



Development of a Fine-scale Vegetation Map
for the Coffs Harbour Local Government Area
VOLUME 2: VEGETATION COMMUNITY PROFILES

November 2012

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Published by:

Office of Environment and Heritage on behalf of Coffs Harbour City Council and the Northern Rivers Catchment Management Authority.

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ISBN 978 1 74293 942 1

November 2012

OEH 2012/0954

Cover photograph: Ernst Kemmerer

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Credits and Acknowledgements

This project was funded by the Coffs Harbour City Council, with financial assistance from the Northern Rivers Catchment Management Authority and the National Parks and Wildlife Service.

The vegetation classification and mapping project involved many people with varied and specialised skills. The Office of Environment and Heritage (OEH) would like to acknowledge the main contributors to this project.

OEH would like to acknowledge the contribution of Ernst Kemmerer (OEH) and Nigel Cotsell (Coffs Harbour City Council [CHCC]) for co-ordinating the project.

The main report was prepared by Ernst Kemmerer and Paul Sheringham, with assistance from Paul Houlder. OEH would like to acknowledge the technical expertise of the Biodiversity Assessment Unit; Paul Sheringham, Brendan Rennison, Karen Caves and Mark Cameron, and their contribution in compiling the Vegetation Community Profiles in Volume 2 of the report and providing the maps, figures and tables.

Project specifications for the mapping and aerial photography interpretation work were completed by Karen Caves (OEH) and Brendan Rennison (OEH) with Mark Cameron (OEH) contributing to refinement of the vegetation boundaries, data processing and quality assurance. Paul Sheringham was principal botanist and patiently assisted the team with vegetation classification questions, botanical identification and interpretation queries.

Aerial photography interpretation (API) formed the backbone of this vegetation mapping project and the API team consisted of Karen Caves, Brendan Rennison, Mark Cameron, Paul Sheringham and contractors Mark Fisher, Rob Streeter, and Owen Maguire. Discussions and advice from Rob Streeter during the interpretation phase, and with Adam Roff (OEH) on remote sensing techniques and species mapping, work were appreciated.

Field verification is an essential component to API and the input of Damian Arnold (CHCC) is noted for his extensive field survey efforts. OEH wishes to thank John Hunter and Stephanie Horton for providing advice on the distribution of rainforest types in the Fridays Creek and Moleton mapsheets. OEH also appreciated the assistance of Forests NSW for access to sites and information on road conditions.

Flora surveys provide the evidence for vegetation community analysis and OEH would like to thank Phil Gilmour, Lachlan Copeland and Liz Brown (Eco Logical Australia) for their expertise in completing the majority of the surveys, as well as the contributions of Peter Richards.

OEH would also like to thank Jill Smith (OEH) for her assistance with the stratification and Doug Binns (Forests NSW) for his enthusiasm and assistance in completing the numerical vegetation classification analysis.

This project would not have been possible without the vision of Ernst Kemmerer, Nigel Cotsell and Rachel Binskin (CHCC) to develop a product that could support a range of conservation initiatives for the local government area, and for the project support of Andrew McIntyre (OEH) and Gary Davey (Environment Protection Authority).

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Using the Vegetation Community Profiles

Introduction

This technical report provides a description of each of the 80 vegetation communities mapped within Coffs Harbour Local Government Area. These profiles were designed using the template suggested in the NSW Vegetation Standard (DECCW 2009b).

Short Name

A concise name of the vegetation community which contains the most relevant pieces of information concerning either its distribution, habitat, floristic composition and/or structure.

Vegetation Community Code

A six digit descriptive abbreviation of the vegetation community. First two digits (CH) are an abbreviation of the Coffs Harbour Local Government Area (LGA). The subsequent alpha-numeric code displays the community number for the community's vegetation formation. For example CH_DOF10 is Dry Open Forest community number ten.

Vegetation formation abbreviations:

RF	Rainforest
WSF	Wet Sclerophyll Forest
G	Grassland
DOF	Dry Open Forest
H	Heathland
FW	Freshwater Wetland
FrW	Forested Wetland
SW	Saline Wetland

The contents of the report follow the above formation order followed by a numeric code. The numeric codes are in sequence except where post-analysis has resulted in merging of vegetation communities due to its similarity with another community. This applies to three communities of RF10, WSF04, DOF03 which have been removed and are not listed in the report.

Scientific Name

The scientific name has a more complete description of the community's structure and floristics. It includes information on the community's distribution, structure, common and scientific names of dominant or informative species, geology and habitat.

Statewide Class

A listing of the vegetation formation and class derived from the publication by Keith (2006) titled 'Ocean Shores to Desert Dunes'. Format is given as 'formation' followed by 'class' (Formation – Class).

Plant Community Type

This field provides an equivalency to the Plant Community Types listed in the NSW Vegetation Classification and Assessment module of the NSW Vegetation Information System. The Office of Environment and Heritage (OEH 2012b) conducted a numerical analysis and expert botanical review of vegetation communities with the Northern Rivers Catchment Management Area, and identified 384 Plant Community Types within the study area. For each

of 72 of the vegetation communities in the Coffs Harbour LGA, the equivalent NSW Plant Community Type is provided. The number listed in parenthesis is the Analysis Group identification number or AG-ID. For example, NSW 700-50 refers to the plant community from the 700-group analysis and decision tree or row 50.

Site Photograph

Photographs are included to show the floristic and structural characteristics of the community. Multiple photographs are sometimes included to illustrate the structural and floristic variations observed.

Description

A full description of the distribution, habitat, and structural and floristic composition of the vegetation community is given. The description was developed using fidelity tables and summarised structural and floristic information held in the YETI database (Ellis et al. 2010). Any additional information collated during aerial photograph interpretation and field observation is included. In some instances, where no formal surveys were conducted for a vegetation mapping unit, then the community description was compiled using field investigations and rapid data points.

Floristic Summary

The floristic summary shows a table of the structural and floristic information for each vertical stratum or layer. This information was derived from the full floristic sites as follows:

- Height - the information is given as the upper and lower height in metres for each layer
- Cover - minimum and maximum percent foliage/canopy cover for each layer, and
- Dominant species recorded for each layer.

Example of a floristic summary

Layer	Height	Cover	Dominant Species
Tallest	1-15	10-75	example species: <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> , <i>Cupaniopsis anarcardoides</i> , <i>Syzygium australe</i> , <i>Cryptocarya triplinervis</i> , <i>Alectryon coriaceus</i>
Middle	0.5-8	10-60	example species: <i>Smilax australis</i> , <i>Acacia longifolia</i> subsp. <i>sophorae</i> , <i>Acronychia imperforata</i>
Lower	0-2	20-70	example species: <i>Dianella congesta</i> , <i>Imperata cylindrica</i> var. <i>major</i> , <i>Pteridium esculentum</i> , <i>Zoysia macrantha</i> , <i>Oplismenus imbecillis</i> , <i>Viola banksii</i>

*A note is provided to record the number of sites that contributed to structural and floristic information for the summary.

Structural and Floristic Variations

Observed floristic and structural variation within the community are described to indicate the differences that may be encountered in the field from the vegetation profile.

Species Richness

A summary of species statistics from full floristic sites. This information includes:

- the number of plots
- the total number native plant taxa (species, subspecies and varieties)
- the average number of taxa recorded
- the standard deviation from the mean (shown as \pm).

For example:

- Number of plots 5
- Total native species 76
- Average number of species 24 ±5.8

Exotics

A list of exotic taxa recorded from sites

Conservation Status

The area of occupancy in hectare is presented by land tenure class for each community, as well as the proportion reserved within the Coffs Harbour LGA. The latter figure is presented as a percentage of extant vegetation at the time of the study, and not the pre-1750 extant vegetation. This is because modelling for pre-settlement vegetation extant was not conducted as part of this study. A list of the conservation reserves where the vegetation community occurs is also noted.

Example of conservation statistics

Tenure	Area (ha)
Crown Land	142
Freehold	56
National Park	128
Nature Reserve	37
Regional Park	55
TOTAL	418
Proportion reserved within LGA	53%

Example of conservation notes

This community is reserved in Bongil Bongil National Park (83ha), Coffs Coast Regional Park (53ha), Moonee Beach Nature Reserve (37ha) and Yuraygir National Park (42ha).

Threatened and Rare plants: Includes a list of threatened, ROTAP and species of conservation importance recorded in the plant communities. In some profiles species have been added to the community where they are known to occur, but were not recorded in sites (e.g *Zieria prostrata*).

Endangered Ecological Community: A recording of whether the community is likely to contain or represent an Endangered Ecological Community (EEC) as listed on the Threatened Species Conservation Act 1995. Definitions of the EECs under the TSC Act (1995) are likely to be different to the definitions given in the vegetation profile. Therefore, this section only provides an indication of the types of EECs likely to be present in the vegetation classification. The name(s) of the EECs likely to occur within the mapped vegetation community are therefore listed, and further field validation or surveys may be required to establish its presence or occurrence.

