525**

**Common Name:** Brown Barrel - Mountain Grey Gum - Blanket Bush moist very tall open forest of the southern escarpment ranges, South Eastern Highlands and South East Corner

LGA: Bega Valley (12,263 ha); Eurobodalla (125 ha); Shoalhaven (438 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 15%

Dominant canopy species: Brown Barrel (*Eucalyptus fastigata*), Mountain Grey Gum (*Eucalyptus cypellocarpa*).

Main associated canopy species: Messmate (*Eucalyptus obliqua*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), River Peppermint (*Eucalyptus elata*).

Characteristic midstorey species: *Acacia dealbata*, *Bedfordia arborescens*, *Cyathea australis*, *Dicksonia antarctica*, *Coprosma quadrifida*, *Olearia argophylla*, *Pomaderris aspera*.

Characteristic groundcover species: *Blechnum nudum*, *Dianella tasmanica*, *Geranium potentilloides*, *Polystichum proliferum*, *Pteridium esculentum*, *Stellaria flaccida*, *Viola hederacea*, *Clematis aristata*, *Smilax australis*.

Landscape position: Mainly on the escarpment range between Brown Mountain and the upper Tantawangalo Creek area on moist granitic slopes at 600m to 1000m elevation.

Other diagnostic features: Tall to very tall open forest with a well-developed small tree layer and shrubby understorey.

Equivalent/related vegetation types: This type combines WSFe10: Southeast Mountain Wet Layered Forest, WSFe11: Tantawangalo Wet Shrub Forest (Tozer *et al.* 2010); OBL-FAS Messmate Stringybark-Brown Barrel Tall Forest (Mills 2000). May include parts of 57: Southern Escarpment Shrub/Fern/Herb Moist Forest and 58: Tableland and Escarpment Wet Layered Shrub Forest (NPWS 2000).

### **Biometric ID: SR526**

**Common Name:** Brown Barrel - Mountain Grey Gum tall moist forest on basalts of the Southern Highlands, Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (261 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 80%

Dominant canopy species: Brown Barrel (*Eucalyptus fastigata*), Mountain Grey Gum (*Eucalyptus cypellocarpa*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*).

Main associated canopy species: Blackwood (*Acacia melanoxylon*).

Characteristic midstorey species: *Coprosma quadrifida*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Hedycarya angustifolia*, *Rubus parvifolius*, *Clematis aristata*.

Characteristic groundcover species: *Lomandra longifolia*, *Pteridium esculentum*, *Viola hederacea*, *Dichondra repens*, *Microlaena stipoides* var. *stipoides*, *Poa labillardierei* var. *labillardierei*, *Dianella*

*caerulea*, *Hydrocotyle peduncularis*, *Poranthera microphylla*, *Echinopogon ovatus*, *Geranium potentilloides*, *Helichrysum scorpioides*.

Landscape position: Occurs on moist elevated areas on fertile soils in the Robertson and Sassafras areas.

Other diagnostic features: Tall eucalypt forest with an open shrub layer and moist herbaceous groundcover.

Equivalent/related vegetation types: FAS-CYP Brown Barrel Tall Forest (Mills 2000); WSFp266: Southern Highlands Basalt Forest (Tozer *et al.* 2010). May include parts of 57: Southern Escarpment Shrub/Fern/Herb Moist Forest and 58: Tableland and Escarpment Wet Layered Shrub Forest (NPWS 2000).

**Biometric ID: SR527**

**Common Name**: Brown Barrel - Narrow-leaved Peppermint moist tall open forest on escarpment ranges, southern South Eastern Highlands

LGA: Bega Valley (10,828 ha); Eurobodalla (5,435 ha); Shoalhaven (1,324 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 20%

Dominant canopy species: Brown Barrel (*Eucalyptus fastigata*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*).

Main associated canopy species: Ribbon Gum (*Eucalyptus viminalis*), Mountain Grey Gum (*Eucalyptus cypellocarpa*), Mountain Gum (*Eucalyptus dalrympleana* subsp. *dalrympleana*), Messmate (*Eucalyptus obliqua*).

Characteristic midstorey species: *Acacia dealbata*, *Acacia melanoxylon*, *Coprosma quadrifida*, *Persoonia silvatica*.

Characteristic groundcover species: *Stellaria pungens*, *Acaena novae-zelandiae*, *Poa meionectes*, *Poranthera microphylla*, *Asperula scoparia*, *Dianella tasmanica*, *Helichrysum scorpioides*, *Pteridium esculentum*, *Veronica calycina*, *Lagenifera stipitata*, *Leptinella filicula*, *Viola betonicifolia*.

Landscape position: Occurs on sheltered slopes and high ridges generally between 700m and 1400m elevation.

Other diagnostic features: Tall to very tall open forest with shrubby understorey and mixed ground layer of grasses and forbs.

Equivalent/related vegetation types: WSFp338: Southern Range Wet Forest (Tozer *et al.* 2010); FAS-VIM Brown Barrel-Ribbon Gum Tall Forest (Mills 2000).

**Biometric ID: SR553**

**Common Name**: Gully Gum - Sydney Peppermint - Yellow Stringybark moist open forest of coastal escarpments, southern Sydney Basin

LGA: Bega Valley (780 ha); Eurobodalla (7,016 ha); Shoalhaven (495 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Gully Gum (*Eucalyptus smithii*), Sydney Peppermint (*Eucalyptus piperita*), Yellow Stringybark (*Eucalyptus muelleriana*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Synoum glandulosum*, *Notelaea venosa*, *Elaeocarpus reticulatus*, *Smilax australis*, *Pandorea pandorana*.

Characteristic groundcover species: *Pteridium esculentum*, *Microlaena stipoides* var. *stipoides*, *Dianella caerulea*, *Oplismenus imbecillis*, *Tylophora barbata*, *Eustrephus latifolius*, *Geitonoplesium cymosum*, *Hibbertia dentata*.

Landscape position: Occurs on moist sheltered escarpment slopes between 100m and 650m from the northern Illawarra to the Moreton Plateau.

Other diagnostic features: Tall open forest with an understorey of mesophytic shrubs and ground layer of grass, forbs, vines and ferns.

Equivalent/related vegetation types: WSFp100: Escarpment Foothills Wet Forest (Tozer *et al.* 2010).

#### **Biometric ID: SR576**

**Common Name:** Messmate - Mountain Grey Gum moist open forest of granitic foothills, southern South East Corner

LGA: Bega Valley (18,691 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 30%

Dominant canopy species: Messmate (*Eucalyptus obliqua*), Mountain Grey Gum (*Eucalyptus cypellocarpa*).

Main associated canopy species: Silvertop Ash (*Eucalyptus sieberi*), White Stringybark (*Eucalyptus globoidea*).

Characteristic midstorey species: *Acacia dealbata*, *Coprosma quadrifida*, *Exocarpos strictus*, *Leucopogon lanceolatus*, *Clematis aristata*, *Tylophora barbata*.

Characteristic groundcover species: *Dianella tasmanica*, *Geranium potentilloides*, *Gonocarpus teucroides*, *Helichrysum scorpioides*, *Hierochloe rariflora*, *Lagenifera stipitata*, *Lomandra longifolia*, *Poa meionectes*, *Poranthera microphylla*, *Pteridium esculentum*, *Senecio prenanthoides*, *Veronica calycina*, *Viola hederacea*.

Landscape position: Occurs on moist sheltered granitic slopes above 500m elevation on the tableland range south from the upper Tantawangalo Creek catchment.

Other diagnostic features: Tall to very tall open forest with an open understorey and dense ground layer.

Equivalent/related vegetation types: WSFe15: Southeast Mountain Wet Herb Forest (Tozer *et al.* 2010).

#### **Biometric ID: SR580**

**Common Name:** Mountain Grey Gum - Brown Barrel very tall moist forest on escarpment ranges, central and southern South East Corner

LGA: Bega Valley (12,626 ha); Eurobodalla (19,798 ha); Shoalhaven (19 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Brown Barrel (*Eucalyptus fastigata*).

Main associated canopy species: River Peppermint (*Eucalyptus elata*), Messmate (*Eucalyptus obliqua*).

Characteristic midstorey species: *Bedfordia arborescens*, *Cyathea australis*, *Coprosma quadrifida*, *Leucopogon lanceolatus*, *Clematis aristata*, *Smilax australis*, *Tylophora barbata*.

Characteristic groundcover species: *Blechnum cartilagineum*, *Calochlaena dubia*, *Geranium potentilloides*, *Goodenia ovata*, *Hierochloe rariflora*, *Lagenifera stipitata*, *Pteridium esculentum*, *Stellaria flaccida*, *Viola hederacea*.

Landscape position: Occurs south of Clyde Mountain on steep sheltered granitic slopes at 450m to 1200m elevation on the escarpment range and outlying mountains such as Egan Peaks, Mt Poole and Deua National Park.

Other diagnostic features: Tall to very tall open forest with a dense ground cover mainly of ferns.

Equivalent/related vegetation types: WSFe12: Mountain Wet Fern Forest (Tozer *et al.* 2010); 57: Southern Escarpment Shrub/Fern/Herb Moist Forest (NPWS 2000).

**Biometric ID: SR586**

**Common Name: Narrow-leaved Peppermint - Mountain Gum - Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands**

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (323 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 30%

Dominant canopy species: Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), Brown Barrel (*Eucalyptus fastigata*), Mountain Gum (*Eucalyptus dalrympleana* subsp. *dalrympleana*).

Main associated canopy species: Ribbon Gum (*Eucalyptus viminalis*), Messmate (*Eucalyptus obliqua*), *Eucalyptus blaxlandii*, Blue Mountains Ash (*Eucalyptus oreades*).

Characteristic midstorey species: *Acacia melanoxylon*, *Leucopogon lanceolatus*, *Boronia microphylla*, *Daviesia latifolia*, *Hibbertia obtusifolia*, *Lomatia myricoides*, *Lomatia silaifolia*, *Monotoca scoparia*, *Olearia myrsinoides*, *Persoonia myrtilloides*, *Polyscias sambucifolia* subsp. B.

Characteristic groundcover species: *Pteridium esculentum*, *Lomandra longifolia*, *Viola hederacea*, *Stellaria pungens*, *Gonocarpus tetragynus*, *Poa sieberiana* var. *sieberiana*, *Microlaena stipoides* var. *stipoides*, *Dianella tasmanica*, *Poranthera microphylla*, *Clematis aristata*.

Landscape position: Occurs on higher, cooler parts of the Great Dividing Range south from Lithgow.

Other diagnostic features: Occurs on moist loams on elevated ranges between 800m to 1250m on the Great Dividing Range. Tall open forest with an open shrub layer and moist herbaceous groundcover.

Equivalent/related vegetation types: OBL-RAD Messmate Stringybark-Narrow-leaved Peppermint Tall Forest (Mills 2000); WSFp73: Cool Montane Wet Forest (Tozer *et al.* 2010).

**Biometric ID: SR607**

**Common Name: River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin and South East Corner**

LGA: Bega Valley (861 ha); Eurobodalla (1,667 ha); Shoalhaven (4,254 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: River Peppermint (*Eucalyptus elata*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), Brown Barrel (*Eucalyptus fastigata*).

Main associated canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), Ribbon Gum (*Eucalyptus viminalis*), Mountain Gum (*Eucalyptus dalrympleana* subsp. *dalrympleana*).

Characteristic midstorey species: *Leucopogon lanceolatus*, *Rubus parvifolius*, *Clematis aristata*.

Characteristic groundcover species: *Pteridium esculentum*, *Lomandra longifolia*, *Viola hederacea*, *Microlaena stipoides* var. *stipoides*, *Dichondra repens*, *Desmodium varians*, *Poranthera microphylla*, *Echinopogon ovatus*, *Dianella caerulea*, *Veronica plebeia*, *Stellaria pungens*, *Plantago debilis*, *Glycine clandestina*.

Landscape position: Occurs on sheltered slopes on high ranges of the escarpment, mainly between 600m and 1100m, from the western Blue Mountains to Deua National Park.

Other diagnostic features: Tall open forest with an open shrub layer and moist herbaceous groundcover.

Equivalent/related vegetation types: WSFp66: Highland Range Sheltered Forest (Tozer *et al.* 2010); ELA-FOR River Peppermint Forest (Mills 2000).

**Biometric ID: SR619**

**Common Name:** Shining Gum - Brown Barrel very tall wet forest of the southern escarpment ranges, South East Corner

LGA: Bega Valley (1,501 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 25%

Dominant canopy species: Shining Gum (*Eucalyptus nitens*), Brown Barrel (*Eucalyptus fastigata*).

Main associated canopy species: Silver Wattle (*Acacia dealbata*), *Eucalyptus badjensis*, White Ash (*Eucalyptus fraxinoides*).

Characteristic midstorey species: *Bedfordia arborescens*, *Dicksonia antarctica*, *Coprosma quadrifida*, *Gahnia sieberiana*, *Olearia argophylla*, *Prostanthera lasianthos*, *Tasmannia lanceolata*, *Clematis aristata*, *Parsonsia brownii*.

Characteristic groundcover species: *Australina pusilla*, *Blechnum wattsii*, *Histiopteris incisa*, *Hydrocotyle peduncularis*, *Poa ensiformis*, *Polystichum proliferum*, *Pteridium esculentum*, *Stellaria flaccida*, *Viola hederacea*.

Landscape position: Occurs along the highest parts of the escarpment range above 850m elevation, mainly on granitic substrates.

Other diagnostic features: Very tall to extremely tall moist open forest with well developed midstorey and understorey of small trees, shrubs and tree ferns.

Equivalent/related vegetation types: WSFe9: Southeast High Mountain Wet Layered Forest (Tozer *et al.* 2010).

**Biometric ID: SR655**

**Common Name:** Sydney Peppermint - White Stringybark moist shrubby forest on elevated ridges, Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (2,596 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 80%

Dominant canopy species: Sydney Peppermint (*Eucalyptus piperita*), White Stringybark (*Eucalyptus globoidea*), Mountain Grey Gum (*Eucalyptus cypellocarpa*).

Main associated canopy species: Messmate (*Eucalyptus obliqua*), Gully Gum (*Eucalyptus smithii*).

Characteristic midstorey species: *Leucopogon lanceolatus*, *Indigofera australis*, *Notelaea venosa*, *Goodenia ovata*, *Polyscias sambucifolia* subsp. A, *Eustrephus latifolius*, *Clematis aristata*.

Characteristic groundcover species: *Dianella caerulea*, *Microlaena stipoides* var. *stipoides*, *Lomandra longifolia*, *Pteridium esculentum*, *Smilax australis*, *Viola hederacea*, *Dichondra repens*, *Pratia purpurascens*, *Doodia aspera*, *Hydrocotyle peduncularis*, *Adiantum aethiopicum*, *Blechnum cartilagineum*, *Galium binifolium*., *Tylophora barbata*, *Glycine clandestina*.

Landscape position: Occurs on shale and the shale/basalt boundary at altitudes between 450m and 900m in the Blue Mountains and Southern Highlands.

Other diagnostic features: Tall open forest with an open shrub layer and moist herbaceous groundcover.



Equivalent/related vegetation types: GLB-PIP White Stringybark-Sydney Peppermint Tall Forest, PIP-GLB Peppermint - Stringybark Forest (Mills 2000); WSFp168: Shale Basalt Sheltered Forest (Tozer *et al.* 2010).

**Biometric ID: SR663**

**Common Name:** White Ash - Silvertop Ash - Brown Barrel shrubby open forest of the escarpment ridges, South Eastern Highlands and South East Corner

LGA: Bega Valley (2,108 ha); Eurobodalla (644 ha); Shoalhaven (20,384 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: White Ash (*Eucalyptus fraxinoides*), Silvertop Ash (*Eucalyptus sieberi*), Brown Barrel (*Eucalyptus fastigata*).

Main associated canopy species: Mountain Grey Gum (*Eucalyptus cypellocarpa*), River Peppermint (*Eucalyptus elata*), White Stringybark (*Eucalyptus globoidea*), Blue-leaved Stringybark (*Eucalyptus agglomerata*).

Characteristic midstorey species: *Leucopogon lanceolatus*, *Persoonia silvatica*, *Platysace lanceolata*, *Goodenia ovata*, *Hibbertia aspera*, *Acacia obliquinervia*, *Lomatia fraseri*, *Acacia obtusifolia*, *Podolobium ilicifolium*, *Persoonia linearis*, *Acrotriche serrulata*, *Banksia canei*.

Characteristic groundcover species: *Hierochloe rariflora*, *Lomandra longifolia*, *Dianella tasmanica*, *Poa meioneetes*, *Pteridium esculentum*, *Stylidium graminifolium*, *Calochlaena dubia*.

Landscape position: Occurs on steep, moist upper slopes and ridges in dissected terrain between 700m and 1200m on the escarpment ranges.

Other diagnostic features: Open to tall open forest with a shrubby understorey and mixed ground layer.

Equivalent/related vegetation types: FAS-FRA Brown Barrel - White Mountain Ash Tall Forest, FAS-MUE Brown Barrel-Yellow Stringybark Tall Forest (Mills 2000). WSFp78: Southern Scarp Ash Forest (Tozer *et al.* 2010).

## NSW Formation: Wet Sclerophyll Forests (Grassy subformation)

### NSW Class: Southern Lowland Wet Sclerophyll Forests

#### **Biometric ID: SR533**

**Common Name:** Coast Grey Box - Mountain Grey Gum - Stringybark moist shrubby open forest in coastal gullies, southern South East Corner

**LGA:** Bega Valley (16,541 ha); Eurobodalla (9,737 ha); Shoalhaven (not mapped).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 15%

**Dominant canopy species:** Yellow Stringybark (*Eucalyptus muelleriana*), Coast Grey Box (*Eucalyptus bosistoana*), Mountain Grey Gum (*Eucalyptus cypellocarpa*), White Stringybark (*Eucalyptus globoidea*).

**Main associated canopy species:** Woollybutt (*Eucalyptus longifolia*).

**Characteristic midstorey species:** *Acacia falciformis*, *Acacia mearnsii*, *Allocasuarina littoralis*, *Pittosporum undulatum*, *Breynia oblongifolia*, *Hibbertia aspera*, *Notelaea venosa*, *Ozothamnus diosmifolius*, *Pittosporum revolutum*, *Platysace lanceolata*, *Billardiera scandens*, *Clematis aristata*, *Eustrephus latifolius*, *Geitonoplesium cymosum*, *Marsdenia rostrata*, *Pandorea pandorana*.

**Characteristic groundcover species:** *Desmodium varians*, *Dianella caerulea*, *Doodia aspera*, *Entolasia stricta*, *Gahnia melanocarpa*, *Goodenia ovata*, *Lepidosperma laterale*, *Lomandra longifolia*, *Microlaena stipoides* var. *stipoides*, *Rytidosperma longifolium*, *Oplismenus imbecillis*, *Poa meionectes*, *Pteridium esculentum*, *Viola hederacea*.

**Landscape position:** It occurs in steep gullies on the coastal range mainly between Merimbula and Narooma.

**Other diagnostic features:** Restricted to metasediments below 200 m elevation.

**Equivalent/related vegetation types:** WSFe34: Southeast Coastal Gully Shrub Forest (Tozer *et al.* 2010); 10: Southern Coastal Lowlands Shrub/Grass Dry Forest (NPWS 2000).

#### **Biometric ID: SR592**

**Common Name:** Red Bloodwood - Blackbutt - Spotted Gum shrubby open forest on coastal foothills, southern Sydney Basin

**LGA:** Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (10,192 ha).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 45%

**Dominant canopy species:** Red Bloodwood (*Corymbia gummifera*), Blackbutt (*Eucalyptus pilularis*), Spotted Gum (*Corymbia maculata*).

**Main associated canopy species:** White Stringybark (*Eucalyptus globoidea*), Hard-leaved Scribbly Gum (*Eucalyptus sclerophylla*), Grey Ironbark (*Eucalyptus paniculata* subsp. *paniculata*), Thin-leaved Stringybark (*Eucalyptus eugenioides*).