Relationship to Other Communities

This section describes the relationship of the community to spatially adjoining or related communities in the classification. Distinguishing features that may be used to separate these communities while in the field are described.

Equivalentents

The main vegetation equivalencies of Statewide Class and Plant Community Type are listed in the header of the vegetation profiles. Most of the Plant Community Types identified by the OEH (2012a) study have Biometric types

assigned to them and the Biometric equivalent at the time of the Coffs Harbour LGA study is noted here.

BioMetric: BioMetric is the biodiversity module in the Native Vegetation Assessment Tool (NVAT) package that facilitates preparation of Property Vegetation Plans (PVPs) under the NSW Native Vegetation Act 2003. It is also used to inform “maintain and improve” tests under the Biodiversity Banking and Offsets Scheme. An interpretation was made of the equivalences of each Coffs Harbour Community to Biometric types published in the Native Vegetation Regulation for Biobanking and the Property Plan Developer (OEH 2012b).

Other: An equivalency to other relevant vegetation classifications, previous surveys and regional studies. The most important of these included: Coffs Harbour vegetation mapping (Fisher et al. 1996), Bongil Bongil National Park Vegetation Survey (Cameron et al. 2011), Coffs Urunga State Forest Flora Surveys (Tweedie et al. 1995), Floyd Rainforest suballiances (Floyd 1990), Forest Ecosystems (NPWS 1999) and the NRCMA vegetation map (Eco Logical 2005).

Locations

Examples of where the community occurs in the LGA are listed followed by a distribution map of the vegetation community. The map illustrates the representation of the community across broad classes of public and freehold land tenure and is indicated in black.

Diagnostic Species

Fidelity is the degree to which a species conforms or is faithful to a particular vegetation community (Goodall, 1952) within a classification. Ideally, a characteristic species should accumulate in only one single vegetation unit (Barkman 1989). In this study, fidelity identifies the way in which a species is distributed across the sites in a floristic group compared to how it is distributed in the sites outside the group.

Fidelity classification helps in identifying the taxa that make an important contribution or distinguishing feature to the species composition of the community being described, termed diagnostic species. Diagnostic species for each community were calculated using fidelity software by Bedward (1999).

For each vegetation profile the diagnostic species were described in a table by the following fields:

- **Mean Group Cover** The mean group cover is the median cover score for the taxa in sites assigned to this community in the classification
- **Group Frequency** The frequency of the taxa in sites assigned to this community in the classification
- **Non Group Cover** The non group cover is the median cover score of this taxa across all communities in the analysis
- **Non-group Frequency** Records the frequency of the taxa outside this community in other communities in the study
- **Fidelity class** There are four fidelity classes, which are described below;
 - **Positive** Includes taxa that are unique to the community, or more frequent and abundant in the described community than other communities.
 - **Uninformative** The group and no group frequency and mean cover of the taxa across the data set is not considered informative.
 - **Constant** Taxa that occur frequently in several communities including the described community
 - **Negative** The taxa is less frequent and abundant in this community than other communities.

Example of diagnostic species list

Scientific Name	Mean Group Cover	Group Frequency	Non-group cover	Non-group Frequency	Fidelity Class
<i>Acacia disparrima</i> subsp. <i>disparrima</i>	1	14%	0	0%	positive
<i>Acacia longifolia</i>	1	85%	1	5%	uninformative
<i>Acacia maidenii</i>	1	29%	1	14%	uninformative
<i>Acacia melanoxylon</i>	1	14%	2	19%	uninformative
<i>Acianthus exsertus</i>	3	14%	0	0%	positive
<i>Acmena smithii</i>	1	14%	1	27%	uninformative
<i>Acronychia imperforata</i>	2	57%	1	3%	positive

Profile Statistics

Summary statistics regarding the supporting information used to develop the vegetation profiles are listed in Appendix 1. Appendix 1 includes information for the number and type of vegetation surveys for each vegetation community, reliability statistics for the mapping and attribution (aerial photography interpretation phase), and user and producer accuracy from the map validation exercise (to be supplied).

Other Mapping Units

Other codes were used to describe exotic species, plantations and remnant vegetation and these are summarised in Appendix 2. This information when combined with the map product is useful to evaluate occurrence of exotics such as Camphor Laurel (*Cinnamomum camphora*), or the distribution of eucalypt and exotic plantations. However, more information on the types of species occurring within plantations can be obtained from Forests NSW.



Rainforests

PLATEAU BEECH COOL TEMPERATE RAINFOREST

CH_RF01

SCIENTIFIC NAME Antarctic Beech (*Nothofagus moorei*) - Sassafras (*Doryphora sassafras*) Cool Temperate Rainforest

PLANT COMMUNITY TYPE Antarctic Beech - Possumwood - Sassafras tall cool temperate rainforest on krasnozem soils, NSW North Coast Bioregion, New England Tablelands Bioregion and South Eastern Queensland Bioregion (NSW75-74)

STATEWIDE CLASS Rainforests – Cool Temperate Rainforest (Keith 2006)



Description

In this cool temperate rainforest there is an abundance of Antarctic Beech (*Nothofagus moorei*) and other common species are Coachwood (*Ceratopetalum apetalum*), Sassafras (*Doryphora sassafras*) and Brush Box (*Lophostemon confertus*). In the mid to small tree layer Native Honeysuckle (*Triunia youngiana*), Thick-leaved Laurel (*Cryptocarya meissneriana*) and Brush Pepperbush (*Tasmannia insipida*) are common to abundant. Vines are common and include Small Supplejack (*Ripogonum fawcettianum*), *Petermannia cirrosa* and Lawyer Vine (*Smilax australis*). A sparse ground cover of Gristle Fern (*Blechnum cartilagineum*) is present.

This community occurs at high altitudes in cool moist summit areas above 900 metres in altitude along the Dorrigo escarpment.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	No data	No data	<i>Nothofagus moorei</i> , <i>Ceratopetalum apetalum</i> , <i>Doryphora sassafras</i> , <i>Lophostemon confertus</i> , <i>Callicoma serratifolia</i> .
Middle	No data	No data	<i>Triunia youngiana</i> , <i>Cryptocarya meissneriana</i> , <i>Ripogonum fawcettianum</i> , <i>Petermannia cirrosa</i> , <i>Smilax australis</i> .
Lower	No data	No data	<i>Blechnum cartilagineum</i> , <i>Tasmania insipida</i> .

Data collated from 1 of 1 full floristic sites (Floyd 1990)

Species richness

Number of plots :	1
Total species:	27
Average number of species:	27

Relationship to other communities

This community is related to CH_RF02 (Plateau Beech Coachwood Cool Temperate Rainforest). CH_RF01 is distinguished by having a clear dominance of Antarctic Beech (*Nothofagus moorei*) in the canopy. CH_RF02 also differs by having a warm temperate rainforest influence and consequently a higher species diversity than CH_RF01.

Conservation status

This community is reserved in Bindarri National Park (1ha) and Dorrigo National Park (1ha).

Tenure	Area (ha)
National Park	1
TOTAL	1

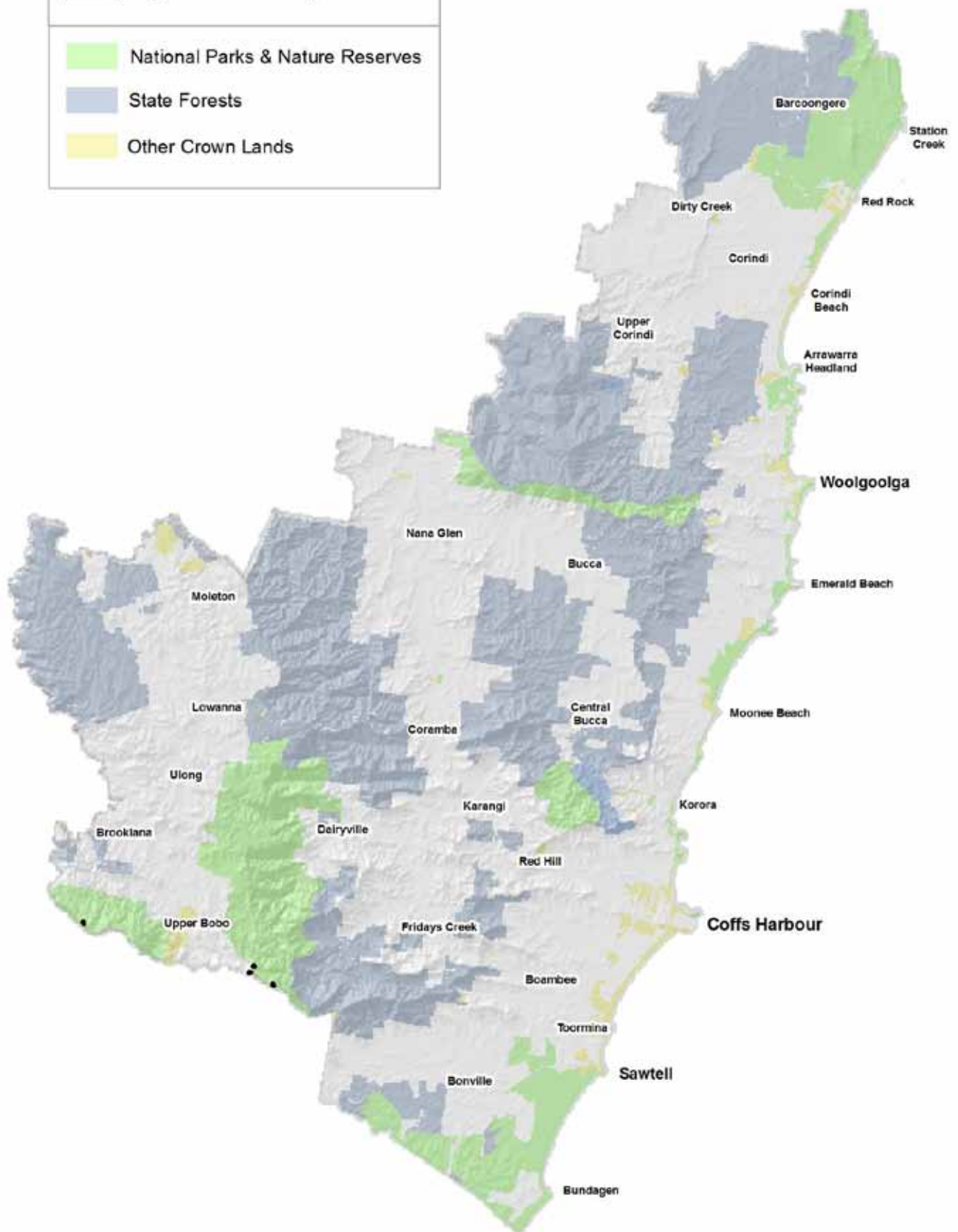
Equivalents

Biometric: Antarctic Beech cool temperate rainforest of the New England Tablelands and North Coast. (NR103)

Other: R49 - Antarctic Beech (Fisher et al. 1996); Sub-alliance 49 (Floyd 1990)

Locations

Known to occur at Tuckers Knob.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	3	100%	2	18%	positive
<i>Acmena smithii</i>	2	100%	1	26%	positive
<i>Acradenia euodiiformis</i>	3	100%	3	3%	positive
<i>Archirhodomyrtus beckleri</i>	1	100%	2	23%	uninformative
<i>Atractocarpus benthamianus</i>	2	100%	2	7%	positive
<i>Baloghia inophylla</i>	2	100%	2	2%	positive
<i>Callicoma serratifolia</i>	3	100%	2	17%	positive
<i>Ceratopetalum apetalum</i>	2	100%	3	11%	positive
<i>Cryptocarya glaucescens</i>	2	100%	2	17%	positive
<i>Cryptocarya meissneriana</i>	3	100%	3	2%	positive
<i>Denhamia celastroides</i>	1	100%	1	8%	uninformative
<i>Diospyros australis</i>	2	100%	2	1%	positive
<i>Doryphora sassafras</i>	2	100%	2	7%	positive
<i>Endiandra crassiflora</i>	1	100%	1	2%	uninformative
<i>Lophostemon confertus</i>	3	100%	2	31%	positive
<i>Notelaea</i> sp. A	2	100%	1	0%	positive
<i>Nothofagus moorei</i>	3	100%	3	1%	positive
<i>Persoonia media</i>	2	100%	1	7%	positive
<i>Petermannia cirrosa</i>	3	100%	1	6%	positive
<i>Pittosporum undulatum</i>	2	100%	1	10%	positive
<i>Ripogonum fawcettianum</i>	3	100%	2	21%	positive
<i>Smilax australis</i>	3	100%	1	44%	positive
<i>Stenocarpus salignus</i>	2	100%	1	4%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	3	100%	2	34%	positive
<i>Tasmania insipida</i>	4	100%	1	12%	positive
<i>Tristaniopsis laurina</i>	2	100%	2	3%	positive
<i>Triunia youngiana</i>	4	100%	1	5%	positive
<i>Wilkiea huegeliana</i>	2	100%	1	28%	positive

PLATEAU BEECH - COACHWOOD COOL TEMPERATE RAINFOREST

CH_RF02

SCIENTIFIC NAME Antarctic Beech (*Nothofagus moorei*) - Coachwood (*Ceratopetalum apetalum*) Cool Temperate Rainforest

STATE-WIDE CLASS Rainforest - Cool Temperate Rainforest (Keith 2006)

PLANT COMMUNITY TYPE Antarctic Beech – Coachwood – Sassafras tall cool temperate rainforest, NSW North Coast Bioregion, New England Tablelands Bioregion and South Eastern Queensland Bioregion (NSW150-149)



Description

Cool temperate rainforest that occurs on sheltered slopes and creeks at higher altitudes in the Bobo River and Eve Creek Valleys. The floristic composition is characterised by Coachwood (*Ceratopetalum apetalum*), Sassafras (*Doryphora sassafras*) and Brush Box (*Lophostemon confertus*) as the most common canopy species in association with Antarctic Beech (*Nothofagus moorei*). In the mid to small tree layer Hairy-leaved Bolly-gum (*Neolitsea dealbata*), Thick-leaved Laurel (*Cryptocarya meissneriana*) and Brush Pepperbush (*Tasmannia insipida*) are common to abundant. Vines are common and include Small Supplejack (*Ripogonum fawcettianum*), Hairy Supplejack (*Ripogonum elseyanum*), *Petermannia cirrosa* and Lawyer Vine (*Smilax australis*). The ground layer is sparse with Spiny-headed Mat-rush (*Lomandra longifolia*), Gristle Fern (*Blechnum cartilagineum*) and *Lomandra spicata* being the most common species.

This community was not spatially mapped as the occurrences are highly restricted and scattered throughout larger areas of the Warm Temperate Rainforest community; CH_RF03. It was found that CH_RF02 was very difficult to interpret from the aerial imagery but is recognised by the data analysis and several experts to occur in the Bobo River Valley.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	5 - 30	70	<i>Ceratopetalum apetalum</i> , <i>Doryphora sassafras</i> , <i>Lophostemon confertus</i> , <i>Nothofagus moorei</i> .
Middle	8 - 15	10 - 45	<i>Neolitsea dealbata</i> , <i>Cryptocarya meissneriana</i> , <i>Tasmania insipida</i> , <i>Ripogonum fawcettianum</i> , <i>Ripogonum elseyanum</i> , <i>Petermannia cirrosa</i> , <i>Smilax australis</i> .
Lower	0.2 - 1	1 - 5	<i>Lomandra spicata</i> , <i>Blechnum cartilagineum</i> , <i>Lomandra longifolia</i> .

* Data collated from 3 of 3 full floristic sites

Species richness

Number of plots:	3
Total species:	51
Average number of species	30 ±3

Conservation status

This community is reserved in Dorrigo National Park (54ha)

Tenure	Area (ha)
Freehold	restricted occurrences
National Park	unknown
Crown land	
TOTAL	
Proportion reserved within LGA	unknown

Threatened and Rare plants: *Cryptocarya dorrigoensis*

Relationship to other communities

This community is related to CH_RF01 (Plateau Beech Cool Temperate Rainforest). While CH_RF01 is characterised by a dominance of Antarctic Beech (*Nothofagus moorei*) in the canopy, CH_RF02 has a clear dominance of Coachwood (*Ceratopetalum apetalum*) with Antarctic Beech (*N. moorei*) present in moderate abundance in the canopy together with Sassafras (*Doryphora sassafras*) and Brush Box (*Lophostemon confertus*). Overall, CH_RF02 is a more diverse community with a warm temperate rainforest influence and wider distribution. CH_RF01 is restricted to higher altitudes and only a few locations. CH_RF02 occurrences are scattered within mapped Warm Temperate Rainforest communities such as CH_RF03 and CH_RF12 (Escarpment Coachwood – Sassafras – Brush Box Warm Temperate Rainforest).