**Characteristic midstorey species:** *Allocasuarina littoralis*, *Pimelea linifolia*, *Banksia spinulosa*, *Persoonia linearis*, *Lomatia ilicifolia*.

**Characteristic groundcover species:** *Entolasia stricta*, *Lomandra longifolia*, *Dianella caerulea*, *Lepidosperma laterale*, *Pteridium esculentum*, *Imperata cylindrica* var. *major*, *Themeda australis*, *Lomandra multiflora*, *Lomandra obliqua*, *Billardiera scandens*, *Hardenbergia violacea*.

**Landscape position:** Occurs on coastal lowlands below 100m between Kangaroo Valley and Batemans Bay.

**Other diagnostic features:** Open forest with an open shrub layer and a dense grassy groundcover.

Equivalent/related vegetation types: DSFp85: Currumbene-Batemans Lowlands Forest (Tozer *et al.* 2010); Affinities with several types in Mills (2000) including GLB-GUM Stringybark-Bloodwood Forest, PIL-GUM Blackbutt-Bloodwood Forest, PIL-PAN Blackbutt-Ironbark Forest and PIL-PUN Blackbutt-Grey Gum Forest.

**Biometric ID: SR641**

**Common Name:** Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin and northern South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (12,109 ha); Shoalhaven (34,618 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 15%

Dominant canopy species: Spotted Gum (*Corymbia maculata*), Blackbutt (*Eucalyptus pilularis*).

Main associated canopy species: Grey Ironbark (*Eucalyptus paniculata* subsp. *paniculata*), Red Bloodwood (*Corymbia gummifera*), White Stringybark (*Eucalyptus globoidea*).

Characteristic midstorey species: *Elaeocarpus reticulatus*, *Persoonia linearis*, *Leucopogon lanceolatus*, *Macrozamia communis*, *Breynia oblongifolia*, *Notelaea longifolia*, *Hibbertia aspera*, *Synoum glandulosum*, *Cissus hypoglauca*, *Eustrephus latifolius*, *Tylophora barbata*, *Pandorea pandorana*.

Characteristic groundcover species: *Dianella caerulea*, *Entolasia stricta*, *Lomandra longifolia*, *Pteridium esculentum*, *Schelhammera undulata*, *Lepidosperma urophorum*.

Landscape position: Occurs on sheltered slopes with loamy soils below 250m mostly between Nowra and Batemans Bay, and mainly east of the Clyde River.

Other diagnostic features: Open to tall open forest with a moist shrubby understorey.

Equivalent/related vegetation types: MAC-PIL Spotted Gum - Blackbutt Forest (Mills 2000); 21: Northern Coastal Hinterland Moist Shrub Forest and 21: Northern Coastal Hinterland Moist Shrub Forest with Littoral Rainforest Understorey (NPWS 2000); WSFp104: Southern Lowland Wet Forest (Tozer *et al.* 2010).

**Biometric ID: SR642**

**Common Name:** Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal flats, southern Sydney Basin and South East Corner

LGA: Bega Valley (1,189 ha); Eurobodalla (727 ha); Shoalhaven (12,292 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 35%

Dominant canopy species: Spotted Gum (*Corymbia maculata*), Grey Ironbark (*Eucalyptus paniculata* subsp. *paniculata*), Woollybutt (*Eucalyptus longifolia*).

Main associated canopy species: Bangalay (*Eucalyptus botryoides*), Black She-oak (*Allocasuarina littoralis*), Blackbutt (*Eucalyptus pilularis*).

Characteristic midstorey species: *Hibbertia aspera*, *Leucopogon juniperinus*, *Notelaea longifolia*, *Glycine clandestina*, *Billardiera scandens*.

Characteristic groundcover species: *Lomandra longifolia*, *Imperata cylindrica* var. *major*, *Pratia purpurascens*, *Entolasia stricta*, *Dianella caerulea*, *Lepidosperma laterale*, *Dichondra repens*, *Lagenifera stipitata*, *Oplismenus imbecillis*, *Brunoniella pumilio*, *Schelhammera undulata*.

Landscape position: Occurs on loamy soils on coastal lowlands below 60m in the Jervis Bay hinterland and Murramarang area.

Other diagnostic features: Open or tall open forest with open shrub layer and prominent grassy groundcover.

Equivalent/related vegetation types: MAC-LON Spotted Gum - Woollybutt Forest, MAC-PAN Spotted Gum - Ironbark Forest (Mills 2000); WSFp86: Murramarang-Bega Lowlands Forest (Tozer *et al.* 2010).

**Biometric ID: SR643**

**Common Name:** Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner

LGA: Bega Valley (642 ha); Eurobodalla (44,158 ha); Shoalhaven (3,089 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 15%

Dominant canopy species: Spotted Gum (*Corymbia maculata*), White Stringybark (*Eucalyptus globoidea*).

Main associated canopy species: Grey Ironbark (*Eucalyptus paniculata* subsp. *paniculata*), Yellow Stringybark (*Eucalyptus muelleriana*), Blackbutt (*Eucalyptus pilularis*).

Characteristic midstorey species: *Macrozamia communis*, *Persoonia linearis*, *Platysace lanceolata*, *Hibbertia aspera*, *Podolobium ilicifolium*, *Leucopogon lanceolatus*.

Characteristic groundcover species: *Entolasia stricta*, *Dianella caerulea*, *Lepidosperma laterale*, *Lomandra multiflora*, *Imperata cylindrica* var. *major*.

Landscape position: Widespread on coastal lowlands and hills between Milton and Narooma.

Other diagnostic features: Open to tall open forest with an open shrub layer and a grassy groundcover.

Equivalent/related vegetation types: 910: Coastal Lowlands Cycad/Shrub Dry Forest (NPWS 2000); WSFp90: Batemans Bay Cycad Forest (Tozer *et al.* 2010); GLB-PAN Stringybark - Ironbark Forest, GLB-RAD White Stringybark-Narrow-leaved Peppermint Open Forest (Mills 2000).

**Biometric ID: SR658**

**Common Name:** Turpentine - Red Bloodwood - Sydney Peppermint shrubby open forest on the foothills, southern Sydney Basin and northern South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (6,104 ha); Shoalhaven (13,014 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 15%

Dominant canopy species: Turpentine (*Syncarpia glomulifera*), Red Bloodwood (*Corymbia gummifera*), Sydney Peppermint (*Eucalyptus piperita*).

Main associated canopy species: Grey Ironbark (*Eucalyptus paniculata* subsp. *paniculata*), *Eucalyptus scias* subsp. *callimastha*.

Characteristic midstorey species: *Persoonia linearis*, *Leucopogon lanceolatus*, *Acacia obtusifolia*, *Tetratheca thymifolia*, *Elaeocarpus reticulatus*, *Banksia spinulosa*.

Characteristic groundcover species: *Dianella caerulea*, *Entolasia stricta*, *Pteridium esculentum*, *Lepidosperma urophorum*.

Landscape position: Occurs on sheltered slopes with loamy soils below 600 m between Bundanoon and the upper Clyde River.

Other diagnostic features: Open to tall open forest with a dense shrubby understorey.

Equivalent/related vegetation types: WSFp95: Southern Turpentine Forest (Tozer *et al.* 2010).

## **NSW Class: Southern Tableland Wet Sclerophyll Forests**

### **Biometric ID: SR601**

**Common Name:** Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin and South Eastern Highlands

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (1,030 ha).

EEC: This community may be considered part of two EECs: Tableland basalt forest in the Sydney Basin and South Eastern Highlands bioregions; grassy examples are considered part of the Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes bioregions EEC.

Cleared estimate (nearest 5%): 95%

Dominant canopy species: Ribbon Gum (*Eucalyptus viminalis*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*).

Main associated canopy species: Blackwood (*Acacia melanoxylon*).

Characteristic midstorey species: None listed.

Characteristic groundcover species: *Microlaena stipoides* var. *stipoides*, *Stellaria pungens*, *Pteridium esculentum*, *Acaena novae-zelandiae*, *Dichondra repens*, *Geranium solanderi*, *Hydrocotyle laxiflora*, *Desmodium varians*, *Echinopogon ovatus*, *Rytidosperma racemosum* (syn. *Austrodanthonia racemosa*), *Austrostipa rudis*, *Plantago varia*, *Viola betonicifolia*.

Landscape position: Occurs on undulating basalt tablelands between 600m and 1200m, mainly between Oberon and Moss Vale.

Other diagnostic features: Open forest with a sparse shrub layer and dense groundcover of herbs and grass.

Equivalent/related vegetation types: VIM-RAD Ribbon Gum-Narrow-leaved Peppermint Tall Open Forest (Mills 2000); GWp20: Tableland Basalt Forest (Tozer *et al.* 2010).

## NSW Formation: Grassy Woodlands

### NSW Class: Coastal Valley Grassy Woodlands

#### **Biometric ID: SR543**

**Common Name:** Forest Red Gum - Coast Grey Box shrubby open forest on steep hills in the Bega Valley, South East Corner

**LGA:** Bega Valley (5,179 ha); Eurobodalla (119 ha); Shoalhaven (not mapped).

**EEC:** Brogo Wet Vine Forest in the South East Corner Bioregion.

**Cleared estimate (nearest 5%):** 50%

**Dominant canopy species:** Forest Red Gum (*Eucalyptus tereticornis*).

**Main associated canopy species:** Coast Grey Box (*Eucalyptus bosistoana*), White Stringybark (*Eucalyptus globoidea*).

**Characteristic midstorey species:** *Acacia implexa*, *Acacia mearnsii*, *Pittosporum undulatum*, *Breynia oblongifolia*, *Cassinia trinerva*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Solanum pungetium*, *Clematis glycinoides* var. *glycinoides*, *Eustrephus latifolius*, *Geitonoplesium cymosum*, *Marsdenia rostrata*, *Pandorea pandorana*.

**Characteristic groundcover species:** *Sigesbeckia orientalis*, *Urtica incisa*, *Dichondra repens*, *Geranium solanderi*, *Hydrocotyle laxiflora*, *Stellaria flaccida*, *Asplenium flabellifolium*, *Echinopogon ovatus*, *Geranium solanderi* var. *solanderi*, *Lepidosperma laterale*, *Microlaena stipoides* var. *stipoides*, *Oplismenus imbecillis*, *Pellaea falcata*, *Plectranthus parviflorus*, *Poa labillardierei* var. *labillardierei*, *Xerochrysum bracteatum*.

**Landscape position:** Occurs on steep hilly terrain in the Brogo -Bega area at 100m to 300 m elevation, usually on granitic substrates, but sometimes on outcrops of Ordovician mudstones near Bega. There are also stands in the Candelo - Myrtle Mountain area.

**Other diagnostic features:** Open forest to 20m tall sometimes with a mid layer of rainforest elements and with a dense ground cover of forbs and grasses.

**Equivalent/related vegetation types:** Brogo Wet Vine Forest (NPWS 2000); GWe18: Brogo Wet Vine Forest (Tozer *et al.* 2010).

#### **Biometric ID: SR544**

**Common Name:** Forest Red Gum - Rough-barked Apple - White Stringybark grassy woodlands on hills in dry valleys, southern South East Corner

**LGA:** Bega Valley (9,279 ha); Eurobodalla (7,788 ha); Shoalhaven (not mapped).

**EEC:** Lowland grassy woodland in the South East Corner bioregion.

**Cleared estimate (nearest 5%):** 90%

**Dominant canopy species:** Forest Red Gum (*Eucalyptus tereticornis*), White Stringybark (*Eucalyptus globoidea*), Rough-barked Apple (*Angophora floribunda*).

**Main associated canopy species:** Yellow Box (*Eucalyptus melliodora*), Blue Box (*Eucalyptus baueriana*), Coast Grey Box (*Eucalyptus bosistoana*).

**Characteristic midstorey species:** *Acacia mearnsii*, *Bursaria spinosa* subsp. *spinosa*, *Ozothamnus diosmifolius*.

**Characteristic groundcover species:** *Themeda australis*, *Notodanthonia racemosa*, *Dichanthium sericeum*, *Eragrostis leptostachya*, *Microlaena stipoides* var. *stipoides*, *Dichelachne micrantha*, *Dichondra repens*, *Desmodium varians*.

**Landscape position:** Occurs on undulating terrain in the drier parts of the Bega and Towamba valleys below 300m elevation, usually on granitic substrates.

Other diagnostic features: Woodland about 20m tall, with sparse small trees and shrubs layer, and groundcover dominated by grasses and forbs.

Equivalent/related vegetation types: GWe20p229: Southeast Lowland Grassy Woodland (Tozer *et al.* 2010); 50: Southern Escarpment Herb/Grass Dry Forest herb grass forest, Bega and Candelo Dry Grass Forests (NPWS 2000).

**Biometric ID: SR545**

**Common Name:** Forest Red Gum - Thin-leaved Stringybark grassy woodland on coastal lowlands, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (2,052 ha).

EEC: Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion.

Cleared estimate (nearest 5%): 85%

Dominant canopy species: Forest Red Gum (*Eucalyptus tereticornis*), Thin-leaved Stringybark (*Eucalyptus eugenoides*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Pittosporum undulatum*, *Breynia oblongifolia*, *Myrsine variabilis*, *Geitonoplesium cymosum*, *Eustrephus latifolius*, *Pandorea pandorana*.

Characteristic groundcover species: *Dichondra repens*, *Desmodium gunnii*, *Microlaena stipoides* var. *stipoides*, *Oplismenus imbecillis*, *Carex longebrachiata*, *Poa labillardierei* var. *labillardierei*, *Commelina cyanea*, *Pratia purpurascens*, *Themeda australis*.

Landscape position: Occurs on lower slopes in coastal rainshadow valleys, below 350m above sea level, from Wollongong to Milton and west to Yalwal.

Other diagnostic features: Woodland with an open shrub layer and a continuous grassy groundcover.

Equivalent/related vegetation types: GWp34: South Coast Grassy Woodland (Tozer *et al.* 2010); affinities with SAL-TER Blue Gum - Red Gum Forest (Mills 2000).

**Biometric ID: SR574**

**Common Name:** Maiden's Gum - Yellow Box - Forest Red Gum grassy open forest of the Araluen Valley, South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (179 ha); Shoalhaven (not mapped).

EEC: Araluen Scarp Grassy Forest in the South East Corner Bioregion.

Cleared estimate (nearest 5%): 25%

Dominant canopy species: Maiden's Gum (*Eucalyptus maidenii*), Yellow Box (*Eucalyptus melliodora*), Forest Red Gum (*Eucalyptus tereticornis*).

Main associated canopy species: Rough-barked Apple (*Angophora floribunda*).

Characteristic midstorey species: *Acacia mearnsii*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Pittosporum undulatum*, *Pandorea pandorana*, *Geitonoplesium cymosum*, *Clematis glycinoides* var. *glycinoides*.

Characteristic groundcover species: *Microlaena stipoides* var. *stipoides*, *Desmodium varians*, *Oplismenus imbecillis*, *Pellaea falcata*, *Stellaria pungens*.

Landscape position: Restricted to the escarpment and associated ridges bounding the northern and western sides of the Araluen valley, as far south as Moodong Creek.

Other diagnostic features: Open forest or woodland with a sparse understorey and grassy ground layer.

Equivalent/related vegetation types: 51: Araluen Acacia Herb/Grass Dry Forest (NPWS 2000); DSFp343: Araluen Scarp Grassy Forest (Tozer *et al.* 2010).

**Biometric ID: SR669**

**Common Name:** Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin and South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (34 ha); Shoalhaven (602 ha).

EEC: Illawarra Lowland Grassy Woodland in the Sydney Basin Bioregion.

Cleared estimate (nearest 5%): 95%

Dominant canopy species: White Stringybark (*Eucalyptus globoidea*), Woollybutt (*Eucalyptus longifolia*).

Main associated canopy species: Forest Red Gum (*Eucalyptus tereticornis*), Spotted Gum (*Corymbia maculata*).

Characteristic midstorey species: *Melaleuca decora*, *Leucopogon juniperinus*, *Pittosporum undulatum*, *Ozothamnus diosmifolius*, *Glycine clandestina*, *Glycine tabacina*.

Characteristic groundcover species: *Microlaena stipoides* var. *stipoides*, *Pratia purpurascens*, *Entolasia stricta*, *Themeda australis*, *Cheilanthes sieberi* subsp. *sieberi*, *Lagenifera stipitata*, *Lepidosperma laterale*, *Cymbopogon refractus*, *Dichondra repens*, *Echinopogon caespitosus*, *Dianella longifolia*, *Imperata cylindrica* var. *major*, *Arthropodium* species B, *Eragrostis leptostachya*, *Veronica plebeia*.

Landscape position: Restricted to flats below 100m above sea level with sandy loam soils and partially impeded drainage mainly between the Illawarra and Moruya.

Other diagnostic features: None listed.

Equivalent/related vegetation types: GWp3: South Coast Lowland Swamp Woodland (Tozer *et al.* 2010); 11: Coastal Shrub/Grass Dry Forest - *E. botryoides*/*E. globoidea*/*Imperata cylindrica* (NPWS 2000); LON-MEL Woollybutt - Paperbark Forest (Mills 2000).

**NSW Class: Southern Tableland Grassy Woodlands**

**Biometric ID: SR670**

**Common Name:** Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (5 ha).

EEC: White Box Yellow Box Blakely's Red Gum Woodland.

Cleared estimate (nearest 5%): 90%

Dominant canopy species: Yellow Box (*Eucalyptus melliodora*), Apple Box (*Eucalyptus bridgesiana*), Blakely's Red Gum (*Eucalyptus blakelyi*).

Main associated canopy species: Broad-leaved Peppermint (*Eucalyptus dives*), Red Stringybark (*Eucalyptus macrorhyncha*), Candle Bark (*Eucalyptus rubida* subsp. *rubida*), Snow Gum (*Eucalyptus pauciflora* subsp. *pauciflora*), Brittle Gum (*Eucalyptus mannifera*), Ribbon Gum (*Eucalyptus viminalis*).

Characteristic midstorey species: *Lissanthe strigosa*, *Melichrus urceolatus*.

Characteristic groundcover species: *Themeda australis*, *Microlaena stipoides* var. *stipoides*, *Gonocarpus tetragynus*, *Bothriochloa macra*, *Hydrocotyle laxiflora*, *Poa sieberiana* var. *sieberiana*, *Rytidosperma racemosum* (syn. *Austroanthonia racemosa*), *Goodenia hederacea*, *Lomandra filiformis* subsp. *coriacea*.

Landscape position: Occurs on loamy soils on undulating terrain between 500m and 900m on the tablelands.

Other diagnostic features: Woodland with a sparse shrub layer and dense grassy groundcover. Occurrences in the Braidwood area and east of Byadbo in the far south do not have Blakely's Red Gum present.



Equivalent/related vegetation types: MED-BRI Yellow Box-Apple Box Woodland (Mills 2000); GWp24: Tableland Grassy Box-Gum Woodland (Tozer *et al.* 2010).

### **NSW Class: Subalpine Woodlands**

**Biometric ID:** SR584

**Common Name:** Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands

LGA: Bega Valley (1,037 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Grassy examples of this community are considered part of the Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes bioregions EEC.

Cleared estimate (nearest 5%): 50%

Dominant canopy species: Mountain Gum (*Eucalyptus dalrympleana* subsp. *dalrympleana*), Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), Snow Gum (*Eucalyptus pauciflora* subsp. *pauciflora*).

Main associated canopy species: Broad-leaved Peppermint (*Eucalyptus dives*).

Characteristic midstorey species: *Bossiaea foliosa*, *Daviesia ulicifolia*, *Hibbertia obtusifolia*, *Hovea linearis*, *Leucopogon lanceolatus*, *Monotoca scoparia*, *Persoonia silvatica*.