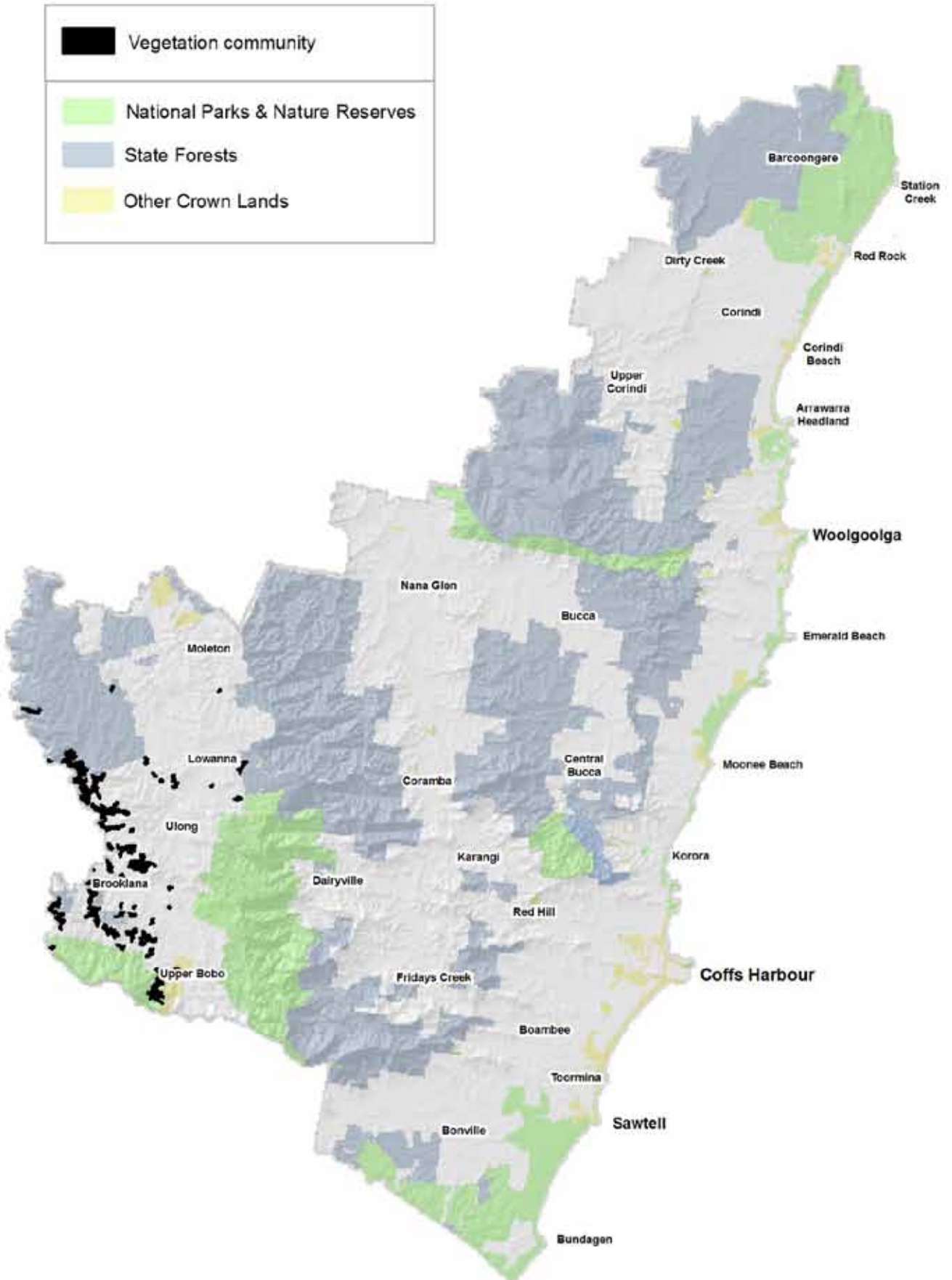
Equivalents

Biometric: Antarctic Beech cool temperate rainforest of the New England Tablelands and North Coast (NR103)

Other: R49 - Antarctic Beech (Fisher et al. 1996) Sub-alliance 49 (Floyd 1990).

Locations

Known examples include Frog Hollow Road, Bobo River and Eastern Dorrigo Way, Eve Creek.



Diagnostic Species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	1	33%	2	18%	uninformative
<i>Acradenia euodiiformis</i>	4	67%	3	2%	positive
<i>Araucaria cunninghamii</i>	1	100%	1	5%	uninformative
<i>Asplenium australasicum</i>	1	33%	1	9%	uninformative
<i>Atractocarpus benthamianus</i>	1	33%	2	7%	uninformative
<i>Backhousia myrtifolia</i>	3	67%	1	2%	positive
<i>Blechnum cartilagineum</i>	2	33%	2	38%	uninformative
<i>Calamus muelleri</i>	1	67%	2	14%	uninformative
<i>Callicoma serratifolia</i>	1	33%	2	17%	uninformative
<i>Ceratopetalum apetalum</i>	4	100%	3	10%	positive
<i>Cleistanthus cunninghamii</i>	1	33%	1	1%	uninformative
<i>Cordyline rubra</i>	1	33%	1	1%	uninformative
<i>Cryptocarya dorrigoensis</i>	1	33%	1	1%	uninformative
<i>Cryptocarya glaucescens</i>	2	33%	2	17%	uninformative
<i>Cryptocarya meissneriana</i>	3	33%	3	2%	uninformative
<i>Denhamia celastroides</i>	1	33%	1	8%	uninformative
<i>Doryphora sassafras</i>	1	67%	2	7%	uninformative
<i>Duboisia myoporoides</i>	1	33%	1	5%	uninformative
<i>Endiandra crassiflora</i>	1	33%	1	2%	uninformative
<i>Endiandra muelleri</i>	1	33%	1	9%	uninformative
<i>Eucalyptus saligna</i>	1	67%	3	9%	uninformative
<i>Exocarya sclerioides</i>	2	33%	1	2%	uninformative
<i>Guioa semiglauc</i>	1	67%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	33%	1	19%	uninformative
<i>Lastreopsis decomposita</i>	2	33%	2	6%	uninformative
<i>Leptospermum polygalifolium</i>	1	33%	1	12%	uninformative
<i>Linospadix monostachya</i>	1	100%	2	12%	uninformative
<i>Litsea reticulata</i>	3	67%	2	7%	positive
<i>Lomandra longifolia</i>	1	33%	2	52%	negative
<i>Lomandra spicata</i>	2	33%	1	9%	uninformative
<i>Morinda jasminoides</i>	1	67%	1	36%	uninformative
<i>Neolitsea dealbata</i>	2	100%	1	15%	positive
<i>Nothofagus moorei</i>	3	100%	3	0%	positive
<i>Orites excelsus</i>	1	100%	2	5%	uninformative
<i>Parsonia straminea</i>	1	33%	1	27%	uninformative
<i>Petermannia cirrosa</i>	1	33%	1	6%	uninformative
<i>Pilidiostigma glabrum</i>	1	67%	1	12%	uninformative
<i>Pittosporum multiflorum</i>	1	67%	1	12%	uninformative
<i>Platynerium bifurcatum</i>	1	33%	1	16%	uninformative
<i>Ripogonum elseyanum</i>	2	100%	2	7%	positive
<i>Ripogonum fawcettianum</i>	1	67%	2	21%	uninformative
<i>Sarcopteryx stipata</i>	1	67%	1	11%	uninformative
<i>Smilax glycyphylla</i>	1	33%	1	29%	uninformative
<i>Stenocarpus salignus</i>	1	67%	1	4%	uninformative
<i>Syzygium australe</i>	3	33%	1	6%	uninformative
<i>Tasmania insipida</i>	1	100%	1	11%	uninformative
<i>Tripladenia cunninghamii</i>	1	67%	1	9%	uninformative
<i>Tristaniopsis collina</i>	4	67%	2	5%	positive
<i>Tristaniopsis laurina</i>	2	33%	2	3%	uninformative
<i>Triunia youngiana</i>	1	67%	1	5%	uninformative
<i>Trochocarpa laurina</i>	2	67%	1	37%	positive
<i>Wilkiea huegeliana</i>	1	67%	1	28%	uninformative

PLATEAU AND ESCARPMENT COACHWOOD - SASSAFRAS WARM TEMPERATE RAINFOREST

SCIENTIFIC NAME Coachwood (*Ceratopetalum apetalum*) – Callicoma (*Callicoma serratifolia*) – Sassafras (*Doryphora sassafras*) – Hoop Pine (*Araucaria cunninghamii*) Warm Temperate Rainforest

PLANT COMMUNITY TYPE Coachwood – Sassafras – Crabapple tall closed forest of the Dorrigo area, NSW North Coast Bioregion (NSW1000-1591)

STATEWIDE CLASS Rainforests – Warm Temperate Rainforest (Keith 2006)



Description

A warm temperate rainforest often with emergent Hoop Pine (*Araucaria cunninghamii*) present in most sites. In the dense rainforest canopy the common trees are Coachwood (*Ceratopetalum apetalum*), Sassafras (*Doryphora sassafras*), Yellow Satin-heart (*Acradenia euodiiformis*), Callicoma (*Callicoma serratifolia*) and Hairy-leaved Bolly Gum (*Neolitsea dealbata*). Blackwood (*Acacia melanoxylon*) is sometimes common in the mid stratum or in areas that are regenerating. The mid stratum also consists of shrubby wet rainforest species such as Thick-leaved Laurel (*Cryptocarya meissneriana*), Native Honeysuckle (*Triunia youngiana*) and Callicoma (*Callicoma serratifolia*). The lower and ground layer consists of Gristle Fern (*Blechnum cartilagineum*), Orange Thorn (*Pittosporum multiflorum*), Brush Pepperbush (*Tasmannia insipida*) and Walking Stick Palm (*Linospadix monostachya*). Vines such as Small Supplejack (*Ripogonum fawcettianum*), Prickly Supplejack (*Ripogonum discolor*), *Petermannia cirrosa* and Hairy Supplejack (*Ripogonum elseyanum*) are common in the middle layers.