Characteristic groundcover species: *Dianella tasmanica*, *Gonocarpus tetragynus*, *Lomandra longifolia*, *Microlaena stipoides* var. *stipoides*, *Stylidium graminifolium*.

Landscape position: Typically occurs on gentle terrain on the tableland above 700m elevation, on granitic or metasedimentary substrates.

Other diagnostic features: Open forest up to 20m tall with an understorey of scattered tall shrubs emerging from a stratum of smaller shrubs. The groundcover includes grass tussocks interspersed with forbs.

Equivalent/related vegetation types: GWe24: Southeast Subalpine Dry Shrub Forest (Tozer *et al.* 2010).

### **NSW Class: Tableland Clay Grassy Woodlands**

**Biometric ID:** SR602

**Common Name:** Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands

LGA: Bega Valley (not mapped); Eurobodalla (117 ha); Shoalhaven (1,027 ha).

EEC: Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes bioregions.

Cleared estimate (nearest 5%): 80%

Dominant canopy species: Ribbon Gum (*Eucalyptus viminalis*), Snow Gum (*Eucalyptus pauciflora* subsp. *pauciflora*).

Main associated canopy species: Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), Black Gum (*Eucalyptus aggregata*), Swamp Gum (*Eucalyptus ovata*).

Characteristic midstorey species: *Rubus parviflorus*.

Characteristic groundcover species: *Microlaena stipoides* var. *stipoides*, *Dichondra repens*, *Acaena novae-zelandiae*, *Hydrocotyle laxiflora*, *Stellaria pungens*, *Poa labillardierei* var. *labillardierei*, *Echinopogon ovatus*, *Geranium solanderi*, *Desmodium varians*.

Landscape position: Occurs on granite soils in gently undulating to flat terrain at altitudes between 600m and 1100m on the eastern parts of the tablelands from the western Blue Mountains to Big Badja.

Other diagnostic features: Open forest with a sparse shrub layer and a dense grassy groundcover. Note: this community is similar to *SR603: Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands* and examples may be mapped as part of this type.

Equivalent/related vegetation types: GWp520: Tableland Swamp Flats Forest, some affinities with FoWp54: Tableland Swamp Woodland (Tozer *et al.* 2010); Moderate affinities with GLB-VIM White Stringybark-Ribbon Gum Open Forest (Mills 2000).

### **Biometric ID: SR603**

**Common Name: Ribbon Gum - Snow Gum grassy open forest on flats and undulating hills of the eastern tableland, South Eastern Highlands**

LGA: Bega Valley (9,270 ha); Eurobodalla (7,228 ha); Shoalhaven (not mapped).

EEC: Above 600m asl., may, this community potentially be part of the Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes bioregions EEC.

Cleared estimate (nearest 5%): 90%

Dominant canopy species: Ribbon Gum (*Eucalyptus viminalis*), Snow Gum (*Eucalyptus pauciflora* subsp. *pauciflora*).

Main associated canopy species: Narrow-leaved Peppermint (*Eucalyptus radiata* subsp. *radiata*), Black Sallee (*Eucalyptus stellulata*).

Characteristic midstorey species: *Rubus parviflorus*.

Characteristic groundcover species: *Microlaena stipoides* var. *stipoides*, *Dichondra repens*, *Glycine clandestina*, *Desmodium varians*, *Lomandra longifolia*, *Themeda australis*, *Pteridium esculentum*, *Acaena novae-zelandiae*, *Poa labillardierei* var. *labillardierei*, *Gonocarpus tetragynus*, *Hypericum gramineum*.

Landscape position: Occurs on flat to gently undulating terrain from 600m to 1150m above sea level largely on granite or acid volcanic soils.

Other diagnostic features: Open eucalypt forest with sparse shrubs and dense grassy groundcover. Note: this community is similar to *SR602: Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands* and examples may be mapped as part of this type.

Equivalent/related vegetation types: GWp220: Southern Tableland Flats Forest (Tozer *et al.* 2010).

## NSW Formation: Rainforests

### NSW Class: Cool Temperate Rainforests

#### **Biometric ID: SR590**

**Common Name:** Plumwood - Soft Tree-fern cool temperate rainforest on cool, moist slopes and gullies of the escarpment ranges, South East Corner

**LGA:** Bega Valley (1,435 ha); Eurobodalla (749 ha); Shoalhaven (12 ha).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 5%

**Dominant canopy species:** Plumwood (*Eucryphia moorei*).

**Main associated canopy species:** Black Olive Berry (*Elaeocarpus holopetalus*).

**Characteristic midstorey species:** *Dicksonia antarctica*, *Cyathea australis*, *Hedycarya angustifolia*, *Smilax australis*, *Microsorium pustulatum*, *Microsorium scandens*, *Parsonsia brownii*, *Pandorea pandorana*.

**Characteristic groundcover species:** *Fieldia australis*, *Polyphlebium venosum*, *Pyrrosia rupestris*, *Lastreopsis acuminata*, *Australina pusilla*, *Blechnum patersonii*, *Blechnum wattsii*, *Polystichum proliferum*, *Asplenium flabellifolium*.

**Landscape position:** Restricted to cool, higher altitude escarpment slopes and moist sheltered gullies with loamy soils.

**Other diagnostic features:** A simple closed forest with an understorey of tree ferns, mesic shrubs and ground ferns.

**Equivalent/related vegetation types:** RFp317: Southeast Cool Temperate Rainforest (Tozer *et al.* 2010); 164: Coastal Escarpment Cool Temperate Rainforest (NPWS 2000).

### NSW Class: Dry Rainforests

#### **Biometric ID: SR551**

**Common Name:** Grey Myrtle - Lilly Pilly dry rainforest in dry gullies, Sydney Basin and South East Corner

**LGA:** Bega Valley (1,212 ha); Eurobodalla (4,650 ha); Shoalhaven (423 ha).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** 10%

**Dominant canopy species:** Grey Myrtle (*Backhousia myrtifolia*), Lilly Pilly (*Syzygium smithii*).

**Main associated canopy species:** Sweet Pittosporum (*Pittosporum undulatum*), Sandpaper Fig (*Ficus coronata*).

**Characteristic midstorey species:** *Pittosporum revolutum*, *Breynia oblongifolia*, *Notelaea venosa*, *Myrsine howittiana*, *Morinda jasminoides*, *Cissus hypoglauca*, *Eustrephus latifolius*, *Pandorea pandorana*, *Smilax australis*, *Marsdenia rostrata*, *Geitonoplesium cymosum*, *Parsonsia straminea*.

**Characteristic groundcover species:** *Doodia aspera*, *Pseuderanthemum variabile*, *Oplismenus imbecillis*.

**Landscape position:** Occurs in dry shale gullies below 400m mainly south of Nowra, with occasional occurrences on sandstone in the lower Blue Mountains to the north.

**Other diagnostic features:** Simple closed forest with lianas, a mesic shrub layer and sparse groundcover. Note: this community is similar to SR552: Grey Myrtle dry rainforest of the Sydney Basin and South East Corner and examples may be mapped as part of this type.

Equivalent/related vegetation types: RFp40: Temperate Dry Rainforest (Tozer *et al.* 2010); BAC-WRF Ironwood Warm Temperate Rainforest (Mills 2000); 168: Ecotonal Granite Dry Rainforest, 170: Southern Coastal Hinterland Dry Gully Rainforest (NPWS 2000).

**Biometric ID: SR552**

**Common Name:** Grey Myrtle dry rainforest of the Sydney Basin and South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (7 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 25%

Dominant canopy species: Grey Myrtle (*Backhousia myrtifolia*).

Main associated canopy species: Lilly Pilly (*Syzygium smithii*), Sweet Pittosporum (*Pittosporum undulatum*).

Characteristic midstorey species: *Notelaea longifolia*, *Notelaea venosa*, *Myrsine howittiana*, *Breynia oblongifolia*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Sigesbeckia orientalis*, *Pandorea pandorana*, *Aphanopetalum resinosum*, *Cayratia clematidea*.

Characteristic groundcover species: *Adiantum aethiopicum*, *Asplenium flabellifolium*, *Pellaea falcata*, *Doodia aspera*, *Dichondra repens*, *Microlaena stipoides* var. *stipoides*, *Oplismenus imbecillis*, *Desmodium varians*, *Plectranthus parviflorus*, *Stellaria flaccida*.

Landscape position: Occurs on steep rocky slopes of dry gorges and gullies below about 500m.

Other diagnostic features: Simple, low closed forest with sparse groundcover. Note: this community is similar to SR551: Grey Myrtle - Lilly Pilly dry rainforest in dry gullies, Sydney Basin and South East Corner and examples may be mapped as part of this type.

Equivalent/related vegetation types: RFp38: Grey Myrtle Dry Rainforest (Tozer *et al.* 2010).

**Biometric ID: SR613**

**Common Name:** Rusty Fig - Sweet Pittosporum dry rainforest on rocky slopes, southern South East Corner

LGA: Bega Valley (184 ha); Eurobodalla (4 ha); Shoalhaven (not mapped).

EEC: Dry Rainforest of the South East Forests in the South East Corner Bioregion.

Cleared estimate (nearest 5%): 75%

Dominant canopy species: Rusty Fig (*Ficus rubiginosa*), Sweet Pittosporum (*Pittosporum undulatum*).

Main associated canopy species: Kurrajong (*Brachychiton populneus* subsp. *populneus*).

Characteristic midstorey species: *Beyeria lasiocarpa*, *Celastrus australis*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Clematis glycinoides* var. *glycinoides*, *Eustrephus latifolius*.

Characteristic groundcover species: *Asplenium flabellifolium*, *Dichondra repens*, *Oplismenus imbecillis*, *Pellaea falcata*, *Urtica incisa*.

Landscape position: Usually occurs on steep upper granite slopes or heads of gullies facing north at 200m to 400m elevation.

Other diagnostic features: Occurs as a closed forest restricted to small patches generally less than 10 ha.

Equivalent/related vegetation types: RFe1: Southeast Dry Rainforest (Tozer *et al.* 2010).

**Biometric ID: SR662**

**Common Name:** Whalebone Tree - Native Quince dry subtropical rainforest on dry fertile slopes, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (66 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 90%

Dominant canopy species: Whalebone Tree (*Streblus brunonianus*), *Alectryon subcinereus*, Sweet Pittosporum (*Pittosporum undulatum*), *Diospyros australis*.

Main associated canopy species: Red Ash (*Alphitonia excelsa*), *Acacia maidenii*, *Guioa semiglauca*, Grey Myrtle (*Backhousia myrtifolia*), Black Apple (*Pouteria australis*).

Characteristic midstorey species: *Notelaea venosa*, *Cassine australis*, *Clerodendrum tomentosum*, *Pittosporum multiflorum*, *Breynia oblongifolia*, *Croton verreauxii*, *Myrsine variabilis*, *Maclura cochinchinensis*, *Pittosporum revolutum*, *Geitonoplesium cymosum*, *Eustrephus latifolius*, *Pandorea pandorana*, *Parsonia straminea*, *Marsdenia rostrata*, *Smilax australis*.

Characteristic groundcover species: *Oplismenus imbecillis*, *Pellaea falcata*, *Pseuderanthemum variabile*, *Asplenium flabellifolium*, *Gymnostachys anceps*, *Doodia aspera*.

Landscape position: Occurs mainly on dry slopes on fertile soils below about 300m in the Illawarra-Kiama and Milton areas.

Other diagnostic features: Low closed forest with prominent shrub stratum and sparse groundcover.

Equivalent/related vegetation types: RFp111: Subtropical Dry Rainforest (Tozer *et al.* 2010).

## **NSW Class: Littoral Rainforests**

**Biometric ID: SR571**

**Common Name:** Lilly Pilly littoral rainforest of the southern Sydney Basin and South East Corner

LGA: Bega Valley (42 ha); Eurobodalla (not mapped, but likely to be present); Shoalhaven (119 ha).

EEC: Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions.

Cleared estimate (nearest 5%): 30%

Dominant canopy species: Lilly Pilly (*Syzygium smithii*), *Guioa semiglauca*, Cabbage-tree Palm (*Livistona australis*).

Main associated canopy species: *Podocarpus elatus*, *Elaeodendron australe* var. *australe*, Bangalay (*Eucalyptus botryoides*), *Cryptocarya microneura*, Sandpaper Fig (*Ficus coronata*), Cheese Tree (*Glochidion ferdinandi*).

Characteristic midstorey species: *Pittosporum undulatum*, *Eupomatia laurina*, *Notelaea longifolia*, *Synoum glandulosum*, *Ripogonum album*, *Marsdenia rostrata*, *Sarcopetalum harveyanum*, *Stephania japonica*, *Smilax australis*, *Eustrephus latifolius*, *Cissus hypoglauca*, *Geitonoplesium cymosum*.

Characteristic groundcover species: *Oplismenus imbecillis*, *Viola hederacea*, *Pellaea falcata*, *Gahnia aspera*.

Landscape position: Occurs on sand spits and coastal gullies within a few hundred metres of the sea south from Sutherland.

Other diagnostic features: Closed forest with lianas and sparse groundcover.

Equivalent/related vegetation types: COM-LRF Complex Littoral Rainforest, SIM-LRF Simple Littoral Rainforest (Mills 2000); RFp210: Temperate Littoral Rainforest (Tozer *et al.* 2010).

## ***NSW Class: Northern Warm temperate Rainforests***

### **Biometric ID: SR529**

**Common Name:** Coachwood - Lilly Pilly warm temperate rainforest in moist sandstone gullies, Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (1,102 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Coachwood (*Ceratopetalum apetalum*), Lilly Pilly (*Syzygium smithii*), Sassafras (*Doryphora sassafras*).

Main associated canopy species: Cedar Wattle (*Acacia elata*), Grey Myrtle (*Backhousia myrtifolia*), Callicoma serratifolia.

Characteristic midstorey species: *Cyathea australis*, *Todea barbara*, *Tasmannia insipida*, *Morinda jasminoides*, *Smilax australis*.

Characteristic groundcover species: *Blechnum cartilagineum*.

Landscape position: Occurs in moist gully heads and sheltered slopes below sandstone cliffs between 400m and 800m altitude.

Other diagnostic features: Occurs in the Blue Mountains and on Budderoo and Moreton Plateaux. Closed forest with lianas and ferny groundcover.

Equivalent/related vegetation types: CER-WRF Coachwood Warm Temperate Rainforest (Mills 2000); RFp114: Sandstone Scarp Warm Temperate Rainforest (Tozer *et al.* 2010).

### **Biometric ID: SR567**

**Common Name:** Lilly Pilly - Coachwood warm temperate rainforest on moist sheltered slopes and gullies, Sydney Basin and South East Corner

LGA: Bega Valley (733 ha); Eurobodalla (1,152 ha); Shoalhaven (10,825 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 15%

Dominant canopy species: Lilly Pilly (*Syzygium smithii*), Cabbage-tree Palm (*Livistona australis*), Coachwood (*Ceratopetalum apetalum*), Jackwood (*Cryptocarya glaucescens*).

Main associated canopy species: Sassafras (*Doryphora sassafras*), Crabapple (*Schizomeria ovata*).

Characteristic midstorey species: *Synoum glandulosum*, *Tasmannia insipida*, *Eupomatia laurina*, *Cyathea australis*, *Ficus coronata*, *Psychotria loniceroides*, *Morinda jasminoides*, *Smilax australis*, *Microsorium scandens*, *Marsdenia rostrata*, *Palmeria scandens*, *Pandorea pandorana*, *Parsonsia straminea*, *Cissus hypoglauca*.

Characteristic groundcover species: *Lastreopsis microsora*, *Blechnum cartilagineum*, *Blechnum patersonii*, *Asplenium australasicum*, *Doodia aspera*.

Landscape position: Occurs on clay loams in moist sheltered gullies of the coastal lowlands, and foothills below 400m on the Illawarra escarpment. Smaller patches of related vegetation types further south.

Other diagnostic features: Closed forest with many lianas and a ferny groundcover.

Equivalent/related vegetation types: 166: Central Coastal Hinterland and Lowland Warm Temperate Rainforest (NPWS 2000); RFp113: Coastal Warm Temperate Rainforest (Tozer *et al.* 2010); CER-WRF Coachwood Warm Temperate Rainforest (Mills 2000).

## **NSW Class: Southern Warm temperate Rainforests**

### **Biometric ID: SR528**

**Common Name:** Coachwood - Brown Possumwood warm temperate rainforest in sheltered gullies of the Illawarra Escarpment, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (19 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Coachwood (*Ceratopetalum apetalum*), Rough Possumwood (*Quintinia sieberi*), Plumwood (*Eucryphia moorei*).

Main associated canopy species: Hill Kanuka (*Tristania collina*), Brush Cherry (*Syzygium australe*).

Characteristic midstorey species: *Coprosma quadrifida*, *Dracophyllum secundum*, *Epacris longiflora*, *Tasmannia insipida*, *Todea barbara*, *Tmesipteris truncata*.

Characteristic groundcover species: *Gleichenia microphylla*, *Grammitis billardiarei*, *Gahnia sieberiana*, *Pyrrosia rupestris*.

Landscape position: Moist gullies below sandstone cliffs, 450m to 650m, Mt Kembla-Budderoo.

Other diagnostic features: Closed forest with a dense tree canopy, a prominent shrub stratum and a fern/sedge dominated groundcover.

Equivalent/related vegetation types: EUR-CRF Plumwood Cool Temperate Rainforest (Mills 2000); RFp314: Budderoo Temperate Rainforest (Tozer *et al.* 2010).

### **Biometric ID: SR569**

**Common Name:** Lilly Pilly - Sassafras warm temperate rainforest in moist sheltered gullies, Sydney Basin and South East Corner

LGA: Bega Valley (56 ha); Eurobodalla (793 ha); Shoalhaven (1,348 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 25%

Dominant canopy species: Lilly Pilly (*Syzygium smithii*), Sassafras (*Doryphora sassafras*).

Main associated canopy species: Blackwood (*Acacia melanoxylon*), Giant Stinging Tree (*Dendrocnide excelsa*), Grey Myrtle (*Backhousia myrtifolia*).

Characteristic midstorey species: *Pittosporum undulatum*, *Cyathea australis*, *Coprosma quadrifida*, *Notelaea venosa*, *Myrsine howittiana*, *Pandorea pandorana*, *Smilax australis*, *Marsdenia rostrata*, *Microsorium scandens*.

Characteristic groundcover species: *Asplenium flabellifolium*, *Lastreopsis acuminata*, *Eustrephus latifolius*, *Tylophora barbata*, *Morinda jasminoides*.

Landscape position: Occurs in moist sheltered gullies of the foothills and escarpment mainly between 300 and 750m.

Other diagnostic features: Occurs on relatively fertile moist soils compared to SR567: *Lilly Pilly - Coachwood warm temperate rainforest on moist sheltered slopes and gullies, Sydney Basin and South East Corner* which occurs on sandstone substrates. Closed forest with lianas and ferny groundcover.

Equivalent/related vegetation types: ACM-WRF Lily Pilly Warm Temperate Rainforest, COM-SRF Complex Subtropical Rainforest (Mills 2000); RFp116: Intermediate Temperate Rainforest (Tozer *et al.* 2010). Part of Littoral Rainforest mapped in NPWS (2000).

**Biometric ID: SR570**

**Common Name:** Lilly Pilly - Sweet Pittosporum - Rough Tree-fern warm temperate rainforest in steep sheltered gullies, southern South East Corner

LGA: Bega Valley (6,177 ha); Eurobodalla (2,713 ha); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Lilly Pilly (*Syzygium smithii*), Sweet Pittosporum (*Pittosporum undulatum*).

Main associated canopy species: Sassafras (*Doryphora sassafras*), *Polyscias murrayi*, *Acronychia oblongifolia*.

Characteristic midstorey species: *Cyathea australis*, *Dicksonia antarctica*, *Coprosma quadrifida*, *Eupomatia laurina*, *Notelaea venosa*, *Myrsine howittiana*, *Aphanopetalum resinosum*, *Cissus hypoglauca*, *Marsdenia rostrata*, *Morinda jasminoides*, *Pandorea pandorana*, *Sarcopetalum harveyanum*, *Smilax australis*.

Characteristic groundcover species: *Asplenium flabellifolium*, *Blechnum cartilagineum*, *Doodia aspera*, *Fieldia australis*, *Lastreopsis microsora*, *Microsorium scandens*, *Oplismenus imbecillis*, *Pellaea falcata*, *Polystichum proliferum*, *Pteris umbrosa*, *Pyrrosia rupestris*, *Stellaria flaccida*, *Urtica incisa*.

Landscape position: Restricted to steep sheltered gullies on metasedimentary substrates of the coastal ranges usually below 700m elevation.

Other diagnostic features: A dense canopy exceeding 15 m in height with scattered emergent eucalypts over 20m and numerous lianas. Shrub and tree fern species make up a prominent substratum 4m tall, while the groundcover is dominated by ferns.

Equivalent/related vegetation types: RFe6e7: Southeast Warm Temperate Rainforest (Tozer *et al.* 2010); 165: Southern Escarpment Cool/Warm Temperate Rainforest (NPWS 2000).

**Biometric ID: SR615**

**Common Name:** Sassafras - Blackwood - Lilly Pilly temperate rainforest on basalt soils in the Robertson area, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (2 ha).

EEC: Robertson Rainforest in the Sydney Basin Bioregion

Cleared estimate (nearest 5%): 85%

Dominant canopy species: Sassafras (*Doryphora sassafras*), Lilly Pilly (*Syzygium smithii*), Blackwood (*Acacia melanoxylon*).

Main associated canopy species: *Polyosma cunninghamii*, Sweet Pittosporum (*Pittosporum undulatum*), Rough Possumwood (*Quintinia sieberi*).

Characteristic midstorey species: *Dicksonia antarctica*, *Coprosma quadrifida*, *Hedycarya angustifolia*, *Myrsine howittiana*, *Alectryon subcinereus*, *Notelaea venosa*, *Pandorea pandorana*, *Pyrrosia rupestris*, *Smilax australis*, *Marsdenia rostrata*, *Eustrephus latifolius*, *Microsorium scandens*, *Morinda jasminoides*.

Characteristic groundcover species: *Asplenium flabellifolium*, *Urtica incisa*, *Lastreopsis acuminata*, *Pellaea falcata*.

Landscape position: Occurs on moist soils derived from basalt on the Robertson Plateau between 650m and 800m.

Other diagnostic features: Closed forest with lianas and ferny groundcover.

Equivalent/related vegetation types: RFp516: Yarrowa Temperate Rainforest (Tozer *et al.* 2010).



## ***NSW Class: Subtropical Rainforests***

### **Biometric ID: SR568**

**Common Name:** Lilly Pilly - Sassafras - Stinging Tree subtropical/warm temperate rainforest on moist fertile lowlands, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (2,288 ha).

EEC: In the northern Shoalhaven, this community is considered part of the Illawarra coastal plain and escarpment foothills may be considered part of the Illawarra Subtropical Rainforest in the Sydney Basin Bioregion EEC. Around Milton, where it occurs on primarily on Milton Monzonite, it is part of the Milton Ulladulla Subtropical Rainforest in the Sydney Basin bioregion EEC.

Cleared estimate (nearest 5%): 50%

Dominant canopy species: Cabbage-tree Palm (*Livistona australis*), Sassafras (*Doryphora sassafras*), Lilly Pilly (*Syzygium smithii*), Giant Stinging Tree (*Dendrocnide excelsa*), Sweet Pittosporum (*Pittosporum undulatum*), Whalebone Tree (*Streblus brunonianus*), Native Tamarind (*Diploglottis australis*), Red Cedar (*Toona australis*).

Main associated canopy species: *Pennantia cunninghamii*, *Diospyros australis*, *Claoxylon australe*, Sandpaper Fig (*Ficus coronata*), *Alectryon subcinereus*.

Characteristic midstorey species: *Pittosporum multiflorum*, *Cassine australis*, *Clerodendrum tomentosum*, *Eupomatia laurina*, *Arthropteris tenella*, *Marsdenia rostrata*, *Microsorium scandens*, *Pandorea pandorana*, *Piper novae-hollandiae*, *Smilax australis*.

Characteristic groundcover species: *Gymnostachys anceps*, *Adiantum formosum*, *Pseuderanthemum variabile*, *Doodia aspera*

Landscape position: Occurs in the Illawarra between Scarborough and Cambewarra, with a disjunct occurrence further south at Milton.

Other diagnostic features: Restricted to soils derived from Gerringong Volcanics near Kiama, soils derived from monzonite in gullies around Milton, and slopes and benches of the Illawarra scarp from seal level to 300m where latite, shale and coal seams are exposed.

Equivalent/related vegetation types: WRF-SRF Warm Temperate-Subtropical Rainforest (Mills 2000); RFp112: Subtropical Complex Rainforest (Tozer *et al.* 2010).

## NSW Formation: Forested Wetlands

### NSW Class: Coastal Floodplain Wetlands

#### **Biometric ID: SR542**

**Common Name:** Floodplain wetlands of the coastal lowlands, southern South East Corner

**LGA:** Bega Valley (1,567 ha); Eurobodalla (633 ha); Shoalhaven (not mapped).

**EEC:** Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions.

**Cleared estimate (nearest 5%):** 85%

**Dominant canopy species:** None listed.

**Main associated canopy species:** Swamp Gum (*Eucalyptus ovata*).

**Characteristic midstorey species:** *Melaleuca ericifolia*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Phragmites australis*.

**Characteristic groundcover species:** *Acaena novae-zelandiae*, *Carex appressa*, *Centella asiatica*, *Lobelia anceps*, *Persicaria decipiens*, *Persicaria praetermissa*, *Ranunculus inundatus*, *Ranunculus plebeius*, *Senecio minimus*, *Eleocharis sphacelata*, *Typha* spp.

**Landscape position:** Occurs on the floodplains of the lower Bega and Towamba Rivers on riverine alluvium.

**Other diagnostic features:** A complex of plant assemblages including reedlands, herbfields, scrubs and swamp forests. Remnants of forested wetlands occur around the margins of the floodplains.

**Equivalent/related vegetation types:** FoWe60: Southeast Floodplain Wetlands (Tozer *et al.* 2010); Freshwater Wetlands on Coastal Floodplains (NPWS 2000).

#### **Biometric ID: SR649**

**Common Name:** Swamp Oak - Prickly Tea-tree - Swamp Paperbark swamp forest on coastal floodplains, Sydney Basin and South East Corner

**LGA:** Bega Valley (332 ha); Eurobodalla (1,720 ha); Shoalhaven (2,272 ha).

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

**Cleared estimate (nearest 5%):** 95%

**Dominant canopy species:** Swamp Oak (*Casuarina glauca*).

**Main associated canopy species:** Swamp Paperbark (*Melaleuca ericifolia*), Prickly-leaved Paperbark (*Melaleuca styphelioides*), Common Silkpod (*Parsonsia straminea*).

**Characteristic midstorey species:** None listed.

**Characteristic groundcover species:** *Commelina cyanea*, *Phragmites australis*, *Alternanthera denticulata*, *Carex appressa*, *Centella asiatica*, *Cynodon dactylon*, *Juncus kraussii*.

**Landscape position:** Occurs on brackish coastal floodplain drainage lines and depressions below 10m throughout coast.

**Other diagnostic features:** Low, rather dense forest with open shrub layer and semi-continuous groundcover.

**Equivalent/related vegetation types:** CAS-GLA Swamp Oak Forest, MEL-FOR Paperbark Forest (Mills 2000); FoWp105: Floodplain Swamp Forest (Tozer *et al.* 2010).

**Biometric ID: SR650**

**Common Name:** Swamp Oak swamp forest fringing estuaries, Sydney Basin and South East Corner

LGA: Bega Valley (< 1 ha); Eurobodalla (407 ha); Shoalhaven (230 ha).

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

Cleared estimate (nearest 5%): 95%

Dominant canopy species: Swamp Oak (*Casuarina glauca*).

Main associated canopy species: Broad-leaved Paperbark (*Melaleuca quinquenervia*), Prickly-leaved Paperbark (*Melaleuca styphelioides*), Forest Red Gum (*Eucalyptus tereticornis*).

Characteristic midstorey species: *Myoporum acuminatum*, *Melaleuca ericifolia*, *Hibiscus diversifolius*, *Goodenia ovata*, *Parsonsia straminea*.

Characteristic groundcover species: *Juncus kraussii* subsp. *australiensis*, *Samolus repens*, *Sarcocornia quinqueflora*, *Suaeda australis*, *Baumea juncea*, *Cynodon dactylon*.

Landscape position: Occurs on sandy saline sediments fringing the high tide mark in coastal estuaries below 5m.

Other diagnostic features: Low, rather dense forest with open shrub layer and continuous groundcover.

Equivalent/related vegetation types: FoWp106: Estuarine Fringe Forest (Tozer *et al.* 2010); CAS-GLA Swamp Oak Forest (Mills 2000).

**Biometric ID: SR651**

**Common Name:** Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner

LGA: Bega Valley (224 ha); Eurobodalla (158 ha); Shoalhaven (1,258 ha).

EEC: This community is considered part of both the Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions and the Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions EECs.

Cleared estimate (nearest 5%): 30%

Dominant canopy species: Swamp Paperbark (*Melaleuca ericifolia*), Swamp Oak (*Casuarina glauca*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Parsonsia straminea*, *Acacia floribunda*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Myoporum acuminatum*.

Characteristic groundcover species: *Baumea juncea*, *Lobelia alata*, *Baumea articulata*, *Leptinella longipes*, *Samolus repens*, *Selliera radicans*.

Landscape position: Occurs on the shores of estuarine lagoons and brackish lakes, wetlands and creek flats below 10m above sea level.

Other diagnostic features: A dense scrub with a continuous groundcover of sedges and forbs.

Equivalent/related vegetation types: MEL-ERI Paperbark Shrubland, MEL-GAH Paperbark-Swordgrass Shrubland (Mills 2000); FoWp107: Estuarine Creekflat Scrub (Tozer *et al.* 2010).

## **NSW Class: Coastal Swamp Forests**

### **Biometric ID: SR648**

**Common Name:** Swamp Mahogany swamp sclerophyll forest on coastal lowlands, Sydney Basin and South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (4 ha); Shoalhaven (1,170 ha).

EEC: Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions.

Cleared estimate (nearest 5%): 50%

Dominant canopy species: Swamp Mahogany (*Eucalyptus robusta*).

Main associated canopy species: Bangalay (*Eucalyptus botryoides*).

Characteristic midstorey species: *Leptospermum polygalifolium*, *Acacia longifolia*, *Melaleuca linariifolia*, *Melaleuca ericifolia*, *Leptospermum continentale*.

Characteristic groundcover species: *Gahnia clarkei*, *Selaginella uliginosa*, *Imperata cylindrica* var. *major*, *Baumea juncea*, *Baumea articulata*.

Landscape position: Occurs on drainage lines and depressions on sandy alluvium, and sand flats in low altitude coastal areas.

Other diagnostic features: Low open forest with an open shrub layer and a dense groundcover of sedges and forbs.

Equivalent/related vegetation types: ROB-MEL Swamp Mahogany - Paperbark Forest (Mills 2000); FoWp45: Coastal Sand Swamp Forest (Tozer *et al.* 2010).

## **NSW Class: Eastern Riverine Forests**

### **Biometric ID: SR606**

**Common Name:** River Oak open forest of major streams, Sydney Basin and South East Corner

LGA: Bega Valley (453 ha); Eurobodalla (1,271 ha); Shoalhaven (654 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 30%

Dominant canopy species: River Oak (*Casuarina cunninghamiana*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Urtica incisa*, *Acacia mearnsii*, *Acacia floribunda*, *Stephania japonica*, *Pandorea pandorana*.

Characteristic groundcover species: *Microlaena stipoides* var. *stipoides*, *Lomandra longifolia*, *Oplismenus aemulus*, *Dichondra repens*.

Landscape position: Occurs on river banks of major rivers or banks of swift flowing streams and rivers.

Other diagnostic features: Occurs on sand or gravel alluvium along swift-flowing streams such as the Coxs, Abercrombie, Wollondilly, Shoalhaven and Deua Rivers between 20 and 600m. Open or tall open forest with an open shrub layer and a dense or patchy groundcover of grasses and forbs.

Equivalent/related vegetation types: 53: Riparian Acacia Shrub/Grass/Herb Forest (NPWS 2000); CAS-CUN River Oak Forest (Mills 2000); FoWp32: Riverbank Forest (Tozer *et al.* 2010).

**Biometric ID: SR608**

**Common Name:** River Peppermint - Rough-barked Apple - River Oak herb/grass riparian forest of coastal lowlands, southern Sydney Basin and South East Corner

LGA: Bega Valley (1,706 ha); Eurobodalla (2,073 ha); Shoalhaven (136 ha).

EEC: Floodplain examples may be part of the River-flat eucalypt forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions EEC.

Cleared estimate (nearest 5%): 50%

Dominant canopy species: River Peppermint (*Eucalyptus elata*), Rough-barked Apple (*Angophora floribunda*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Rubus parvifolius*, *Breynia oblongifolia*, *Melicytus dentatus* (syn. *Hymenanthera dentata*), *Acacia mearnsii*.

Characteristic groundcover species: *Microlaena stipoides* var. *stipoides*, *Dichondra repens*, *Lomandra longifolia*, *Carex longibrachiata*, *Pteridium esculentum*, *Adiantum aethiopicum*, *Oplismenus aemulus*, *Pratia purpurascens*, *Echinopogon ovatus*, *Entolasia marginata*, *Stellaria flaccida*, *Desmodium varians*, *Hydrocotyle laxiflora*, *Stephania japonica*.

Landscape position: Occurs from Wandandian south to the Bega River on sandy alluvial flats, on floodplain margins and in riverine corridors.

Other diagnostic features: Open eucalypt forest with an open shrub layer and dense cover of grasses & forbs.

Equivalent/related vegetation types: FoWp30: South Coast River Flat Forest (Tozer *et al.* 2010); River Flat Eucalypt Forest (NPWS 2000).

**Biometric ID: SR660**

**Common Name:** Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (3 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Water Gum (*Tristaniopsis laurina*), Coachwood (*Ceratopetalum apetalum*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Lomatia myricoides*, *Tristania neriifolia*, *Leptospermum morrisonii*.

Characteristic groundcover species: *Lomandra longifolia*, *Entolasia stricta*, *Schoenus melanostachys*, *Lomandra fluviatilis*, *Sticherus flabellatus*.

Landscape position: Occurs on sandy banks and sandstone beds of streams draining sandstone plateaux below 450m.

Other diagnostic features: Most sites are subject to periodic inundation by high velocity floodwaters. Scrub or low forest with clumped shrubs and a sparse groundcover of sedges.

Equivalent/related vegetation types: FoWp58: Sandstone Riparian Scrub (Tozer *et al.* 2010).

**Biometric ID: SR661**

**Common Name:** Water Gum - tea-tree- River Peppermint riparian scrub along streams, far southern South East Corner

LGA: Bega Valley (353 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: Water Gum (*Tristaniopsis laurina*), White Sally Wattle (*Acacia floribunda*).

Main associated canopy species: River Peppermint (*Eucalyptus elata*).

Characteristic midstorey species: *Kunzea ericoides*, *Leptospermum lanigerum*, *Leptospermum scoparium*, *Acacia longifolia*, *Babingtonia pluriflora*, *Bursaria spinosa* subsp. *spinosa*, *Calytrix tetragona*, *Crocea exalata* subsp. *exalata*, *Kunzea ambigua*, *Lomatia myricoides*, *Melaleuca squarrosa*, *Prostanthera lasianthos*.

Characteristic groundcover species: *Lomandra longifolia*, *Gahnia clarkei*, *Gahnia sieberiana*, *Adiantum aethiopicum*, *Drosera peltata*, *Entolasia stricta*, *Goodenia ovata*, *Hierochloa rariflora*, *Lepidosperma laterale*, *Lepidosperma urophorum*, *Opercularia aspera*, *Pteridium esculentum*.

Landscape position: Restricted to riverine alluvium derived from granitic or sedimentary parent materials up to 400m along major streams in the south, including the Genoa, Wallagaraugh and Merrica Rivers, and possibly parts of the Towamba River.

Other diagnostic features: None listed.

Equivalent/related vegetation types: FoWe38: Far Southeast Riparian Scrub (Tozer *et al.* 2010).

**Biometric ID: SR665**

**Common Name:** White Sally Wattle - *Leptospermum emarginatum* riparian scrub of the Bega and Towamba valleys, southern South East Corner

LGA: Bega Valley (345 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 75%

Dominant canopy species: None listed.

Main associated canopy species: Black Wattle (*Acacia mearnsii*), River Peppermint (*Eucalyptus elata*), Maiden's Gum (*Eucalyptus maidenii*).

Characteristic midstorey species: White Sally Wattle (*Acacia floribunda*), *Bursaria spinosa* subsp. *spinosa*, *Callistemon subulatus*, *Hakea microcarpa*, *Kunzea ericoides*, *Leptospermum emarginatum*, *Lomatia myricoides*.

Characteristic groundcover species: *Carex gaudichaudiana*, *Cyperus lucidus*, *Epilobium billardierianum*, *Isolepis inundata*, *Lomandra longifolia*, *Microlaena stipoides* var. *stipoides*, *Persicaria decipiens*, *Themeda australis*.

Landscape position: Restricted to riverine alluvium derived from granitic substrates at elevations up to 250m along major streams, including the lower Bemboka River and lower reaches of Tantawangalo, Stockyard and Myanba Creeks.

Other diagnostic features: A patchy shrub layer up to 4m tall with scattered emergent eucalypts up to 15m tall.

Equivalent/related vegetation types: FoWe39: Bega-Towamba Riparian Scrub (Tozer *et al.* 2010).

## NSW Formation: Freshwater Wetlands

### ***NSW Class: Coastal Freshwater Lagoons***

**Biometric ID:** SR536

**Common Name:** Coastal freshwater lagoons of the Sydney Basin and South East Corner

LGA: Bega Valley (730 ha); Eurobodalla (53 ha); Shoalhaven (520 ha).

EEC: Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions.

Cleared estimate (nearest 5%): 75%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: *Melaleuca ericifolia*.

Characteristic groundcover species: *Baumea articulata*, *Persicaria praetermissa*, *Phragmites australis*, *Triglochin procerum*, *Typha orientalis*, *Cladium procerum*.

Landscape position: Occurs on coastal valleys and floodplains.

Other diagnostic features: Freshwater or slightly brackish coastal lagoons below 10m, scattered throughout coast. Patchy but dense shrub canopy with dense cover of reeds.

Equivalent/related vegetation types: FrWp313: Coastal Freshwater Lagoon (Tozer *et al.* 2010); Freshwater Wetlands on Coastal Floodplains (NPWS 2000); TYP-RDL Cumbungi Reedland, FRH-HBL Freshwater Herbland (Mills 2000).

### ***NSW Class: Coastal Heath Swamps***

**Biometric ID:** SR538

**Common Name:** Crimson Bottlebrush - Scented Paperbark wet heath in the hinterland hills, southern South East Corner

LGA: Bega Valley (344 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: None listed.

Main associated canopy species: *Eucalyptus ignorabilis*, *Eucalyptus conspicua*, East Gippsland Peppermint (*Eucalyptus croajingolensis*).

Characteristic midstorey species: *Allocasuarina paludosa*, *Callistemon citrinus*, *Hakea sericea*, *Leptospermum continentale*, *Melaleuca squarrosa*.