This community is widespread on the Eastern Dorrigo Plateau in moist areas of metasedimentary derived soils and sometimes unconsolidated alluvial sediments between about 500 and 1000 metres in altitude. It occurs on sheltered slopes and gullies on undulating to steep topography in the catchments of the Bobo and Little Nymboida River and their tributaries.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	20 - 40	60 - 100	<i>Araucaria cunninghamii</i> , <i>Ceratopetalum apetalum</i> , <i>Doryphora sassafras</i> , <i>Acradenia euodiiformis</i> , <i>Callicoma serratifolia</i> .
Middle 1	5 - 20	60 - 80	<i>Pittosporum multiflorum</i> , <i>Cryptocarya meissneriana</i> , <i>Triunia youngiana</i> , <i>Callicoma serratifolia</i> , <i>Ripogonum fawcettianum</i> , <i>Ripogonum discolour</i> , <i>Petermannia cirrosa</i> , <i>Ripogonum elseyanum</i> .
Middle 2	1 - 10	10 - 30	<i>Acacia melanoxylon</i> , <i>Neolitsea dealbata</i> .
Lower	0.1 - 0.6	5 - 10	<i>Blechnum cartilagineum</i> , <i>Tasmannia insipida</i> , <i>Linospadix monostachya</i> .

* Data collated from 9 of 9 full floristic sites

Species richness

Number of plots	9
Total species	138
Average number of species	34 ±11

Conservation status

This community is reserved in Bindarri National Park (539ha), Bindarri State Conservation Area (287 ha) and Dorrigo National Park (389ha)

Tenure	Area (ha)
Crown Land	27
Freehold	2 088
National Park	984
NSW State Forest	567
State Conservation Area	287
TOTAL	3 952

Endangered Ecological Community: *Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions* EEC

Threatened and Rare plants: *Cryptocarya dorrigoensis*

Relationship to other communities

Related to CH_RF12 (Escarpment Coachwood - Sassafras - Brush Box Warm Temperate Rainforest). CH_RF12 occurs closer to the escarpment edge with a significant influence of subtropical elements in the species composition. CH_RF03 is more common on the western parts of the plateau within the study area.

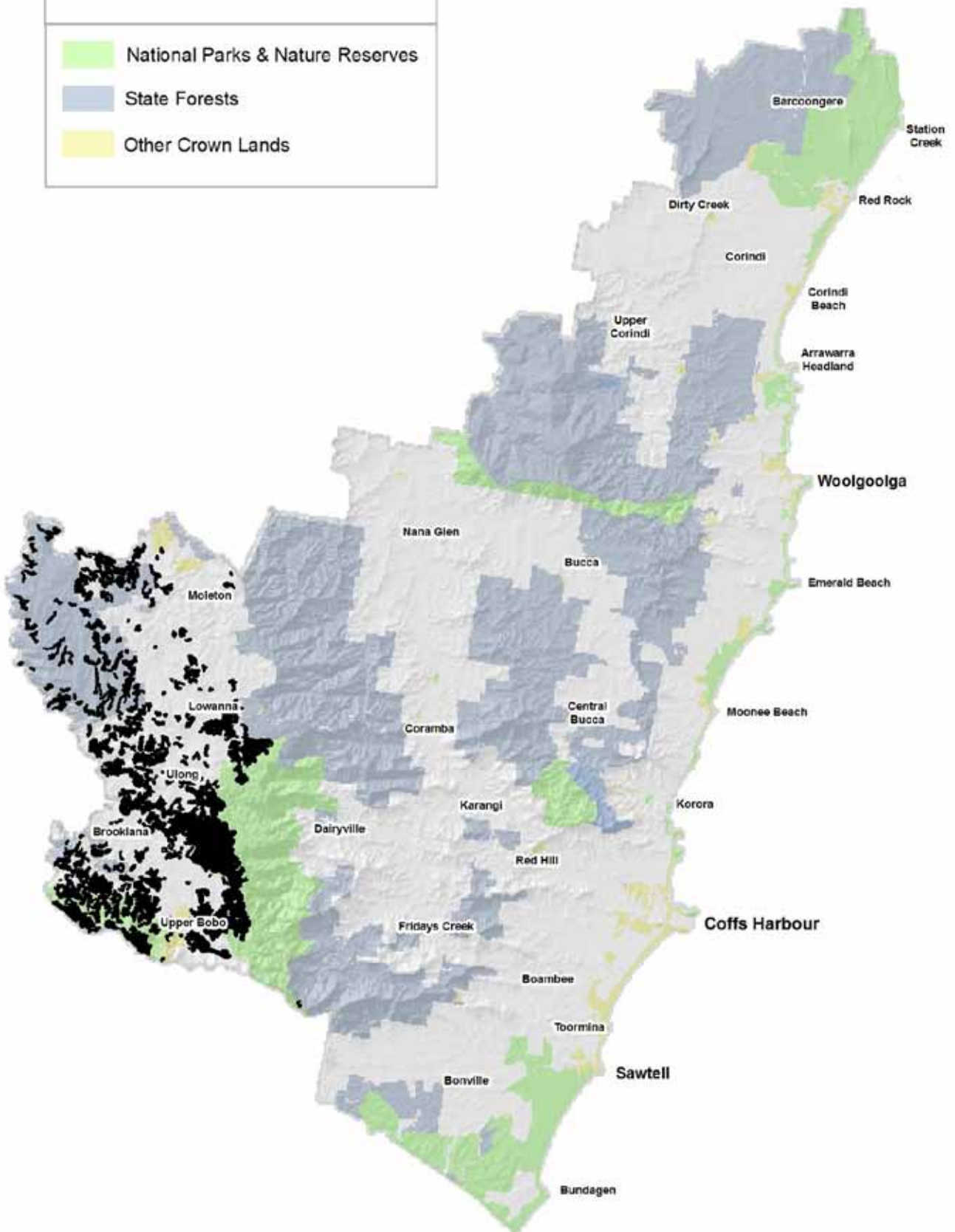
Within CH_RF03, there are restricted occurrences of CH_RF02 (Plateau Beech – Coachwood Cool Temperate Rainforest). In areas of Warm Temperate Rainforest, due to the floristic similarity and difficulty in interpretation, there will be occurrences of CH_RF12 (Escarpment Coachwood – Sassafras – Brush Box Warm Temperate Rainforest) within mapped areas of CH_RF03 and occurrences of CH_RF03 within mapped areas of CH_RF12.

Equivalentents

Biometric: Coachwood - Soft Corkwood - Crabapple warm temperate rainforest of the North Coast (NR147)

Other: R35 Coachwood (Fisher et al. 1996), Sub-alliance 35 (Floyd 1990)