Characteristic groundcover species: *Empodisma minus*, *Gahnia radula*, *Lepidosperma filiforme*, *Leptocarpus tenax*, *Lindsaea linearis*, *Patersonia fragilis*, *Selaginella uliginosa*, *Xyris gracilis*.

Landscape position: Restricted to small soaks on granitic substrates in the southern hinterland, typically between 150m and 500 m elevation.

Other diagnostic features: An open shrub canopy up to 2m tall, with scattered emergent trees.

Equivalent/related vegetation types: FrWe56: Southeast Hinterland Heath (Tozer *et al.* 2010).

**Biometric ID: SR587**

**Common Name: Needlebush - Banksia wet heath on sandstone plateaux of the Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (27 ha); Shoalhaven (105 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: Needlebush (*Hakea teretifolia*), *Banksia ericifolia*, *Epacris obtusifolia*, *Sprengelia incarnata*, *Xanthorrhoea resinifera*, *Baeckea imbricata*, *Leptospermum juniperinum*, *Banksia oblongifolia*, *Banksia robur*, *Cassytha glabella*.

Characteristic groundcover species: *Leptocarpus tenax*, *Empodisma minus*, *Lepyrodia scariosa*, *Selaginella uliginosa*, *Drosera spathulata*, *Dampiera stricta*, *Mitrasacme polymorpha*, *Lindsaea linearis*, *Schoenus brevifolius*, *Baumea rubiginosa*.

Landscape position: Occurs on coastal sandstone plateaux.

Other diagnostic features: Occurs on humic sandy loams in headwater valleys on sandstones of the Hornsby and Woronora plateaux at altitudes of 50m to 600m. Open to dense shrub canopy with a dense groundcover of sedges and forbs.

Equivalent/related vegetation types: FrWp129: Coastal Upland Swamp (Tozer *et al.* 2010).

**Biometric ID: SR591**

**Common Name: Prickly Tea-tree - sedge wet heath on sandstone plateaux, central and southern Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (533 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: Prickly Tea-tree (*Leptospermum juniperinum*), *Baeckea linifolia*, *Sprengelia incarnata*, *Epacris obtusifolia*, *Hakea teretifolia*, *Banksia ericifolia*.

Characteristic groundcover species: *Empodisma minus*, *Leptocarpus tenax*, *Gymnoschoenus sphaerocephalus*, *Lepidosperma limicola*, *Drosera binata*, *Xyris operculata*.

Landscape position: Occurs on humic sandstone soils in headwater valleys of sandstone plateaux at altitudes of 450m to 1100m.

Other diagnostic features: Occurs from the Blue Mountains to the Morton Plateau. Usually an open shrub canopy with dense groundcover of sedges and forbs.

Equivalent/related vegetation types: FrWp130: Blue Mountains – Shoalhaven Hanging Swamps (Tozer *et al.* 2010).



**Biometric ID: SR616**

**Common Name: Scented Paperbark wet heath on coastal lowlands in far southern South East Corner**

LGA: Bega Valley (1,496 ha); Eurobodalla (not mapped); Shoalhaven (90 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 30%

Dominant canopy species: Scented Paperbark (*Melaleuca squarrosa*), *Leptospermum continentale*.

Main associated canopy species: Swamp Gum (*Eucalyptus ovata*), *Eucalyptus conspicua*.

Characteristic midstorey species: *Baeckea linifolia*, *Dillwynia glaberrima*, *Epacris obtusifolia*, *Epacris paludosa*, *Sprengelia incarnata*, *Callistemon citrinus*.

Characteristic groundcover species: *Empodisma minus*, *Gleichenia dicarpa*, *Gymnoschoenus sphaerocephalus*, *Leptocarpus tenax*, *Selaginella uliginosa*, *Xanthorrhoea resinifera*, *Xyris operculata*.

Landscape position: Restricted to waterlogged soils on Tertiary alluvium, sandy colluvial granitic soils and Holocene sands below 100m elevation in broad open flat gullies in the Nadgee area and lower Wallagaraugh River catchment.

Other diagnostic features: None listed.

Equivalent/related vegetation types: FrWe57: Southeast Lowland Swamp (Tozer *et al.* 2010).

**NSW Class: Montane Bogs and Fens**

**Biometric ID: SR579**

**Common Name: Montane wet heath and bog of the eastern tablelands, South Eastern Highlands**

LGA: Bega Valley (238 ha); Eurobodalla (11 ha); Shoalhaven (not mapped).

EEC: Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps.

Cleared estimate (nearest 5%): 50%

Dominant canopy species: None listed.

Main associated canopy species: Snow Gum (*Eucalyptus pauciflora* subsp. *pauciflora*), Black Sallee (*Eucalyptus stellulata*), *Eucalyptus parvula*, Mountain Swamp Gum (*Eucalyptus aquatica*).

Characteristic midstorey species: *Baeckea utilis*, *Hakea microcarpa*, *Epacris paludosa*, *Epacris breviflora*, *Leptospermum myrtifolium*.

Characteristic groundcover species: *Balioskion australe*, *Empodisma minus*, *Carex appressa*, *Asperula gunnii*, *Gonocarpus micranthus*, *Acaena novae-zelandiae*, *Centella asiatica*, *Lobelia anceps*, *Persicaria decipiens*, *Persicaria praetermissa*, *Phragmites australis*, *Ranunculus inundatus*.

Landscape position: Occurs on waterlogged broad open flat gullies on alluvium derived from granitic or metasediments substrates above 800m elevation on the eastern edge of the tablelands.

Other diagnostic features: A diverse open shrub stratum over 1m tall dominated by species of the Myrtaceae and Epacridaceae families. The continuous groundcover is dominated by sedges with occasional grasses and a diverse range of herbs.

Equivalent/related vegetation types: FrWe59: Southeast Sub-alpine Bog (Tozer *et al.* 2010).

**Biometric ID: SR604**

**Common Name:** Ribbon Gum - tea-tree - River Tussock riparian scrub along tablelands streambanks, South East Corner

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (6 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 60%

Dominant canopy species: None listed.

Main associated canopy species: Ribbon Gum (*Eucalyptus viminalis*).

Characteristic midstorey species: *Leptospermum obovatum*, *Melaleuca ericifolia*, *Callistemon sieberi*, *Leptospermum grandifolium*, *Hakea microcarpa*, *Acacia dealbata*.

Characteristic groundcover species: *Poa labillardierei* var. *labillardierei*, *Carex gaudichaudiana*, *Scirpus polystachyus*, *Carex tereticaulis*, *Chenopodium pumilio*, *Dichelachne inaequiglumis*, *Hydrocotyle peduncularis*, *Juncus usitatus*, *Lomandra longifolia*, *Microlaena stipoides* var. *stipoides*, *Persicaria hydropiper*, *Senecio dlaschides*.

Landscape position: Restricted to shallow alluvial sediments over rock along regularly flooded sections of the beds of higher altitude Southern Tableland rivers.

Other diagnostic features: Open but clumped shrub canopy with patchy groundcover of sedges, grasses and forbs.

Equivalent/related vegetation types: FrWp56: Shoalhaven Riparian Scrub (Tozer *et al.* 2010).

**Biometric ID: SR656**

**Common Name:** Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands

LGA: Bega Valley (not mapped); Eurobodalla (4 ha); Shoalhaven (not mapped).

EEC: Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps

Cleared estimate (nearest 5%): 85%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: *Leptospermum juniperinum*, *Leptospermum obovatum*, *Lythrum salicaria*.

Characteristic groundcover species: *Hydrocotyle peduncularis*, *Baumea rubiginosa*, *Carex gaudichaudiana*, *Poa labillardierei* var. *labillardierei*, *Isachne globosa*, *Juncus usitatus*, *Ranunculus inundatus*, *Eleocharis sphacelata*, *Phragmites australis*.

Landscape position: Occurs on peats and humic loams in sediment-filled valleys up to 1000m in the western Blue Mountains and Southern Tablelands.

Other diagnostic features: Open to dense shrub canopy with a dense groundcover of sedges and forbs.

Equivalent/related vegetation types: FrWp57: Tableland Swamp Meadow (Tozer *et al.* 2010).

## NSW Formation: Saline Wetlands

### ***NSW Class: Mangrove Swamps***

**Biometric ID:** SR575

**Common Name:** Mangrove forest in estuaries of the Sydney Basin and South East Corner

LGA: Bega Valley (261 ha); Eurobodalla (990 ha); Shoalhaven (855 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 50%

Dominant canopy species: Grey Mangrove (*Avicennia marina* subsp. *australasica*), River Mangrove (*Aegiceras corniculatum*).

Main associated canopy species: None listed.

Characteristic midstorey species: None listed.

Characteristic groundcover species: *Sarcocornia quinqueflora*.

Landscape position: Occurs on estuarine mudflats exposed to daily tidal inundation throughout coast.

Other diagnostic features: Perhaps one of the most recognisable communities in the project study area. Low dense forest or scrub with bare ground or patchy herbaceous groundcover.

Equivalent/related vegetation types: A combination of SLp109: Estuarine Mangrove Forest and SLe65: River Mangrove (Tozer *et al.* 2010); AVI-FOR Mangrove Forest (Mills 2000); 185: Mangrove Estuarine Low Forest (NPWS 2000).

### ***NSW Class: Saltmarshes***

**Biometric ID:** SR614

**Common Name:** Saltmarsh in estuaries of the Sydney Basin and South East Corner

LGA: Bega Valley (496 ha); Eurobodalla (523 ha); Shoalhaven (724 ha).

EEC: Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner Bioregions

Cleared estimate (nearest 5%): 50%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: None listed.

Characteristic groundcover species: *Sarcocornia quinqueflora*, *Samolus repens*, *Juncus kraussii*, *Suaeda australis*.

Landscape position: Restricted to estuarine mudflats and saline lagoons, and is found near the upper limit of the inter-tidal zone.

Other diagnostic features: Mosaics of succulent herbfield and sedgeland.

Equivalent/related vegetation types: SLp509: Estuarine Saltmarsh (Tozer *et al.* 2010); Coastal Saltmarsh (NPWS 2000); SAR-SUA Saltmarsh, SCH-SDG Saltwater *Schoenoplectus* Sedgeland (Mills 2000).

## NSW Formation: Heathlands

### NSW Class: Coastal Headland Heaths

**Biometric ID:** SR521

**Common Name:** Bracelet Honey-myrtle - Coast Tea-tree tall shrubland on headlands, South Eastern Corner

LGA: Bega Valley (20 ha); Eurobodalla (27 ha); Shoalhaven (50 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 50%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: Bracelet Honey-myrtle (*Melaleuca armillaris* subsp. *armillaris*), Coast Teatree (*Leptospermum laevigatum*), *Monotoca elliptica*, *Acacia longifolia*, *Westringia fruticosa*, *Banksia integrifolia* subsp. *integrifolia*, *Allocasuarina verticillata*.

Characteristic groundcover species: *Lepidosperma concavum*, *Dichondra repens*, *Billardiera scandens*, *Glycine clandestina*.

Landscape position: Occur on rocky headlands south from Jervis Bay.

Other diagnostic features: Usually occurs as a patchy shrub stratum, generally around 2m tall in exposed locations but often developing to the stature of small trees (6m to 10 m) when protected from coastal winds.

Equivalent/related vegetation types: HLM83: South Coast Headland Scrub (Tozer *et al.* 2010); 187: Coastal Headland Heathlands, 187a: Sea Cliff Scrub (NPWS 2000).

### NSW Class: South Coast Heaths

**Biometric ID:** SR617

**Common Name:** Scrub She-oak - Swamp Banksia coastal lowland heath, southern South East Corner

LGA: Bega Valley (1,943 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: None listed.

Main associated canopy species: Black She-oak (*Allocasuarina littoralis*), Old-man Banksia (*Banksia serrata*).

Characteristic midstorey species: Swamp She-oak (*Allocasuarina paludosa*), Swamp Banksia (*Banksia paludosa*), *Acacia suaveolens*, *Correa reflexa*, *Dillwynia glaberrima*, *Epacris impressa*, *Gompholobium huegelii*, *Hibbertia empetrifolia* subsp. *empetrifolia*, *Leptospermum continentale*, *Pimelea linifolia* subsp. *linifolia*.

Characteristic groundcover species: *Anisopogon avenaceus*, *Bossiaea ensata*, *Burchardia umbellata*, *Dampiera stricta*, *Entolasia stricta*, *Gonocarpus teucroides*, *Hypolaena fastigiata*, *Lepidosperma neesii*, *Lindsaea linearis*, *Lomandra glauca*, *Mitrasacme polymorpha*, *Patersonia glabrata*, *Phyllanthus hirtellus*, *Scaevola ramosissima*, *Schoenus brevifolius*, *Selaginella uliginosa*.

Landscape position: Restricted to gentle slopes on coastal deposits of Tertiary alluvium and recent sands below 100 m elevation south from Pambula.

Other diagnostic features: An open shrub canopy up to 1m tall with occasional eucalypts up to 5m tall with a relatively dense and diverse groundcover is dominated by sedges.

Equivalent/related vegetation types: HLe55: Southeast Coastal Lowland Heath (Tozer *et al.* 2010).

**Biometric ID: SR646**

**Common Name: Swamp Banksia - Slender Tea-tree wet heath on Mt Nadgee, southern South East Corner**

LGA: Bega Valley (358 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: None listed

Main associated canopy species: Brown Stringybark (*Eucalyptus baxteri*).

Characteristic midstorey species: Swamp Banksia (*Banksia paludosa*), Slender Tea-tree (*Leptospermum trinervium*), *Darwinia campostylis*, *Dillwynia glaberrima*, *Epacris impressa*, *Epacris microphylla* var. *microphylla*, *Epacris obtusifolia*, *Xanthorrhoea resinifera*, *Leptospermum continentale*, *Leucopogon esquamatus*, *Monotoca scoparia*, *Persoonia levis*, *Pimelea linifolia* subsp. *linifolia*, *Cassytha glabella*.

Characteristic groundcover species: *Burchardia umbellata*, *Dampiera stricta*, *Drosera peltata*, *Gonocarpus tetragynus*, *Lepidosperma concavum*, *Lepidosperma filiforme*, *Lepyrodia scariosa*, *Lindsaea linearis*, *Lomandra glauca*, *Xanthosia pilosa*.

Landscape position: Restricted to rocky Devonian sandstone plateaux around Mt Nadgee and west of Green Cape at elevations up to 450m.

Other diagnostic features: An open shrub canopy over 1m tall with scattered *Eucalyptus baxteri* and the groundcover dominated by sedges.

Equivalent/related vegetation types: HLe54: Mt Nadgee Heath (Tozer *et al.* 2010).

***NSW Class: Southern Montane Heaths***

**Biometric ID: SR520**

**Common Name: Bracelet Honey-myrtle - Australian Indigo dry shrubland on volcanics, southern Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (48 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 75%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: Bracelet Honey-myrtle (*Melaleuca armillaris*), Australian Indigo (*Indigofera australis*), *Zieria granulata*, *Leucopogon juniperinus*, *Acacia parvipinnula*.

Characteristic groundcover species: *Xerochrysum bracteatum*, *Cheilanthes sieberi* subsp. *sieberi*, *Rytidosperma longifolium*, *Eragrostis leptostachya*, *Fimbristylis dichotoma*, *Plectranthus graveolens*, *Sporobolus creber*.

Landscape position: Exposed rocky ridgetops on volcanic substrates between 100m to 200m in the Kiama and Milton hinterlands.

Other diagnostic features: All occurrences are in the coastal hinterland near Jamberoo and west of Milton. Characterised by a dense but patchy tall shrub canopy with low shrubs and dense grassy groundcover.

Equivalent/related vegetation types: HLP46: Basalt Hilltop Scrub (Tozer *et al.* 2010).

**Biometric ID: SR541**

**Common Name: Dwarf She-oak closed heathland of escarpment ranges, South Eastern Highlands**

LGA: Bega Valley (166 ha); Eurobodalla (78 ha); Shoalhaven (22 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: Dwarf She-oak (*Allocasuarina nana*), *Brachyloma daphnoides*, *Hakea dactyloides*, *Monotoca scoparia*.

Characteristic groundcover species: *Austrostipa pubinodis*, *Gonocarpus tetragynus*, *Rytidosperma pallidum* (syn. *Joycea pallida*), *Lepidosperma gunnii*, *Lomandra glauca*, *Stylidium graminifolium*.

Landscape position: Occurs mainly on exposed slopes and ridges of the western fall of the coastal escarpment between 600m and 800m elevation.

Other diagnostic features: Usually occurs on skeletal sandy loams derived from metasedimentary, acid volcanic or granitic substrates.

Equivalent/related vegetation types: HLE53: Southern Montane Heath (Tozer *et al.* 2010).

**Biometric ID: SR564**

**Common Name: *Kunzea ambigua* - Bracelet Honey-myrtle shrubland on rhyolite outcrops, southern South East Corner**

LGA: Bega Valley (48 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: *Kunzea ambigua*, *Melaleuca armillaris* subsp. *armillaris*, *Allocasuarina littoralis*, *Dodonaea truncatiales*, *Leionema ralstonii*, *Logania albiflora*, *Platysace lanceolata*, *Pultenaea retusa*.

Characteristic groundcover species: *Dendrobium speciosum*, *Entolasia stricta*, *Lepidosperma laterale*, *Lepidosperma urophorum*, *Rytidosperma longifolium*, *Stypandra glauca*.

Landscape position: Restricted to skeletal soils on outcrops of rhyolite at 100m and 400 m elevation on the coastal range west of Pambula.

Other diagnostic features: This community supports a number of rare, threatened and locally endemic species.

Equivalent/related vegetation types: HLE51: Southeast Rhyolite Rock Scrub (Tozer *et al.* 2010).

**Biometric ID: SR565**

**Common Name:** *Kunzea ambigua* - *Correa reflexa* shrubland on skeletal granitic substrates, southern South East Corner

LGA: Bega Valley (147 ha); Eurobodalla (not mapped); Shoalhaven (not mapped).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: None listed.

Main associated canopy species: Silvertop Ash (*Eucalyptus sieberi*), Gully Gum (*Eucalyptus smithii*).

Characteristic midstorey species: *Kunzea ambigua*, *Correa reflexa*, *Acacia longifolia*, *Grevillea victoriae* subsp. *navalis*, *Hakea macraeana*, *Platysace lanceolata*.

Characteristic groundcover species: *Goodenia ovata*, *Hierochloa rariflora*, *Lepidosperma laterale*, *Lepidosperma urophorum*, *Lomandra longifolia*, *Stypandra glauca*.

Landscape position: Occurs on skeletal soils on granitic outcrops at 500m to 1000m elevation on hinterland and escarpment mountains in the far south (e.g. Mt Poole, White Rock Mountain, Pheasants Peak).

Other diagnostic features: A dense but patchy shrub stratum 4m tall with occasional emergent small trees.

Equivalent/related vegetation types: HLE52: Southeast Mountain Rock Scrub (Tozer *et al.* 2010).

**NSW Class: Sydney Coastal Heaths**

**Biometric ID: SR556**

**Common Name:** Hairpin (Heath-leaved) Banksia - *Kunzea ambigua* - *Allocasuarina distyla* heath on coastal sandstone plateaux, Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (2 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: Heath-leaved Banksia (*Banksia ericifolia*), *Kunzea ambigua*, *Allocasuarina distyla*, *Darwinia fascicularis*, *Epacris microphylla*, *Leucopogon microphyllus*, *Acacia suaveolens*, *Leptospermum squarrosum*, *Dillwynia floribunda*, *Zieria laevigata*.

Characteristic groundcover species: *Lepyrodia scariosa*, *Lepidosperma viscidum*, *Actinotus minor*.

Landscape position: Occurs on sandstone plateaux in near coastal areas.

Other diagnostic features: Grows in skeletal sands. Open to clumped shrub canopy with patchy groundcover of sedges and forbs.