Locations



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia maidenii</i>	1	11%	1	14%	uninformative
<i>Acacia melanoxylon</i>	2	78%	2	17%	positive
<i>Acmena smithii</i>	1	67%	1	26%	uninformative
<i>Acradenia euodiiformis</i>	3	67%	3	2%	positive
<i>Acronychia pubescens</i>	1	11%	2	2%	uninformative
<i>Adiantum aethiopicum</i>	1	11%	1	2%	uninformative
<i>Adiantum hispidulum</i>	1	11%	2	8%	uninformative
<i>Adiantum silvaticum</i>	2	22%	1	5%	uninformative
<i>Anopterus macleayanus</i>	1	11%	2	3%	uninformative
<i>Araucaria cunninghamii</i>	2	89%	1	4%	positive
<i>Archidendron grandiflorum</i>	1	22%	1	3%	uninformative
<i>Archirhodomyrtus beckleri</i>	1	11%	2	24%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	11%	1	32%	uninformative
<i>Asplenium australasicum</i>	1	22%	1	9%	uninformative
<i>Asplenium polyodon</i>	1	11%	2	1%	uninformative
<i>Atractocarpus benthamianus</i>	1	22%	2	7%	uninformative
<i>Backhousia myrtifolia</i>	1	11%	2	2%	uninformative
<i>Blechnum cartilagineum</i>	1	44%	2	38%	uninformative
<i>Blechnum watsii</i>	1	33%	2	1%	uninformative
<i>Bulbophyllum exiguum</i>	1	11%	2	1%	uninformative
<i>Calamus muelleri</i>	1	67%	2	13%	uninformative
<i>Caldcluvia paniculosa</i>	1	11%	2	12%	uninformative
<i>Callicoma serratifolia</i>	3	56%	2	17%	positive
<i>Carex longebrachiata</i>	1	11%	2	0%	uninformative
<i>Cephalalaria cephalobotrys</i>	1	11%	1	5%	uninformative
<i>Ceratopetalum apetalum</i>	4	100%	3	9%	positive
<i>Cinnamomum oliveri</i>	2	22%	1	6%	uninformative
<i>Cinnamomum virens</i>	1	11%	1	1%	uninformative
<i>Cissus antarctica</i>	1	11%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	11%	1	38%	uninformative
<i>Cleistanthus cunninghamii</i>	1	11%	1	1%	uninformative
<i>Cordyline rubra</i>	1	11%	1	1%	uninformative
<i>Cordyline stricta</i>	1	33%	1	38%	uninformative
<i>Cryptocarya dorrigensis</i>	1	11%	1	1%	uninformative
<i>Cryptocarya glaucescens</i>	1	67%	2	16%	uninformative
<i>Cryptocarya meissneriana</i>	4	44%	3	2%	uninformative
<i>Cryptocarya microneura</i>	1	11%	1	20%	uninformative
<i>Cryptocarya rigida</i>	1	11%	2	27%	uninformative
<i>Cyathea australis</i>	1	11%	1	13%	uninformative
<i>Cyathea leichhardtiana</i>	1	33%	1	9%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	1	11%	1	4%	uninformative
<i>Dendrobium fairfaxii</i>	1	11%	0	0%	positive
<i>Denhamia celastroides</i>	1	67%	1	7%	uninformative
<i>Dianella caerulea</i>	2	44%	1	50%	uninformative
<i>Diploglottis cunninghamii</i>	1	11%	1	4%	uninformative
<i>Doodia aspera</i>	1	22%	2	15%	uninformative
<i>Doryphora sassafras</i>	2	100%	2	6%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Drymophila moorei</i>	2	33%	2	2%	uninformative
<i>Elaeocarpus obovatus</i>	1	11%	1	3%	uninformative
<i>Elattostachys nervosa</i>	1	11%	1	3%	uninformative
<i>Embelia australiana</i>	1	11%	1	11%	uninformative
<i>Endiandra discolor</i>	1	22%	1	5%	uninformative
<i>Endiandra muelleri</i>	1	22%	1	9%	uninformative
<i>Eucalyptus grandis</i>	1	11%	3	18%	uninformative
<i>Euroschinus falcatus</i>	1	11%	1	4%	uninformative
<i>Eustrephus latifolius</i>	1	11%	1	30%	uninformative
<i>Geitonoplesium cymosum</i>	1	11%	1	23%	uninformative
<i>Guilfoylia monostylis</i>	1	11%	1	1%	uninformative
<i>Guioa semiglauc</i>	1	22%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	67%	1	18%	uninformative
<i>Helicia glabriflora</i>	1	11%	1	1%	uninformative
<i>Lastreopsis decomposita</i>	2	11%	2	6%	uninformative
<i>Lastreopsis microsora</i> subsp. <i>microsora</i>	2	11%	3	1%	uninformative
<i>Linospadix monostachya</i>	2	78%	1	12%	positive
<i>Litsea australis</i>	1	11%	1	5%	uninformative
<i>Litsea reticulata</i>	3	33%	2	7%	uninformative
<i>Lobelia andrewsii</i>	1	11%	1	0%	uninformative
<i>Lomandra longifolia</i>	1	11%	2	52%	negative
<i>Lomandra spicata</i>	1	44%	1	9%	uninformative
<i>Lophostemon confertus</i>	1	22%	2	32%	uninformative
<i>Melodinus australis</i>	1	22%	1	3%	uninformative
<i>Morinda jasminoides</i>	1	56%	1	36%	uninformative
<i>Neolitsea dealbata</i>	1	56%	1	15%	uninformative
<i>Notelaea longifolia</i>	1	11%	1	27%	uninformative
<i>Nothofagus moorei</i>	2	11%	3	1%	uninformative
<i>Orites excelsus</i>	2	44%	2	5%	uninformative
<i>Palmeria scandens</i>	1	11%	1	10%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	11%	1	12%	uninformative
<i>Parsonsia straminea</i>	1	33%	1	27%	uninformative
<i>Petermannia cirrosa</i>	1	67%	1	5%	uninformative
<i>Pilidiostigma glabrum</i>	1	22%	1	12%	uninformative
<i>Pittosporum multiflorum</i>	1	89%	1	11%	uninformative
<i>Pittosporum revolutum</i>	1	11%	1	13%	uninformative
<i>Pittosporum undulatum</i>	1	11%	1	10%	uninformative
<i>Planchonella australis</i>	1	22%	1	5%	uninformative
<i>Platynerium bifurcatum</i>	1	44%	1	15%	uninformative
<i>Plectorrhiza tridentata</i>	1	11%	1	2%	uninformative
<i>Polyosma cunninghamii</i>	1	22%	2	5%	uninformative
<i>Pothos longipes</i>	1	22%	2	5%	uninformative
<i>Pseuderanthemum variabile</i>	1	11%	2	27%	uninformative
<i>Psychotria loniceroides</i>	1	11%	1	14%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	11%	1	5%	uninformative
<i>Pyrrosia rupestris</i>	2	11%	2	3%	uninformative
<i>Quintinia sieberi</i>	1	22%	3	1%	uninformative
<i>Rhodamnia argentea</i>	1	11%	1	0%	uninformative
<i>Ripogonum discolor</i>	2	78%	2	9%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Ripogonum elseyanum</i>	2	33%	2	7%	uninformative
<i>Ripogonum fawcettianum</i>	2	78%	2	20%	positive
<i>Rubus moluccanus</i> var. <i>trilobus</i>	1	11%	1	4%	uninformative
<i>Sarcomelicope simplicifolia</i> subsp. <i>simplicifolia</i>	1	11%	1	0%	uninformative
<i>Sarcopteryx stipata</i>	2	66%	1	11%	uninformative
<i>Schizomeria ovata</i>	2	11%	1	12%	uninformative
<i>Scolopia braunii</i>	1	11%	1	6%	uninformative
<i>Sloanea woollsii</i>	1	11%	2	6%	uninformative
<i>Smilax australis</i>	1	33%	1	45%	uninformative
<i>Smilax glycyphylla</i>	1	22%	1	29%	uninformative
<i>Solanum inaequilaterum</i>	1	11%	1	1%	uninformative
<i>Stenocarpus salignus</i>	1	56%	1	3%	uninformative
<i>Stenocarpus sinuatus</i>	1	11%	1	1%	uninformative
<i>Streptothamnus moorei</i>	1	11%	1	0%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	56%	1	27%	uninformative
<i>Tasmania insipida</i>	1	78%	1	10%	uninformative
<i>Tetrastigma nitens</i>	1	11%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	1	33%	1	9%	uninformative
<i>Tristaniopsis collina</i>	4	22%	2	5%	uninformative
<i>Triunia youngiana</i>	2	78%	1	4%	positive
<i>Trochocarpa laurina</i>	1	33%	1	37%	uninformative
<i>Wilkiea huegeliana</i>	1	33%	1	28%	uninformative

PLATEAU AND ESCARPMENT HOOP PINE DRY RAINFOREST

CH_RF04

SCIENTIFIC NAME Hoop Pine (*Araucaria cunninghamii*) Dry Rainforest of steep slopes in the Little Nymboida River, Mt Coramba and Woolgoolga Creek areas

PLANT COMMUNITY TYPE Hoop Pine – Crows Ash – Silky Oak vine dry rainforest on well-drained fertile soils of the NSW North Coast and South Eastern Queensland Bioregions (NSW75-61)

STATEWIDE CLASS Rainforests – Dry Rainforest (Keith 2006)



Description

Hoop Pine (*Araucaria cunninghamii*) often occurs as an emergent species. The canopy is dominated by Crabapple (*Schizomeria ovata*), Brush Box (*Lophostemon confertus*), Water Gum (*Tristaniopsis laurina*), Grey Myrtle (*Backhousia myrtifolia*), Sassafras (*Doryphora sassafras*) and Hoop Pine (*Araucaria cunninghamii*). In the mid layer Sweet Pittosporum (*Pittosporum undulatum*), Macleay Laurel (*Anopterus macleayanus*), Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*), Python Tree (*Gossia bidwillii*), Silky Myrtle (*Decaspermum humile*) and Flintwood (*Scolopia braunii*) are the most common species. Gum Vine (*Aphanopetalum resinosum*) and Prickly Supplejack (*Ripogonum discolor*) are abundant climbers. Epiphytic herbs, ferns and orchids include Pink Rock Orchid (*Dendrobium kingianum*), Strap Fern (*Cestichis reflexa*) and Four-leaved Peperomia (*Peperomia tetraphylla*). The ground layer consists of Palm Lily (*Cordyline congesta*), Mat-rushes (*Lomandra spicata*, *Lomandra longifolia*), *Gahnia aspera* and Rasp Fern (*Doodia aspera*).