Equivalent/related vegetation types: HLP126: Coastal Rock Plate Heath (Tozer *et al.* 2010).

**Biometric ID: SR557**

**Common Name: Hairpin Banksia - Slender Tea-tree heath on coastal sandstone plateaux, Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (1,167 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: None listed.

Main associated canopy species: Red Bloodwood (*Corymbia gummifera*).

Characteristic midstorey species: Hairpin Banksia (*Banksia spinulosa*), Slender Tea-tree (*Leptospermum trinervium*), *Isopogon anemonifolius*, *Banksia ericifolia*, *Lambertia formosa*, *Epacris microphylla*, *Hakea teretifolia*, *Pimelea linifolia*, *Hakea laevipes*, *Banksia oblongifolia*, *Pultenaea elliptica*, *Petrophile pulchella*, *Xanthorrhoea resinifera*.

Characteristic groundcover species: *Dampiera stricta*, *Lepyrodia scariosa*, *Actinotus minor*, *Cyathochaeta diandra*, *Entolasia stricta*, *Lindsaea linearis*, *Lomandra obliqua*.

Landscape position: Occurs on coastal and near-coastal sandstone plateaux.

Other diagnostic features: Occurs on damp sandy loams. Open to dense shrub canopy with emergent mallees and groundcover of sedges and forbs.

Equivalent/related vegetation types: HLP117: Coastal Sandstone Plateau Heath (Tozer *et al.* 2010); SST-HTH Sandstone Heathland (Mills 2000).

**Biometric ID: SR618**

**Common Name: She-oak - Hairpin (Heath-leaved) Banksia heathland on sandstone headlands of the Sydney Basin**

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (114 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: Scrub She-oak (*Allocasuarina distyla*), Heath-leaved Banksia (*Banksia ericifolia*), *Melaleuca armillaris*, *Phebalium squamulosum* subsp. *argenteum*, *Baeckea imbricata*, *Darwinia fascicularis*, *Rulingia hermanniifolia*, *Epacris longiflora*, *Westringia fruticosa*.

Characteristic groundcover species: *Isolepis nodosa*.

Landscape position: Occurs on coastal headlands formed by Hawkesbury Sandstone between Bouddi and Otford with outlying stands occur further south on Beecroft Peninsula at Jervis Bay.

Other diagnostic features: Dense shrub canopy with sparse groundcover of sedges and forbs. Highly restricted to small patches of shallow to skeletal soil on sandstone headlands exposed to sea winds and salt spray.

Equivalent/related vegetation types: BAN-CAS Banksia-Casuarina Shrubland (Mills 2000); HLP127: Sandstone Headland Scrub (Tozer *et al.* 2010).



## **NSW Class: Sydney Montane Heaths**

### **Biometric ID: SR513**

**Common Name:** Banksia - Red Bloodwood - Hard-leaved Scribbly Gum heathy open woodland on sandstone plateaux, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (28,378 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Hard-leaved Scribbly Gum (*Eucalyptus sclerophylla*), Red Bloodwood (*Corymbia gummiifera*).

Main associated canopy species: Yertchuk (*Eucalyptus consideniana*), Port Jackson Mallee (*Eucalyptus obstans*).

Characteristic midstorey species: *Banksia ericifolia*, *Banksia spinulosa*, *Banksia paludosa*, *Leptospermum trinervium*, *Hakea teretifolia*, *Epacris microphylla*, *Hakea laevipes*, *Isopogon anemonifolius*, *Lambertia formosa*, *Persoonia mollis* subsp. *leptophylla*.

Characteristic groundcover species: *Lepyrodia scariosa*, *Patersonia sericea*, *Lindsaea linearis*, *Gonocarpus tetragynus*, *Goodenia bellidifolia*, *Ptilothrix deusta*.

Landscape position: Occurs on the Morton plateau from Tallong south to Wog Wog and east to Yerriyong and Porters Creek, extending east to the coast, where it is scattered from Booderee to Meroo Point.

Other diagnostic features: Open to dense shrub canopy with emergent mallees and thick groundcover of sedges and forbs.

Equivalent/related vegetation types: HLP122: Morton Mallee-Heath (Tozer *et al.* 2010); GUM-MAL Bloodwood Woodland/Mallee, SCL-HAK Scribbly Gum Open Woodland (Mills 2000).

### **Biometric ID: SR548**

**Common Name:** Fringe Myrtle - Blue Mountains Mallee Ash heath on skeletal sandstone plateaux of Morton NP, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (2,884 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 5%

Dominant canopy species: Blue Mountains Mallee Ash (*Eucalyptus stricta*).

Main associated canopy species: None listed.

Characteristic midstorey species: *Calytrix tetragona*, *Baekkea imbricata*, *Kunzea ambigua*, *Leucopogon ericoides*, *Allocasuarina distyla*, *Epacris calvertiana*, *Grevillea baueri* subsp. *asperula*, *Isopogon anethifolius*, *Leptospermum rotundifolium*.

Characteristic groundcover species: *Lepyrodia scariosa*, *Stylidium lineare*, *Rytidosperma pilosum* (syn. *Austrodanthonia pilosa*), *Gonocarpus micranthus*, *Goodenia bellidifolia*, *Lomandra gracilis*, *Thelymitra pauciflora*.

Landscape position: Restricted to the central Morton plateau, particularly between the Nerriga Road and Tullyangela Clearing.

Other diagnostic features: Open heathland with scattered mallees and ground layer dominated by sedges and forbs.

Equivalent/related vegetation types: HLP125: Morton Rock Plate Heath (Tozer *et al.* 2010).

## **NSW Class: Wallum Sand Heaths**

**Biometric ID: SR589**

**Common Name:** Old-man Banksia - she-oak - Red Bloodwood heathland on coastal sands, southern Sydney Basin

LGA: Bega Valley (not mapped); Eurobodalla (not mapped); Shoalhaven (37 ha).

EEC: Nil.

Cleared estimate (nearest 5%): 10%

Dominant canopy species: None listed.

Main associated canopy species: Red Bloodwood (*Corymbia gummifera*).

Characteristic midstorey species: Old-man Banksia (*Banksia serrata*), *Allocasuarina distyla*, *Bossiaea ensata*, *Acacia suaveolens*, *Ricinocarpus pinifolius*, *Isopogon anemonifolius*, *Lambertia formosa*, *Bossiaea heterophylla*, *Leptospermum laevigatum*, *Persoonia levis*, *Pimelea linifolia*.

Characteristic groundcover species: *Xanthosia pilosa*, *Gonocarpus teucrioides*, *Hypolaena fastigiata*, *Lomandra glauca*, *Dampiera stricta*, *Lepidosperma concavum*.

Landscape position: Occurs on podsolised sand dunes, usually perched on coastal plateaux up to 150m elevation, in the Port Hacking & Jervis Bay areas.

Other diagnostic features: A dense to open shrubland with an open groundcover of forbs and sedges.

Equivalent/related vegetation types: HLP139: Coastal Sandplain Heath (Tozer *et al.* 2010).

## NSW Formation: Grasslands

### NSW Class: Maritime Grasslands

**Biometric ID:** SR563

**Common Name:** Kangaroo Grass sod tussock grassland of coastal areas of the Sydney Basin and South East Corner

**LGA:** Bega Valley (1 ha); Eurobodalla (30 ha); Shoalhaven (not mapped, but likely to occur).

**EEC:** Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions.

**Cleared estimate (nearest 5%):**

**Dominant canopy species:** None listed.

**Main associated canopy species:** None listed.

**Characteristic midstorey species:** Scattered or isolated *Banksia integrifolia* subsp. *integrifolia*, *Casuarina glauca*, *Acacia sophorae*, *Westringia fruticosa*.

**Characteristic groundcover species:** Kangaroo Grass (*Themeda australis*), *Cynodon dactylon*, *Microlaena stipoides*, *Poa poiformis*, *Lomandra longifolia*, *Isolepis nodosa*, *Centella asiatica*, *Glycine microphylla*, *Hibbertia scandens*, *Kennedia rubicunda*, *Commelina cyanea*, *Plectranthus parviflorus*, *Viola betonicifolia*.

**Landscape position:** Restricted to seacliffs and coastal headlands.

**Other diagnostic features:** Mid-dense tall tussock grassland. In this community, *Themeda australis* tends to be prostrate with glaucous leaves. Occurs in moist to dry locations.

**Equivalent/related vegetation types:** GLp434: Headland Grassland (Tozer *et al.* 2010); Themeda Grassland on Seacliffs and Coastal Headlands (NPWS 2000).

### NSW Class: Temperate Montane Grasslands

**Biometric ID:** SR540

**Common Name:** Derived grasslands of the South Eastern Highlands and South East Corner

**LGA:** Bega Valley (not mapped, but likely to be present); Eurobodalla (not mapped, but likely to be present); Shoalhaven (2 ha, but more likely to be present).

**EEC:** Nil.

**Cleared estimate (nearest 5%):** n/a

**Dominant canopy species:** None listed.

**Main associated canopy species:** None listed.

**Characteristic midstorey species:** *Hibbertia obtusifolia*, *Melichrus urceolatus*, *Kunzea ericoides*, *Acacia dealbata*, *Acacia mearnsii*, *Acacia genistifolia*, *Cassinia* spp.

**Characteristic groundcover species:** *Poa sieberiana*, *Themeda australis*, *Bothriochloa macra*, *Elymus scaber*, *Austrostipa* spp., *Rytidosperma* spp. (syn. *Austrodanthonia* spp.), *Aristida ramosa*, *Microlaena stipoides*, *Poa labillardierei*, *Rytidosperma pallidum* (syn. *Joycea pallida*), *Gonocarpus tetragynus*, *Rumex brownii*, *Acaena ovina*, *Chrysocephalum apiculatum*, *Euchiton* spp., *Hydrocotyle laxiflora*, *Wahlenbergia* spp., *Solenogyne* spp., *Asperula conferta*.

**Note:** Derived native grasslands are not mapped with the existing products used as part of this composite Biometric map, where they are generally mapped as 'cleared'. The only exception is an area dominated by Oat Speargrass (*Anisopogon avenaceus*) mapped as part of a proposed development, which is

assumingly derived. Derived native grasslands are infrequent within the study area, with many larger cleared grassy patches generally dominated by exotic pasture grasses such as Kikuyu (*Pennisetum clandestinum*).

Landscape position: On midslopes, upper slopes and crests, on all lithologies. Widespread throughout the tablelands.

Other diagnostic features: Derived grassland communities resulting from the clearing of various grassy woodland and open forest communities. May occur on any landscape position formerly occupied by woodland and dry forest communities, from which these grassland communities are derived.

Equivalent/related vegetation types: Nil. Defined in Biometric vegetation type dataset via expert workshop review.

### **Biometric ID: SR610**

**Common Name:** River Tussock - Tall Sedge - Kangaroo Grass moist grasslands of the South Eastern Highlands

LGA: Bega Valley (242 ha); Eurobodalla (3 ha); Shoalhaven (not mapped).

EEC: Natural Temperate Grassland of the Southern Tablelands (NSW and ACT).

Cleared estimate (nearest 5%): 95%

Dominant canopy species: None listed.

Main associated canopy species: Scattered Snow Gum (*Eucalyptus pauciflora* subsp. *pauciflora*), Black Sallee (*Eucalyptus stellulata*), Swamp Gum (*Eucalyptus ovata*), Black Gum (*Eucalyptus aggregata*).

Characteristic midstorey species: *Leptospermum* spp.

Characteristic groundcover species: River Tussock (*Poa labillardierei* var. *labillardierei*), Tall Sedge (*Carex appressa*), Kangaroo Grass (*Themeda australis*), *Poa sieberiana*, *Carex inversa*, *Asperula conferta*, *Pennisetum alopecuroides*, *Haloragis heterophylla*, *Juncus filicaulis*, *Epilobium* spp., *Helichrysum rutidolepis*, *Rumex brownii*, *Drosera peltata*, *Euchiton sphaericus*, *Solenogyne gunnii*, *Geranium* spp., *Lythrum hyssopifolium*, *Hemarthria uncinata*, *Agrostis avenacea*, *Epacris* spp., *Juncus* spp.

Landscape position: Mainly occurs in drainage lines or on river flats, often on alluvium.

Other diagnostic features: Dense tall tussock grassland. Occurs in moist to wet locations.

Equivalent/related vegetation types: GLm68: Southeast Tablelands Grassy Wetlands Complex (Tozer *et al.* 2010).

### ***Additional vegetation types (non-Biometric)***

**Common Name: No Biometric - Seagrass**

LGA: Bega Valley (814 ha); Eurobodalla (583 ha); Shoalhaven (71 ha, but more may be present).

EEC: Nil.

Cleared estimate (nearest 5%): Unknown.

Dominant canopy species: None listed.

Main associated canopy species: None listed.

Characteristic midstorey species: None listed.

Characteristic groundcover species: Various seagrasses including *Halophila australis*, *Posidonia australis*, *Ruppia polycarpa*, *Ruppia megacarpa* and *Zostera capricorni*.

Landscape position: Restricted to soft substrates in the sub-tidal zone of coastal estuaries.

Other diagnostic features: None listed.

Equivalent/related vegetation types: A combination of SLe67: Seagrass Meadows (*Halophila*), SLe68: Seagrass Meadows (*Posidonia*), SLe69: Seagrass Meadows (*Ruppia*), SLe70: Seagrass Meadows (*Zostera*) (Tozer *et al.* 2010); ZOS-RUP Seagrass (Mills 2000). *Note:* these types were combined as they are functionally similar non-Biometric vegetation types, and their distribution is not supported by plot data.

## Appendix B1: Area summary of Biometric vegetation type and EECs in the Bega Valley LGA

**Table B1.1:** Biometric vegetation types in the Bega Valley LGA, categorised by NSW Vegetation Formation and Class (Keith 2004).

BVT ID	Vegetation type	Hectares <sup>2</sup>
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### Dry Sclerophyll Forests (Shrub/grass subformation)

#### *Southern Hinterland Dry Sclerophyll Forests*

SR511	Apple-topped Gum - White Stringybark open forest on ridges and upper slopes in the Waalimma area, far southern South East Corner	1,326
SR573	Maiden's Gum - White Stringybark shrubby open forest on granitic foothills, southern South East Corner	22,548
SR626	Silvertop Ash - Messmate - Mountain Grey Gum shrubby open forest of the hinterland ranges, southern South East Corner	21,282
SR666	White Stringybark - Maiden's Gum grassy open forest on granitic foothills, southern South East Corner	25,742
SR667	White Stringybark - Mountain Grey Gum - Maiden's Gum grassy open forest on granitic foothills and ranges, southern South East Corner	1,883

### Dry Sclerophyll Forests (Shrubby subformation)

#### *South Coast Sands Dry Sclerophyll Forests*

SR512	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner <sup>1</sup>	1,081
SR530	Coast Banksia - Coast Tea-tree low moist forest on coastal sands and headlands, Sydney Basin and South East Corner <sup>1</sup>	76
SR531	Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner	1,615
SR640	Spinifex beach strand grassland, Sydney Basin and South East Corner	Unmapped

#### *South East Dry Sclerophyll Forests*

SR517	Blue-leaved Stringybark shrubby open forest of hinterland ranges, far southern South East Corner	722
SR554	Gully Gum - Wallaby Bush shrubby woodland on rocky ridges of the ranges, southern South East Corner	1,308
SR559	Ironbark - Woollybutt - White Stringybark open forest on coastal hills, South East Corner	13,892
SR566	Kybean Mallee Ash - Snow Gum heathy low open forest on the Wadbilliga Plateau, South East Corner	1,101
SR577	Messmate dry shrubby forest on sandstone, far southern South East Corner	114
SR581	Mountain Grey Gum - White Stringybark open forest on sandstone mountain slopes, far south west South East Corner	1,022
SR596	Red Bloodwood - Silvertop Ash - White Stringybark heathy open forest on coastal foothills, southern South East Corner	14,174
SR611	Rough-barked Apple - White Stringybark dry open forest on lower slopes in the upper Tuross and Brogo River valleys, South East Corner	8,105
SR620	Silvertop Ash - Black She-oak shrubby open forest on hills of the Bega Valley, South East Corner	4,548

SR621	Silvertop Ash - Blue-leaved Stringybark - Red Bloodwood dry shrubby open forest on ridges of the hinterland foothills, northern South East Corner	3,695
SR622	Silvertop Ash - Blue-leaved Stringybark - Woollybutt shrubby open forest on coastal foothills central South East Corner	31,098
SR623	Silvertop Ash - Blue-leaved Stringybark shrubby open forest on hinterland hills, far southern South East Corner	31,403
SR627	Silvertop Ash - Mountain Grey Gum shrubby dry open forest on ridges in Wadbilliga NP, South East Corner	6,603
SR630	Silvertop Ash - Rough-barked Apple shrubby open forest on the hinterland hills, far southern South Eastern Corner	17,010
SR631	Silvertop Ash - White Stringybark shrubby open forest of the escarpment ranges, southern South East Corner	1,630
SR633	Silvertop Ash open forest on exposed ridges of the escarpment ranges, far southern South East Corner	940
SR634	Silvertop Ash shrubby open forest on escarpment ridges, central and northern South East Corner	239
SR668	White Stringybark - Narrow-leaved Peppermint dry open forest on hinterland hills, far south of the South East Corner	10,967
SR673	Yellow Stringybark - Mountain Grey Gum shrubby open forest on slopes of the hinterland ranges, southern South East Corner	15,860
SR674	Yellow Stringybark - Silvertop Ash open forest on dry slopes of the escarpment ranges, northern South East Corner	7,091
SR675	Yertchuk - Silvertop Ash - Blue-leaved Stringybark shrubby open forest of the Wallagaraugh catchment, far southern South East Corner	22,887

### ***Southern Wattle Dry Sclerophyll Forests***

SR519	Bodalla Silver Wattle very tall shrubland in the Brogo River and Desert Creek catchments, South East Corner	3,856
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## **Wet Sclerophyll Forests (Shrubby subformation)**

### ***South Coast Wet Sclerophyll Forests***

SR582	Mountain Grey Gum - Yellow Stringybark moist shrubby open forest in gullies of the coastal ranges, northern South East Corner	8,481
SR583	Mountain Grey Gum ferny tall moist forest on coastal ranges, southern South East Corner	26,644
SR609	River Peppermint - Rough-barked Apple moist open forest on sheltered sites, southern South East Corner	20,827
SR612	Rough-barked Apple shrubby open forest on gully flats, southern South East Corner	13,645
SR647	Swamp Gum - Ribbon Gum open forest on flats of the coastal and hinterland lowlands, southern South East Corner <sup>1</sup>	3,474
SR671	Yellow Stringybark - Coast Grey Box shrubby open forest on the coastal ranges, South East Corner	87
SR672	Yellow Stringybark - Mountain Grey Gum moist shrubby open forest on coastal ranges, southern South East Corner	24,365

### ***Southern Escarpment Wet Sclerophyll Forests***

SR525	Brown Barrel - Mountain Grey Gum - Blanket Bush moist very tall open forest of the southern escarpment ranges, South Eastern Highlands and South East Corner	12,263
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SR527	Brown Barrel - Narrow-leaved Peppermint moist tall open forest on escarpment ranges, southern South Eastern Highlands	10,828
SR553	Gully Gum - Sydney Peppermint - Yellow Stringybark moist open forest of coastal escarpments, southern Sydney Basin	780
SR576	Messmate - Mountain Grey Gum moist open forest of granitic foothills, southern South East Corner	18,691
SR580	Mountain Grey Gum - Brown Barrel very tall moist forest on escarpment ranges, central and southern South East Corner	12,626
SR607	River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin and South East Corner	861
SR619	Shining Gum - Brown Barrel very tall wet forest of the southern escarpment ranges, South East Corner	1,501
SR663	White Ash - Silvertop Ash - Brown Barrel shrubby open forest of the escarpment ridges, South Eastern Highlands and South East Corner	2,108

## Wet Sclerophyll Forests (Grassy subformation)

### *Southern Lowland Wet Sclerophyll Forests*

SR533	Coast Grey Box - Mountain Grey Gum - Stringybark moist shrubby open forest in coastal gullies, southern South East Corner	16,541
SR642	Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal flats, southern Sydney Basin and South East Corner	1,189
SR643	Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner	642

## Grassy Woodlands

### *Coastal Valley Grassy Woodlands*

SR543	Forest Red Gum - Coast Grey Box shrubby open forest on steep hills in the Bega Valley, South East Corner <sup>1</sup>	5,179
SR544	Forest Red Gum - Rough-barked Apple - White Stringybark grassy woodlands on hills in dry valleys, southern South East Corner	9,279

### *Subalpine Woodlands*

SR584	Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands	1,037
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### *Tableland Clay Grassy Woodlands*

SR603	Ribbon Gum - Snow Gum grassy open forest on flats and undulating hills of the eastern tableland, South Eastern Highlands <sup>1</sup>	9,270
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## Rainforests

### *Cool Temperate Rainforests*

SR590	Plumwood - Soft Tree-fern cool temperate rainforest on cool, moist slopes and gullies of the escarpment ranges, South East Corner	1,435
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### **Dry Rainforests**

SR551	Grey Myrtle - Lilly Pilly dry rainforest in dry gullies, Sydney Basin and South East Corner	1,212
SR613	Rusty Fig - Sweet Pittosporum dry rainforest on rocky slopes, southern South East Corner <sup>1</sup>	184

### **Littoral Rainforests**

SR571	Lilly Pilly littoral rainforest of the southern Sydney Basin and South East Corner <sup>1</sup>	42
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### **Northern Warm Temperate Rainforests**

SR567	Lilly Pilly - Coachwood warm temperate rainforest on moist sheltered slopes and gullies, Sydney Basin and South East Corner	733
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### **Southern Warm Temperate Rainforests**

SR569	Lilly Pilly - Sassafras warm temperate rainforest in moist sheltered gullies, Sydney Basin and South East Corner	56
SR570	Lilly Pilly - Sweet Pittosporum - Rough Tree-fern warm temperate rainforest in steep sheltered gullies, southern South East Corner	6,177

## **Forested Wetlands**

### **Coastal Floodplain Wetlands**

SR542	Floodplain wetlands of the coastal lowlands, southern South East Corner <sup>1</sup>	1,567
SR649	Swamp Oak - Prickly Tea-tree - Swamp Paperbark swamp forest on coastal floodplains, Sydney Basin and South East Corner <sup>1</sup>	332
SR650	Swamp Oak swamp forest fringing estuaries, Sydney Basin and South East Corner <sup>1</sup>	<1
SR651	Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner <sup>1</sup>	224

### **Eastern Riverine Forests**

SR606	River Oak open forest of major streams, Sydney Basin and South East Corner	453
SR608	River Peppermint - Rough-barked Apple - River Oak herb/grass riparian forest of coastal lowlands, southern Sydney Basin and South East Corner	1,706
SR661	Water Gum - tea-tree- River Peppermint riparian scrub along streams, far southern South East Corner	353
SR665	White Sally Wattle - <i>Leptospermum emarginatum</i> riparian scrub of the Bega and Towamba valleys, southern South East Corner	345

## **Freshwater Wetlands**

### **Coastal Freshwater Lagoons**

SR536	Coastal freshwater lagoons of the Sydney Basin and South East Corner <sup>1</sup>	730
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### ***Coastal Heath Swamps***

SR538	Crimson Bottlebrush - Scented Paperbark wet heath in the hinterland hills, southern South East Corner	344
SR616	Scented Paperbark wet heath on coastal lowlands in far southern South East Corner	1,496

### ***Montane Bogs and Fens***

SR579	Montane wet heath and bog of the eastern tablelands, South Eastern Highlands <sup>1</sup>	238
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## **Saline Wetlands**

### ***Mangrove Swamps***

SR575	Mangrove forest in estuaries of the Sydney Basin and South East Corner	261
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### ***Saltmarshes***

SR614	Saltmarsh in estuaries of the Sydney Basin and South East Corner <sup>1</sup>	496
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## **Heathlands**

### ***Coastal Headland Heaths***

SR521	Bracelet Honey-myrtle - Coast Tea-tree tall shrubland on headlands, South Eastern Corner	20
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### ***South Coast Heaths***

SR617	Scrub She-oak - Swamp Banksia coastal lowland heath, southern South East Corner	1,943
SR646	Swamp Banksia - Slender Tea-tree wet heath on Mt Nadgee, southern South East Corner	358

### ***Southern Montane Heaths***

SR541	Dwarf She-oak closed heathland of escarpment ranges, South Eastern Highlands	166
SR564	<i>Kunzea ambigua</i> - Bracelet Honey-myrtle shrubland on rhyolite outcrops, southern South East Corner	48
SR565	<i>Kunzea ambigua</i> - <i>Correa reflexa</i> shrubland on skeletal granitic substrates, southern South East Corner	147

## **Grasslands**

### ***Maritime Grasslands***

SR563	Kangaroo Grass sod tussock grassland of coastal areas of the Sydney Basin and South East Corner <sup>1</sup>	1
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### ***Temperate Montane Grasslands***

SR540	Derived grasslands of the South Eastern Highlands and South East Corner	unmapped
SR610	River Tussock - Tall Sedge - Kangaroo Grass moist grasslands of the South Eastern Highlands <sup>1</sup>	242

<sup>1</sup> Contains EEC

<sup>2</sup> Calculated in GDA94, zone 55

**Table B1.2:** Endangered ecological communities mapped within the Bega Valley LGA.

EEC Name	Hectares
Bangalay sand forest in the Sydney Basin and the South East Corner bioregions	1,081
Brogo wet vine forest in the South East Corner bioregion	5,179
Coastal saltmarsh in the NSW North Coast, Sydney Basin and the South East Corner bioregions	496
Dry rainforest of the south east forests in the South East Corner bioregion	184
Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	2,297
Littoral rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions	118
Lowland grassy woodland in the South East Corner bioregion	9,280
Montane peatlands and swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps	238
Natural temperate grassland of the Southern Tablelands (NSW and ACT)	242
River-flat eucalypt forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	1,706
Swamp Oak floodplain forest of the NSW North Coast, Sydney Basin and South east Corner bioregions	332
Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	224
Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions <sup>1</sup>	6,840
Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner bioregions	1

<sup>1</sup> some mapped areas may include shrubby vegetation which does not meet the definition of his tEEC.

<sup>2</sup> Calculated in GDA94, zone 55

## Appendix B2: Area summary of Biometric vegetation type and EECs in the Eurobodalla LGA

**Table B2.1:** Biometric vegetation types in the Eurobodalla LGA, categorised by NSW Vegetation Formation and Class (Keith 2004).

BVT ID	Vegetation type	Hectares <sup>2</sup>
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### Dry Sclerophyll Forests (Shrub/grass subformation)

#### *Southern Hinterland Dry Sclerophyll Forests*

SR573	Maiden's Gum - White Stringybark shrubby open forest on granitic foothills, southern South East Corner	398
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### Dry Sclerophyll Forests (Shrubby subformation)

#### *South Coast Sands Dry Sclerophyll Forests*

SR512	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner <sup>1</sup>	1,915
SR530	Coast Banksia - Coast Tea-tree low moist forest on coastal sands and headlands, Sydney Basin and South East Corner <sup>1</sup>	28
SR531	Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner	929
SR640	Spinifex beach strand grassland, Sydney Basin and South East Corner	unmapped

#### *South East Dry Sclerophyll Forests*

SR554	Gully Gum - Wallaby Bush shrubby woodland on rocky ridges of the ranges, southern South East Corner	<1
SR560	Jilliga Ash dry shrubby open forest on rhyolite in the Deua NP area, South East Corner	14
SR611	Rough-barked Apple - White Stringybark dry open forest on lower slopes in the upper Tuross and Brogo River valleys, South East Corner	4,761
SR621	Silvertop Ash - Blue-leaved Stringybark - Red Bloodwood dry shrubby open forest on ridges of the hinterland foothills, northern South East Corner	39,168
SR622	Silvertop Ash - Blue-leaved Stringybark - Woollybutt shrubby open forest on coastal foothills central South East Corner	14,029
SR634	Silvertop Ash shrubby open forest on escarpment ridges, central and northern South East Corner	14,297
SR674	Yellow Stringybark - Silvertop Ash open forest on dry slopes of the escarpment ranges, northern South East Corner	37,036

#### *Southern Wattle Dry Sclerophyll Forests*

SR519	Bodalla Silver Wattle very tall shrubland in the Brogo River and Desert Creek catchments, South East Corner	1,890
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#### *Sydney Coastal Dry Sclerophyll Forests*

SR594	Red Bloodwood - Hard-leaved Scribbly Gum - Silvertop Ash heathy open forest on sandstone plateaux of the lower Shoalhaven Valley, Sydney Basin	8
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SR629	Silvertop Ash - Red Bloodwood - Sydney Peppermint heathy open forest on moist sandstone plateaux, southern Sydney Basin	17
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### ***Sydney Hinterland Dry Sclerophyll Forests***

SR632	Silvertop Ash - Yertchuk heathy woodland on sandstone plateaux, southern Sydney Basin	271
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## **Wet Sclerophyll Forests (Shrubby subformation)**

### ***South Coast Wet Sclerophyll Forests***

SR582	Mountain Grey Gum - Yellow Stringybark moist shrubby open forest in gullies of the coastal ranges, northern South East Corner	32,713
SR609	River Peppermint - Rough-barked Apple moist open forest on sheltered sites, southern South East Corner	4,598
SR654	Sydney Peppermint - Spotted Gum - Lilly Pilly wet forest in gullies of the coastal foothills, northern South East Corner and southern Sydney Basin	2,386
SR671	Yellow Stringybark - Coast Grey Box shrubby open forest on the coastal ranges, South East Corner	10,505
SR672	Yellow Stringybark - Mountain Grey Gum moist shrubby open forest on coastal ranges, southern South East Corner	1,347

### ***Southern Escarpment Wet Sclerophyll Forests***

SR525	Brown Barrel - Mountain Grey Gum - Blanket Bush moist very tall open forest of the southern escarpment ranges, South Eastern Highlands and South East Corner	125
SR527	Brown Barrel - Narrow-leaved Peppermint moist tall open forest on escarpment ranges, southern South Eastern Highlands	5,435
SR553	Gully Gum - Sydney Peppermint - Yellow Stringybark moist open forest of coastal escarpments, southern Sydney Basin	7,016
SR580	Mountain Grey Gum - Brown Barrel very tall moist forest on escarpment ranges, central and southern South East Corner	19,798
SR607	River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin and South East Corner	1,667
SR663	White Ash - Silvertop Ash - Brown Barrel shrubby open forest of the escarpment ridges, South Eastern Highlands and South East Corner	644

## **Wet Sclerophyll Forests (Grassy subformation)**

### ***Southern Lowland Wet Sclerophyll Forests***

SR533	Coast Grey Box - Mountain Grey Gum - Stringybark moist shrubby open forest in coastal gullies, southern South East Corner	9,737
SR641	Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin and northern South East Corner	12,109
SR642	Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal flats, southern Sydney Basin and South East Corner	727
SR643	Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner	44,158
SR658	Turpentine - Red Bloodwood - Sydney Peppermint shrubby open forest on the foothills, southern Sydney Basin and northern South East Corner	6,104

## Grassy Woodlands

### *Coastal Valley Grassy Woodlands*

SR543	Forest Red Gum - Coast Grey Box shrubby open forest on steep hills in the Bega Valley, South East Corner <sup>1</sup>	119
SR544	Forest Red Gum - Rough-barked Apple - White Stringybark grassy woodlands on hills in dry valleys, southern South East Corner	7,788
SR574	Maiden's Gum - Yellow Box - Forest Red Gum grassy open forest of the Araluen Valley, South East Corner	179
SR669	Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin and South East Corner <sup>1</sup>	34

### *Tableland Clay Grassy Woodlands*

SR602	Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands <sup>1</sup>	117
SR603	Ribbon Gum - Snow Gum grassy open forest on flats and undulating hills of the eastern tableland, South Eastern Highlands <sup>1</sup>	7,228

## Rainforests

### *Cool Temperate Rainforests*

SR590	Plumwood - Soft Tree-fern cool temperate rainforest on cool, moist slopes and gullies of the escarpment ranges, South East Corner	749
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### *Dry Rainforests*

SR551	Grey Myrtle - Lilly Pilly dry rainforest in dry gullies, Sydney Basin and South East Corner	4,650
SR552	Grey Myrtle dry rainforest of the Sydney Basin and South East Corner	7
SR613	Rusty Fig - Sweet Pittosporum dry rainforest on rocky slopes, southern South East Corner <sup>1</sup>	4

### *Littoral Rainforests*

SR571	Lilly Pilly littoral rainforest of the southern Sydney Basin and South East Corner <sup>1</sup>	unmapped
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### *Northern Warm Temperate Rainforests*

SR567	Lilly Pilly - Coachwood warm temperate rainforest on moist sheltered slopes and gullies, Sydney Basin and South East Corner	1,152
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### *Southern Warm Temperate Rainforests*

SR569	Lilly Pilly - Sassafras warm temperate rainforest in moist sheltered gullies, Sydney Basin and South East Corner	793
SR570	Lilly Pilly - Sweet Pittosporum - Rough Tree-fern warm temperate rainforest in steep sheltered gullies, southern South East Corner	2,713

## Forested Wetlands

### *Coastal Floodplain Wetlands*

SR542	Floodplain wetlands of the coastal lowlands, southern South East Corner <sup>1</sup>	633
SR649	Swamp Oak - Prickly Tea-tree - Swamp Paperbark swamp forest on coastal floodplains, Sydney Basin and South East Corner <sup>1</sup>	1,720
SR650	Swamp Oak swamp forest fringing estuaries, Sydney Basin and South East Corner <sup>1</sup>	407
SR651	Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner <sup>1</sup>	158

### *Coastal Swamp Forests*

SR648	Swamp Mahogany swamp sclerophyll forest on coastal lowlands, Sydney Basin and South East Corner <sup>1</sup>	4
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### *Eastern Riverine Forests*

SR606	River Oak open forest of major streams, Sydney Basin and South East Corner	1,271
SR608	River Peppermint - Rough-barked Apple - River Oak herb/grass riparian forest of coastal lowlands, southern Sydney Basin and South East Corner	2,073

## Freshwater Wetlands

### *Coastal Freshwater Lagoons*

SR536	Coastal freshwater lagoons of the Sydney Basin and South East Corner <sup>1</sup>	53
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### *Coastal Heath Swamps*

SR587	Needlebush - Banksia wet heath on sandstone plateaux of the Sydney Basin	27
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### *Montane Bogs and Fens*

SR579	Montane wet heath and bog of the eastern tablelands, South Eastern Highlands <sup>1</sup>	11
SR656	Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands <sup>1</sup>	4

## Saline Wetlands

### *Mangrove Swamps*

SR575	Mangrove forest in estuaries of the Sydney Basin and South East Corner	990
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### *Saltmarshes*

SR614	Saltmarsh in estuaries of the Sydney Basin and South East Corner <sup>1</sup>	523
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## Heathlands

### *Coastal Headland Heaths*

SR521	Bracelet Honey-myrtle - Coast Tea-tree tall shrubland on headlands, South Eastern Corner	27
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### *Southern Montane Heaths*

SR541	Dwarf She-oak closed heathland of escarpment ranges, South Eastern Highlands	78
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## Grasslands

### *Maritime Grasslands*

SR563	Kangaroo Grass sod tussock grassland of coastal areas of the Sydney Basin and South East Corner <sup>1</sup>	30
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### *Temperate Montane Grasslands*

SR540	Derived grasslands of the South Eastern Highlands and South East Corner	unmapped
SR610	River Tussock - Tall Sedge - Kangaroo Grass moist grasslands of the South Eastern Highlands <sup>1</sup>	3

<sup>1</sup> Contains EEC

<sup>2</sup> Calculated in GDA94, zone 55



**Table B2.2:** Endangered ecological communities mapped within the Eurobodalla LGA.

EEC Name	Hectares
Araluen Scarp grassy forest in the South East Corner Bioregion <sup>1</sup>	179
Bangalay sand forest in the Sydney Basin and the South East Corner bioregions	1,916
Brogo wet vine forest in the South East Corner bioregion	119
Coastal saltmarsh in the NSW North Coast, Sydney Basin and the South East Corner bioregions	528
Dry rainforest of the south east forests in the South East Corner bioregion	4
Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	685
Littoral rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions	81
Lowland grassy woodland in the South East Corner bioregion <sup>1</sup>	7,206
Montane peatlands and swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps	11
Natural temperate grassland of the Southern Tablelands (NSW and ACT)	3
River-flat eucalypt forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	2,073
Swamp Oak floodplain forest of the NSW North Coast, Sydney Basin and South east Corner bioregions	2,135
Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	162
<i>Themeda</i> grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner bioregions	29

<sup>1</sup> Areas around Araluen require further assessment; they may be either 'Araluen Scarp grassy forest in the South East Corner bioregion' or 'Lowland grassy woodland in the South East Corner bioregion' EEC, or SR611, which is a shrubbier version of these communities.

<sup>2</sup> Calculated in GDA94, zone 55

## Appendix B3: Area summary of Biometric vegetation type and EECs in the Shoalhaven LGA

**Table B3.1:** Biometric vegetation types in the Shoalhaven LGA, categorised by NSW Vegetation Formation and Class (Keith 2004).