A dry rainforest community which primarily occurs in steep sided valleys on exposed slopes with very shallow soils derived from weathering of Carboniferous metasediments in the Bobo and Little Nymboida River region of the Local Government Area. There is an outlying occurrence near Woolgoolga that is placed in this mapping unit which requires further investigation.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	No data	No data	<i>Araucaria cunninghamii</i> , <i>Schizomeria ovata</i> , <i>Doryphora sassafras</i> , <i>Backhousia myrtifolia</i> , <i>Lophostemon confertus</i> , <i>Tristaniopsis laurina</i> .
Middle	No data	No data	<i>Pittosporum undulatum</i> , <i>Anopterus macleayanus</i> , <i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Gossia bidwillii</i> , <i>Aphanopetalum resinolum</i> , <i>Decaspermum humile</i> , <i>Scolopia braunii</i> , <i>Wilkiea huegeliana</i> , <i>Arthropteris tenella</i> , <i>Dictymia brownii</i> , <i>Ripogonum discolor</i> , <i>Dendrobium kingianum</i> , <i>Cestichis reflexa</i> .
Lower	No data	No data	<i>Cordyline stricta</i> , <i>Lomandra longifolia</i> , <i>Lomandra spicata</i> , <i>Doodia aspera</i> , <i>Peperomia tetraphylla</i> .

Data collated from 2 of 2 full floristic sites

Species richness

Number of plots	2
Total species	137
Average number of species	79 ±19.8

Conservation status

The vegetation community is reserved in Sherwood Nature Reserve (1ha)

Tenure	Area (ha)
Freehold	8
Nature Reserve	1
NSW State Forest	46
TOTAL	54

Endangered Ecological Community: *Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions* EEC

Threatened and Rare plants: *Niemeyera whitei*, *Sarcochilus hartmannii*

Relationship to other communities

Related to other rainforest types which share in common the presence of Hoop Pine, in particular CH_WSF15 (Steel Box Brown Myrtle Wet Sclerophyll Forest) and CH_RF03 (Plateau and Escarpment Coachwood Sassafras Warm Temperate Rainforest).

Equivalents

Biometric: Hoop Pine - Yellow Tulipwood dry rainforest of the North Coast (NR179)

Other: Sub-alliance 21 (Floyd 1990)

Locations

Known examples include the Junction of the Little Nymboida and Bobo Rivers, Sherwood Nature Reserve and Mt. Coramba.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acmena smithii</i>	3	100%	1	26%	positive
<i>Acronychia oblongifolia</i>	2	50%	1	4%	positive
<i>Adiantum hispidulum</i>	2	50%	1	8%	positive
<i>Akania bidwillii</i>	3	50%	1	2%	positive
<i>Alectryon subcinereus</i>	1	50%	1	2%	uninformative
<i>Alpinia caerulea</i>	2	50%	1	18%	positive
<i>Anopterus macleayanus</i>	3	100%	2	3%	positive
<i>Aphanopetalum resinosum</i>	4	50%	2	1%	positive
<i>Araucaria cunninghamii</i>	4	50%	1	6%	positive
<i>Archirhodomyrtus beckleri</i>	1	50%	2	23%	uninformative
<i>Archontophoenix cunninghamiana</i>	2	50%	1	32%	positive
<i>Arthropteris tenella</i>	4	100%	1	1%	positive
<i>Asplenium attenuatum</i> var. <i>attenuatum</i>	2	50%	1	0%	positive
<i>Asplenium australasicum</i>	1	50%	1	9%	uninformative
<i>Asplenium flabellifolium</i>	2	50%	0	0%	positive
<i>Asplenium polyodon</i>	2	50%	1	1%	positive
<i>Atractocarpus benthamianus</i>	2	50%	2	7%	positive
<i>Backhousia myrtifolia</i>	3	50%	1	2%	positive
<i>Baloghia inophylla</i>	4	50%	2	2%	positive
<i>Beilschmiedia elliptica</i>	2	50%	1	2%	positive
<i>Blechnum patersonii</i>	3	50%	2	2%	positive
<i>Brachychiton acerifolius</i>	2	50%	1	1%	positive
<i>Bulbophyllum exiguum</i>	3	50%	2	1%	positive
<i>Bulbophyllum shepherdii</i>	2	50%	0	0%	positive
<i>Calamus muelleri</i>	3	50%	2	14%	positive
<i>Caldcluvia paniculosa</i>	2	100%	2	12%	positive
<i>Callicoma serratifolia</i>	1	50%	2	17%	uninformative
<i>Capparis arborea</i>	3	50%	1	1%	positive
<i>Cayratia clematidea</i>	1	50%	1	7%	uninformative
<i>Celastrus subspicata</i>	2	50%	1	4%	positive
<i>Cephalomanes caudatum</i>	2	50%	2	1%	positive
<i>Ceratopetalum apetalum</i>	2	100%	3	10%	positive
<i>Cestichis reflexa</i>	3	50%	0	0%	positive
<i>Cinnamomum oliveri</i>	3	50%	1	6%	positive
<i>Cissus antarctica</i>	3	50%	1	19%	positive
<i>Cissus hypoglauca</i>	3	50%	1	38%	positive
<i>Citronella moorei</i>	1	50%	1	1%	uninformative
<i>Claoxylon australe</i>	3	50%	1	6%	positive
<i>Cordyline stricta</i>	4	100%	1	38%	positive
<i>Cryptocarya microneura</i>	1	50%	1	20%	uninformative
<i>Cryptocarya rigida</i>	3	50%	2	27%	positive
<i>Cuttsia viburnea</i>	2	100%	2	2%	positive
<i>Cyathea leichhardtiana</i>	2	50%	1	10%	positive
<i>Cyclophyllum longipetalum</i>	1	50%	1	5%	uninformative
<i>Cyperus filipes</i>	2	50%	1	3%	positive
<i>Davallia solida</i> var. <i>pyxidata</i>	2	50%	1	4%	positive
<i>Decaspermum humile</i>	4	50%	2	0%	positive
<i>Dendrobium gracilicaule</i>	1	50%	2	1%	uninformative
<i>Dendrobium kingianum</i>	4	50%	2	0%	positive
<i>Dendrobium speciosum</i>	1	50%	0	0%	positive
<i>Dendrobium tetragonum</i>	2	50%	1	1%	positive
<i>Dendrocnide excelsa</i>	1	50%	2	0%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Dendrocnide photinophylla</i>	3	50%	2	1%	positive
<i>Derris involuta</i>	1	50%	1	1%	uninformative
<i>Dianella caerulea</i>	2	100%	1	50%	positive
<i>Dictymia brownii</i>	3	50%	1	1%	positive
<i>Dioscorea transversa</i>	2	50%	1	28%	positive
<i>Diospyros australis</i>	2	100%	2	1%	positive
<i>Diospyros pentamera</i>	2	50%	2	6%	positive
<i>Diploglottis cunninghamii</i>	2	50%	1	4%	positive
<i>Doodia aspera</i>	3	50%	2	15%	positive
<i>Doryphora sassafras</i>	4	50%	2	7%	positive
<i>Drypetes deplanchei</i>	2	50%	1	4%	positive
<i>Dysoxylum fraserianum</i>	1	50%	2	1%	uninformative
<i>Dysoxylum rufum</i>	2	50%	1	2%	positive
<i>Ehretia acuminata</i> var. <i>acuminata</i>	1	50%	1	1%	uninformative
<i>Elaeocarpus obovatus</i>	2	50%	1	3%	positive
<i>Elattostachys nervosa</i>	3	50%	1	3%	positive
<i>Embelia australiana</i>	2	50%	1	11%	positive
<i>Endiandra crassiflora</i>	1	50%	1	2%	uninformative
<i>Endiandra muelleri</i>	1	50%	1	9%	uninformative
<i>Euroschinus falcatus</i>	1	50%	1	4%	uninformative
<i>Ficus coronata</i>	1	50%	1	13%	uninformative
<i>Ficus watkinsiana</i>	2	50%	1	4%	positive
<i>Flagellaria indica</i>	2	50%	1	4%	positive
<i>Gahnia aspera</i>	4	50%	1	14%	positive
<i>Geissois benthamiana</i>	3	50%	1	2%	positive
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	50%	1	13%	uninformative
<i>Gossia bidwillii</i>	3	50%	3	0%	positive
<i>Guioa semiglauca</i>	4	50%	1	28%	positive
<i>Gymnostachys anceps</i>	3	100%	1	19%	positive
<i>Helicia glabriflora</i>	2	50%	1	1%	positive
<i>Heritiera actinophylla</i>	3	50%	2	3%	positive
<i>Heritiera trifoliolata</i>	3	50%	3	2%	positive
<i>Hymenosporum flavum</i>	2	50%	1	2%	positive
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	50%	1	11%	uninformative
<i>Lastreopsis microsora</i> subsp. <i>microsora</i>	4	50%	2	1%	positive
<i>Linospadix monostachya</i>	3	100%	1	13%	positive
<i>Litsea reticulata</i>	2	100%	2	7%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Lophostemon confertus</i>	3	50%	2	31%	positive
<i>Myrsine variabilis</i>	3	50%	1	16%	positive
<i>Neolitsea australiensis</i>	3	50%	1	0%	positive
<i>Niemeyera whitei</i>	3	50%	1	5%	positive
<i>Notelaea longifolia</i>	2	50%	1	27%	positive
<i>Orites excelsus</i>	4	50%	2	6%	positive
<i>Palmeria scandens</i>	1	50%	1	9%	uninformative
<i>Pellaea falcata</i>	3	50%	1	1%	positive
<i>Peperomia tetraphylla</i>	3	50%	0	0%	positive
<i>Pittosporum multiflorum</i>	3	100%	1	12%	positive
<i>Pittosporum undulatum</i>	3	50%	1	10%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Planchonella australis</i>	2	50%	1	5%	positive
<i>Platycerium bifurcatum</i>	3	50%	1	16%	positive
<i>Plectorrhiza tridentata</i>	1	50%	1	2%	uninformative
<i>Polyosma cunninghamii</i>	1	50%	2	5%	uninformative
<i>Polyscias elegans</i>	2	50%	1	4%	positive
<i>Pothos longipes</i>	2	50%	2	5%	positive
<i>Pyrrosia rupestris</i>	2	50%	2	3%	positive
<i>Quintinia sieberi</i>	3	100%	1	1%	positive
<i>Quintinia verdonii</i>	3	100%	1	6%	positive
<i>Rhodamnia argentea</i>	1	50%	1	0%	uninformative
<i>Rhodamnia rubescens</i>	3	50%	1	16%	positive
<i>Rhysotoechia bifoliolata</i> subsp. <i>bifoliolata</i>	2	50%	0	0%	positive
<i>Ripogonum discolor</i>	3	100%	2	10%	positive
<i>Ripogonum fawcettianum</i>	2	100%	2	21%	positive
<i>Rubus moorei</i>	2	50%	1	3%	positive
<i>Rubus rosifolius</i>	2	50%	2	4%	positive
<i>Sarcochilus hartmannii</i>	2	50%	0	0%	positive
<i>Sarcomelicope simplicifolia</i> subsp. <i>simplicifolia</i>	1	50%	1	0%	uninformative
<i>Sarcopetalum harveyanum</i>	2	50%	1	9%	positive
<i>Sarcopteryx stipata</i>	4	100%	1	11%	positive
<i>Schizomeria ovata</i>	3	100%	1	12%	positive
<i>Scolopia braunii</i>	3	50%	1	6%	positive
<i>Sloanea australis</i>	1	50%	3	5%	uninformative
<i>Sloanea woollsii</i>	2	50%	1	6%	positive
<i>Smilax australis</i>	2	100%	1	44%	positive
<i>Stenocarpus salignus</i>	1	50%	1	4%	uninformative
<i>Stenocarpus sinuatus</i>	2	100%	1	1%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	4	100%	2	34%	positive
<i>Syzygium corynanthum</i>	2	50%	3	0%	positive
<i>Syzygium oleosum</i>	3	50%	1	6%	positive
<i>Tasmania insipida</i>	1	50%	1	12%	uninformative
<i>Tetrastigma nitens</i>	1	50%	1	3%	uninformative
<i>Tristaniopsis laurina</i>	3	50%	2	3%	positive
<i>Trochocarpa laurina</i>	2	50%	1	37%	positive
<i>Trophis scandens</i> subsp. <i>scandens</i>	1	50%	1	3%	uninformative
<i>Wilkiea huegeliana</i>	4	50%	1	28%	positive