BVT ID	Vegetation type	Hectares
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### Dry Sclerophyll Forests (Shrub/grass subformation)

#### *Central Gorge Dry Sclerophyll Forests*

SR534	Coast Grey Box - Stringybark dry woodland on slopes of the Shoalhaven Gorges, southern Sydney Basin	743
SR547	Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin and South Eastern Highlands	7,435
SR549	Grey Gum - Blue-leaved Stringybark open forest on gorge slopes, southern Sydney Basin and north east South Eastern Highlands	2,385
SR550	Grey Ironbark - Grey Gum shrubby open forest of the gorges of Shoalhaven catchment, southern Sydney Basin	162

### Dry Sclerophyll Forests (Shrubby subformation)

#### *South Coast Sands Dry Sclerophyll Forests*

SR512	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner <sup>1</sup>	2,842
SR530	Coast Banksia - Coast Tea-tree low moist forest on coastal sands and headlands, Sydney Basin and South East Corner <sup>1</sup>	125
SR531	Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner	727
SR640	Spinifex beach strand grassland, Sydney Basin and South East Corner	29

#### *South East Dry Sclerophyll Forests*

SR621	Silvertop Ash - Blue-leaved Stringybark - Red Bloodwood dry shrubby open forest on ridges of the hinterland foothills, northern South East Corner	11,860
SR624	Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands	2,521
SR628	Silvertop Ash - Narrow-leaved Peppermint open forest on ridges of the eastern tableland, South Eastern Highlands and South East Corner	1,379
SR634	Silvertop Ash shrubby open forest on escarpment ridges, central and northern South East Corner	115
SR674	Yellow Stringybark - Silvertop Ash open forest on dry slopes of the escarpment ranges, northern South East Corner	265

#### *Southern Tableland Dry Sclerophyll Forests*

SR522	Broad-leaved Peppermint - Brittle Gum shrubby open forest on the eastern tablelands, South Eastern Highlands	1,866
SR558	Inland Scribbly Gum - Brittle Gum low woodland of the eastern tablelands, South Eastern Highlands	4,028

### ***Sydney Coastal Dry Sclerophyll Forests***

SR594	Red Bloodwood - Hard-leaved Scribbly Gum - Silvertop Ash heathy open forest on sandstone plateaux of the lower Shoalhaven Valley, Sydney Basin	48,134
SR595	Red Bloodwood - Scribbly gum heathy woodland on sandstone plateaux, Sydney Basin	635
SR629	Silvertop Ash - Red Bloodwood - Sydney Peppermint heathy open forest on moist sandstone plateaux, southern Sydney Basin	31,498

### ***Sydney Hinterland Dry Sclerophyll Forests***

SR593	Red Bloodwood - Grey Gum shrubby open forest on shale-sandstone interface of the lower Shoalhaven valleys, southern Sydney Basin	31,605
SR632	Silvertop Ash - Yertchuk heathy woodland on sandstone plateaux, southern Sydney Basin	1,497

### ***Sydney Montane Dry Sclerophyll Forests***

SR625	Silvertop Ash - Hard-leaved Scribbly Gum - Blue-leaved Stringybark heathy woodland on sandstone plateaux, southern Sydney Basin	17,613
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## **Wet Sclerophyll Forests (Shrubby subformation)**

### ***North Coast Wet Sclerophyll Forests***

SR516	Blackbutt - Turpentine - Bangalay moist open forest on sheltered slopes and gullies, southern Sydney Basin	21,326
SR652	Sydney Blue Gum x Bangalay - Lilly Pilly moist forest in gullies and on sheltered slopes, southern Sydney Basin	11,573

### ***South Coast Wet Sclerophyll Forests***

SR582	Mountain Grey Gum - Yellow Stringybark moist shrubby open forest in gullies of the coastal ranges, northern South East Corner	11,068
SR654	Sydney Peppermint - Spotted Gum - Lilly Pilly wet forest in gullies of the coastal foothills, northern South East Corner and southern Sydney Basin	2,769
SR671	Yellow Stringybark - Coast Grey Box shrubby open forest on the coastal ranges, South East Corner	13

### ***Southern Escarpment Wet Sclerophyll Forests***

SR525	Brown Barrel - Mountain Grey Gum - Blanket Bush moist very tall open forest of the southern escarpment ranges, South Eastern Highlands and South East Corner	438
SR526	Brown Barrel - Mountain Grey Gum tall moist forest on basalts of the Southern Highlands, Sydney Basin	261
SR527	Brown Barrel - Narrow-leaved Peppermint moist tall open forest on escarpment ranges, southern South Eastern Highlands	1,324
SR553	Gully Gum - Sydney Peppermint - Yellow Stringybark moist open forest of coastal escarpments, southern Sydney Basin	465
SR580	Mountain Grey Gum - Brown Barrel very tall moist forest on escarpment ranges, central and southern South East Corner	19
SR586	Narrow-leaved Peppermint - Mountain Gum - Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands	323
SR607	River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin and South East Corner	4,254

SR655	Sydney Peppermint - White Stringybark moist shrubby forest on elevated ridges, Sydney Basin	2,596
SR663	White Ash - Silvertop Ash - Brown Barrel shrubby open forest of the escarpment ridges, South Eastern Highlands and South East Corner	20,384

## Wet Sclerophyll Forests (Grassy subformation)

### *Southern Lowland Wet Sclerophyll Forests*

SR592	Red Bloodwood - Blackbutt - Spotted Gum shrubby open forest on coastal foothills, southern Sydney Basin	10,192
SR641	Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin and northern South East Corner	34,618
SR642	Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal flats, southern Sydney Basin and South East Corner	12,292
SR643	Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner	3,089
SR658	Turpentine - Red Bloodwood - Sydney Peppermint shrubby open forest on the foothills, southern Sydney Basin and northern South East Corner	13,014

### *Southern Tableland Wet Sclerophyll Forests*

SR601	Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin and South Eastern Highlands <sup>1</sup>	1,030
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## Grassy Woodlands

### *Coastal Valley Grassy Woodlands*

SR545	Forest Red Gum - Thin-leaved Stringybark grassy woodland on coastal lowlands, southern Sydney Basin <sup>1</sup>	2,052
SR669	Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin and South East Corner <sup>1</sup>	602

### *Southern Tableland Grassy Woodlands*

SR670	Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands <sup>1</sup>	5
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### *Tableland Clay Grassy Woodlands*

SR602	Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands <sup>1</sup>	1,027
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## Rainforests

### *Cool Temperate Rainforests*

SR590	Plumwood - Soft Tree-fern cool temperate rainforest on cool, moist slopes and gullies of the escarpment ranges, South East Corner	12
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### *Dry Rainforests*

SR551	Grey Myrtle - Lilly Pilly dry rainforest in dry gullies, Sydney Basin and South East Corner	423
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SR662	Whalebone Tree - Native Quince dry subtropical rainforest on dry fertile slopes, southern Sydney Basin	66
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### ***Littoral Rainforests***

SR571	Lilly Pilly littoral rainforest of the southern Sydney Basin and South East Corner <sup>1</sup>	119
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### ***Northern Warm Temperate Rainforests***

SR529	Coachwood - Lilly Pilly warm temperate rainforest in moist sandstone gullies, Sydney Basin	1,102
SR567	Lilly Pilly - Coachwood warm temperate rainforest on moist sheltered slopes and gullies, Sydney Basin and South East Corner	10,825

### ***Southern Warm Temperate Rainforests***

SR528	Coachwood - Brown Possumwood warm temperate rainforest in sheltered gullies of the Illawarra Escarpment, southern Sydney Basin	19
SR569	Lilly Pilly - Sassafras warm temperate rainforest in moist sheltered gullies, Sydney Basin and South East Corner	1,348
SR615	Sassafras - Blackwood - Lilly Pilly temperate rainforest on basalt soils in the Robertson area, southern Sydney Basin <sup>1</sup>	2

### ***Subtropical Rainforests***

SR568	Lilly Pilly - Sassafras - Stinging Tree subtropical/warm temperate rainforest on moist fertile lowlands, southern Sydney Basin	2,288
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## **Forested Wetlands**

### ***Coastal Floodplain Wetlands***

SR649	Swamp Oak - Prickly Tea-tree - Swamp Paperbark swamp forest on coastal floodplains, Sydney Basin and South East Corner <sup>1</sup>	2,272
SR650	Swamp Oak swamp forest fringing estuaries, Sydney Basin and South East Corner <sup>1</sup>	330
SR651	Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner <sup>1</sup>	1,258

### ***Coastal Swamp Forests***

SR648	Swamp Mahogany swamp sclerophyll forest on coastal lowlands, Sydney Basin and South East Corner <sup>1</sup>	1,170
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### ***Eastern Riverine Forests***

SR606	River Oak open forest of major streams, Sydney Basin and South East Corner	654
SR608	River Peppermint - Rough-barked Apple - River Oak herb/grass riparian forest of coastal lowlands, southern Sydney Basin and South East Corner	136
SR660	Water Gum - Coachwood riparian scrub along sandstone streams, Sydney Basin	3

## Freshwater Wetlands

### *Coastal Freshwater Lagoons*

SR536	Coastal freshwater lagoons of the Sydney Basin and South East Corner <sup>1</sup>	520
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### *Coastal Heath Swamps*

SR587	Needlebush - Banksia wet heath on sandstone plateaux of the Sydney Basin	105
SR591	Prickly Tea-tree - sedge wet heath on sandstone plateaux, central and southern Sydney Basin	533
SR616	Scented Paperbark wet heath on coastal lowlands in far southern South East Corner	90

### *Montane Bogs and Fens*

SR604	Ribbon Gum - tea-tree - River Tussock riparian scrub along tablelands streambanks, South East Corner	6
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## Saline Wetlands

### *Mangrove Swamps*

SR575	Mangrove forest in estuaries of the Sydney Basin and South East Corner	855
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### *Saltmarshes*

SR614	Saltmarsh in estuaries of the Sydney Basin and South East Corner <sup>1</sup>	724
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## Heathlands

### *Coastal Headland Heaths*

SR521	Bracelet Honey-myrtle - Coast Tea-tree tall shrubland on headlands, South Eastern Corner	50
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### *Southern Montane Heaths*

SR520	Bracelet Honey-myrtle - Australian Indigo dry shrubland on volcanics, southern Sydney Basin	48
SR541	Dwarf She-oak closed heathland of escarpment ranges, South Eastern Highlands	22

### *Sydney Coastal Heaths*

SR556	Hairpin (Heath-leaved) Banksia - <i>Kunzea ambigua</i> - <i>Allocasuarina distyla</i> heath on coastal sandstone plateaux, Sydney Basin	2
SR557	Hairpin Banksia - Slender Tea-tree heath on coastal sandstone plateaux, Sydney Basin	1,167
SR618	She-oak – Hairpin (Heath-leaved) Banksia heathland on sandstone headlands of the Sydney Basin	114

### ***Sydney Montane Heaths***

SR513	Banksia - Red Bloodwood - Hard-leaved Scribbly Gum heathy open woodland on sandstone plateaux, southern Sydney Basin	28,378
SR548	Fringe Myrtle - Blue Mountains Mallee Ash heath on skeletal sandstone plateaux of Morton NP, southern Sydney Basin	2,884

### ***Wallum Sand Heaths***

SR589	Old-man Banksia - she-oak - Red Bloodwood heathland on coastal sands, southern Sydney Basin	37
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## **Grasslands**

### ***Maritime Grasslands***

SR563	Kangaroo Grass sod tussock grassland of coastal areas of the Sydney Basin and South East Corner <sup>1</sup>	unmapped
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### ***Temperate Montane Grasslands***

SR540	Derived grasslands of the South Eastern Highlands and South East Corner	2
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<sup>1</sup> Contains EEC

<sup>2</sup> Calculated in GDA94, zone 56

**Table B3.2:** Endangered ecological communities mapped within the Shoalhaven LGA.

EEC Name	Hectares <sup>3</sup>
Bangalay sand forest in the Sydney Basin and the South East Corner bioregions	4,192
Coastal saltmarsh in the NSW North Coast, Sydney Basin and the South East Corner bioregions	1,029
Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	554
Illawarra lowlands grassy woodland in the Sydney Basin bioregion	4,379
Illawarra subtropical rainforest in the Sydney Basin bioregion	2,817
Littoral rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions	323
Lowland grassy woodland in the South East Corner bioregion	2
Milton Ulladulla subtropical rainforest in the Sydney Basin bioregion	106
River-flat eucalypt forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	3,506
Robertson basalt tall open-forest in the Sydney Basin bioregion	560
Robertson rainforest in the Sydney Basin bioregion	63
Swamp Oak floodplain forest of the NSW North Coast, Sydney Basin and South east Corner bioregions	3,664
Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions	2,842
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands bioregions <sup>1</sup>	1,030
Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions <sup>2</sup>	1,027
Add watermark White Box Yellow Box Blakely's Red Gum woodland	5

<sup>1</sup> may contain areas of Robertson basalt tall open-forest in the Sydney Basin bioregion EEC

<sup>2</sup> some mapped areas may include shrubby vegetation which does not meet the definition of his EEC.

<sup>3</sup> Calculated in GDA94, zone 56



## APPENDIX C1: Metadata for Biometric map

Metadata category	Core metadata element	Description
DATASET	Title	<b>BioMetric_ShoalhavenEurobodallaBega_v2.shp</b> Compilation map: Biometric vegetation types of the Shoalhaven, Eurobodalla and Bega Valley local government areas
	Custodian	NSW Office of Environment and Heritage
	Jurisdiction	New South Wales, Australia
	Identifier	n/a
DESCRIPTION	Abstract	This project collated several vegetation maps in consultation with end users to produce a composite Biometric vegetation type map for the Shoalhaven, Eurobodalla and Bega Valley local government areas. These vegetation types are used in the NSW Government's assessment tools such as the Property Vegetation Plan (PVP) Developer and the Biobanking vegetation types database.  Version 2, with amendments based on field verification and external review.
	Search Word(s)	ECOLOGY Non-specific, ECOLOGY Community, ECOLOGY Ecosystem, ECOLOGY Habitat, ECOLOGY Landscape, FLORA Non-specific, FLORA Native, FORESTS Natural, HERITAGE Natural, VEGETATION Non-specific, VEGETATION Floristic, VEGETATION Structural.
	Geographic extent name(s)	The vegetation map covers the Shoalhaven, Eurobodalla and Vega Valley local government areas, as well as the Jervis Bay portion of the ACT.
	Geographic extent polygon(s)	North-bound latitude: -34.587028 East-bound longitude: 150.860205 South-bound latitude: -37.522148 West-bound longitude: 149.336190
DATA CURRENCY	Beginning date	Refer to the data source. e.g. Mills (2000), NPWS (2000), Tozer <i>et al</i> , (2010) for date of image capture associated with specific vegetation maps.
	End date	As above
DATASET STATUS	Progress	complete
	Maintenance and update frequency	Informal / annual. As required by clients
ACCESS	Stored data format	Vector shapefile. GDA94
	Available format types	Digital
	Access constraints	NFI use only
DATA QUALITY	Lineage	Refer to the data source. e.g. Mills (2000), NPWS (2000), Tozer <i>et al</i> , (2010) for data lineage associated with specific vegetation maps.
	Positional accuracy	Variable.
	Attribute accuracy	Unknown.
	Logical consistency	Unknown.
	Completeness	Complete
CONTACT ADDRESS	Contact organisation	NSW Office of Environment and Heritage, Queanbeyan office
	Contact organisation jurisdiction	New South Wales, Australia
	Contact position	Manager, Landscapes & Aboriginal Heritage Protection

Biometric vegetation types & endangered ecological communities of the  
Shoalhaven, Eurobodalla & Bega Valley local government areas (Version 2.0)

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	Country	Australia
	Postcode	2620
	Telephone	02 6229 7188
	Facsimile	02 6299 7001
	Electronic mail address	n/a
ADDITIONAL METADATA and DATE	Metadata date	07/02/2013
	Additional metadata	n/a
EXTENDED DESCRIPTION DETAILS	Type of feature	Vector
	Attribute/field list	FID; Shape; BioM_ID; Biometric; Hectares; Formation; Class; EEC; EEC_Name; Cleared_; 70_clr; Orig_attr; Source; Category; User_edits; Edit_Name; Edit_comm.
	Attribute/field description	<p>FID: Primary key.</p> <p>Shape: Polygon.</p> <p>BioM_ID: Biometric vegetation type identifier code.</p> <p>Biometric: Biometric vegetation type name.</p> <p>Hectares: Area (hectares).</p> <p>Formation: NSW Formation (Keith 2004).</p> <p>Class: NSW Class (Keith 2004).</p> <p>EEC: nil; yes; may contain.</p> <p>EEC_Name: As per NSW Scientific Committee or the Commonwealth Threatened Species Scientific Committee.</p> <p>Cleared_: % cleared as per Biometric vegetation type dataset.</p> <p>70_clr: Biometric vegetation types which are ≥10% cleared as per Biometric vegetation type dataset.</p> <p>Orig_attr: The original attribute from shapefile used in the composite map.</p> <p>Source: Name of original shapefile used in the composite map. 1</p> <p>Category: Category of map (1) development application; (2) Reserve-scale map (3) LGA-scale map; (4) Regional-scale map (5) EEC only map.</p> <p>User_edits: Blank field; to be filled if the EEC_Name needs to be corrected.</p> <p>Edit_Name: Name of editor who added information to the User_edits field.</p> <p>Edit_comm: Editor comments based on User_edits field.</p>
	Attribute percentage completeness	100%
	Scale/resolution	As per source data: range ~1:10,000 to 1:100,000.
	Methods	Composite vegetation map
	Tenure	All within study area
	Software	ArcGIS 9.3
	Dataset size	275 MB

## APPENDIX C2: Metadata for EEC map

Metadata category	Core metadata element	Description
DATASET	Title	<b>EECs_ShoalhavenEurobodallaBega_v2.shp</b> Endangered ecological communities (EECs) of the Shoalhaven, Eurobodalla and Bega Valley local government areas
	Custodian	NSW Office of Environment and Heritage
	Jurisdiction	New South Wales, Australia
	Identifier	n/a
DESCRIPTION	Abstract	<p>This project collated EEC information from a series of EEC specific and broader vegetation mapping projects to produce a composite EEC map for the Shoalhaven, Eurobodalla and Bega Valley local government areas.</p> <p>The spatial data in closely correlated with the Biometric vegetation map (refer to Appendix C1); however there may be some minor differences in extent based on the addition of EEC specific datasets which were not able to be correlated with a specific Biometric vegetation type. As such, both the Biometric and EEC layer should be used together as required.</p> <p>Version 2, with amendments based on field verification and external review.</p>
	Search Word(s)	ECOLOGY Non-specific, ECOLOGY Community, ECOLOGY Ecosystem, ECOLOGY Habitat, ECOLOGY Landscape, FLORA Non-specific, FLORA Native, FORESTS Natural, HERITAGE Natural, VEGETATION Non-specific, VEGETATION Floristic, VEGETATION Structural.
	Geographic extent name(s)	The EEC map covers the Shoalhaven, Eurobodalla and Vega Valley local government areas, as well as the Jervis Bay portion of the ACT.
	Geographic extent polygon(s)	North-bound latitude: -34.613004 East-bound longitude: 150.852212 South-bound latitude: -37.479814 West-bound longitude: 149.342386
DATA CURRENCY	Beginning date	Refer to the data source. e.g. Mills (2000), NPWS (2000), Tozer <i>et al.</i> (2010) for date of image capture associated with specific vegetation maps.
	End date	As above
DATASET STATUS	Progress	complete
	Maintenance and update frequency	Informal / annual. As required by clients
ACCESS	Stored data format	Vector shapefile. GDA94
	Available format types	Digital
	Access constraints	NFI use only
DATA QUALITY	Lineage	Refer to the data source. e.g. Mills (2000), NPWS (2000), Tozer <i>et al.</i> (2010) for date of image capture associated with specific vegetation maps.
	Positional accuracy	Variable.
	Attribute accuracy	Unknown.
	Logical consistency	Unknown.
	Completeness	Complete
CONTACT ADDRESS	Contact organisation	NSW Office of Environment and Heritage, Queanbeyan office

	Contact organisation jurisdiction	New South Wales, Australia
	Contact position	Manager, Landscapes & Aboriginal Heritage Protection
	Mail address 1	Level 3, 11 Farrer Pl.
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	Suburb/place/locality	Queanbeyan
	State/locality 2	New South Wales
	Country	Australia
	Postcode	2620
	Telephone	02 6229 7188
	Facsimile	02 6299 7001
	Electronic mail address	n/a
ADDITIONAL METADATA and DATE	Metadata date	07/02/2013
	Additional metadata	n/a
EXTENDED DESCRIPTION DETAILS	Type of feature	Vector
	Attribute/field list	FID; Shape; EEC; EEC_Name; Validated; Val_date; Orig_attr; Source; Category; User_edits; Edit_Name; Edit_comm; Area_ha.
	Attribute/field description	<p>FID: Primary key</p> <p>Shape: Polygon</p> <p>EEC: yes; may contain</p> <p>EEC_Name: As per NSW Scientific Committee or the Commonwealth Threatened Species Scientific Committee</p> <p>Validated: Name of person who has validated the polygon (if applicable).</p> <p>Val_date: date of validation.</p> <p>Orig_attr: The original attribute from shapefile used in the composite map.</p> <p>Source: Name of original shapefile used in the composite map. 1</p> <p>Category: Category of map (1) development application; (2) Reserve-scale map (3) LGA-scale map; (4) Regional-scale map (5) EEC only map.</p> <p>User_edits: Blank field – to be filled if the EEC_Name needs ot be corrected.</p> <p>Edit_Name: Name of editor who added information to the User-edits field.</p> <p>Edit_comm: Editor comments based on User_edits field.</p> <p>Area_ha: Area (Hectares).</p>
	Attribute percentage completeness	100%
	Scale/resolution	As per source data: range ~1:10,000 to 1:100,000.
	Methods	Compilation vegetation map.
	Tenure	All within study area
	Software	ArcGIS 9.3
	Dataset size	23 MB