FOOTHILLS BROWN MYRTLE DRY RAINFOREST

CH_RF05

SCIENTIFIC NAME Brown Myrtle (*Choricarpia leptopetala*) Dry Rainforest of creeklines and sheltered slopes of the Bagawa Range and Madman's Creek

PLANT COMMUNITY TYPE Brown Myrtle Dry Rainforest of the Coffs Harbour escarpment foothills, New South Wales Coast North Coast Bioregion (NSW999-732)

STATEWIDE CLASS Rainforests – Dry Rainforest (Keith 2006)



Description

This is a dry rainforest community with a dense layer of Brown Myrtle (*Choricarpia leptopetala*), emergent Hoop Pine (*Araucaria cunninghamiana*) and sometimes Steel Box (*Eucalyptus rummeryi*), Flooded Gum (*Eucalyptus grandis*), Spotted Gum (*Corymbia variegata*) and Small-fruited Grey Gum (*Eucalyptus propinqua*). Other common tree and shrub species recorded in this community include: Yellow Tulipwood (*Drypetes deplanchei*), Brush Box (*Lophostemon confertus*), Brush Bloodwood (*Baloghia inophylla*), Black Apple (*Planchonella australis*), Python Tree (*Gossia bidwilli*), Bangalow Palm (*Archontophoenix cunninghamiana*) and Black Plum (*Diospyros australis*). There is a lower layer of Palm Lily (*Cordyline stricta*, *Cordyline petiolaris*), Scrub Myrtle (*Rhodamnia rubescens*) and Orange Thorn (*Pittosporum multiflorum*). The climber Sweet Morninda (*Morinda jasminoides*) is also common. Epiphytic plants such as White Feather Orchid (*Dendrobium aemulum*), *Dendrobium gracicaule* and Rock Felt Fern (*Pyrossia rupestris*) may occur. There is a sparse ground layer of Rasp Fern (*Doodia aspera*), Sickle Fern (*Pellaea paradoxa*), Rough Maidenhair Fern (*Adiantum hispidulum*) and Rough Saw Sedge (*Gahnia aspera*). Along riparian areas and lower slopes in Madman's Creek, Floyd (1990) records areas of rainforest dominated by White Booyong (*Heritiera trifoliata*), Water Gum (*Syzygium francisii*) and Strangling Fig (*Ficus watkinsiana*).

This community occurs in sheltered mid to lower slopes and gullies in steep hilly terrain north-west of Coffs Harbour in the Madman's Creek area and also along the Bagawa Range on the lower Orara Escarpment. It occurs on moderately to well drained soils derived from conglomerates of the Bundamba group and metasediments of the Coffs Harbour Association.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Emergent	No data	No data	<i>Eucalyptus rummeryi</i> , <i>Eucalyptus grandis</i> , <i>Eucalyptus propinqua</i> , <i>Araucaria cunninghamiana</i> .
Tallest	No data	No data	<i>Choricarpia leptopetala</i> , <i>Drypetes deplanchei</i> , <i>Lophostemon confertus</i> , <i>Baloghia inophylla</i> , <i>Planchonella australis</i> , <i>Gossia bidwilli</i> , <i>Archontophoenix cunninghamiana</i> , <i>Diospyros australis</i> .
Middle	No data	No data	<i>Cordyline stricta</i> , <i>Cordyline petiolaris</i> , <i>Rhodamnia rubescens</i> , <i>Pittosporum multiflorum</i> , <i>Morinda jasminoides</i> , <i>Dendrobium aemulum</i> , <i>Dendrobium gracicaule</i> , <i>Pyrossia rupestris</i> .
Lower	No data	No data	<i>Doodia aspera</i> , <i>Pellaea paradoxa</i> , <i>Adiantum hispidulum</i> , <i>Gahnia aspera</i> .

Data collated from Floyds (1990) description of sub-alliance 21

Structural and floristic variations

Along creek lines Hoop Pine (*Araucaria cunninghamiana*), Bangalow Palm (*Archontophoenix cunninghamiana*), and Brush Box (*Lophostemon confertus*) are more abundant and form a riparian variant of this community. Brown Myrtle (*Choricarpia leptopetala*) is uncommon to absent along the creeklines and increases in abundance on the steeper stonier slopes.

Species richness

Number of plots	nil
Total species	no data
Average number of species	no data

Conservation status

This community is reserved in Madman's Creek Flora Reserve (12ha).

Tenure	Area (ha)
Freehold	33
NSW State Forest	293
NSW State Forest Flora Reserve	13
TOTAL	340

Endangered Ecological Community: Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions EEC

Threatened and Rare plants: *Eucalyptus rummeryi*

Relationship to other communities

Related to CH_WSF15 (Steel Box Brown Myrtle Wet Sclerophyll Forest) and transitions to this community upslope and with increasing density of some canopy species such as Steel Box (*Eucalyptus rummeryi*), Small-fruited Grey Gum (*Eucalyptus propinqua*) and Northern Grey Ironbark (*Eucalyptus siderophloia*).

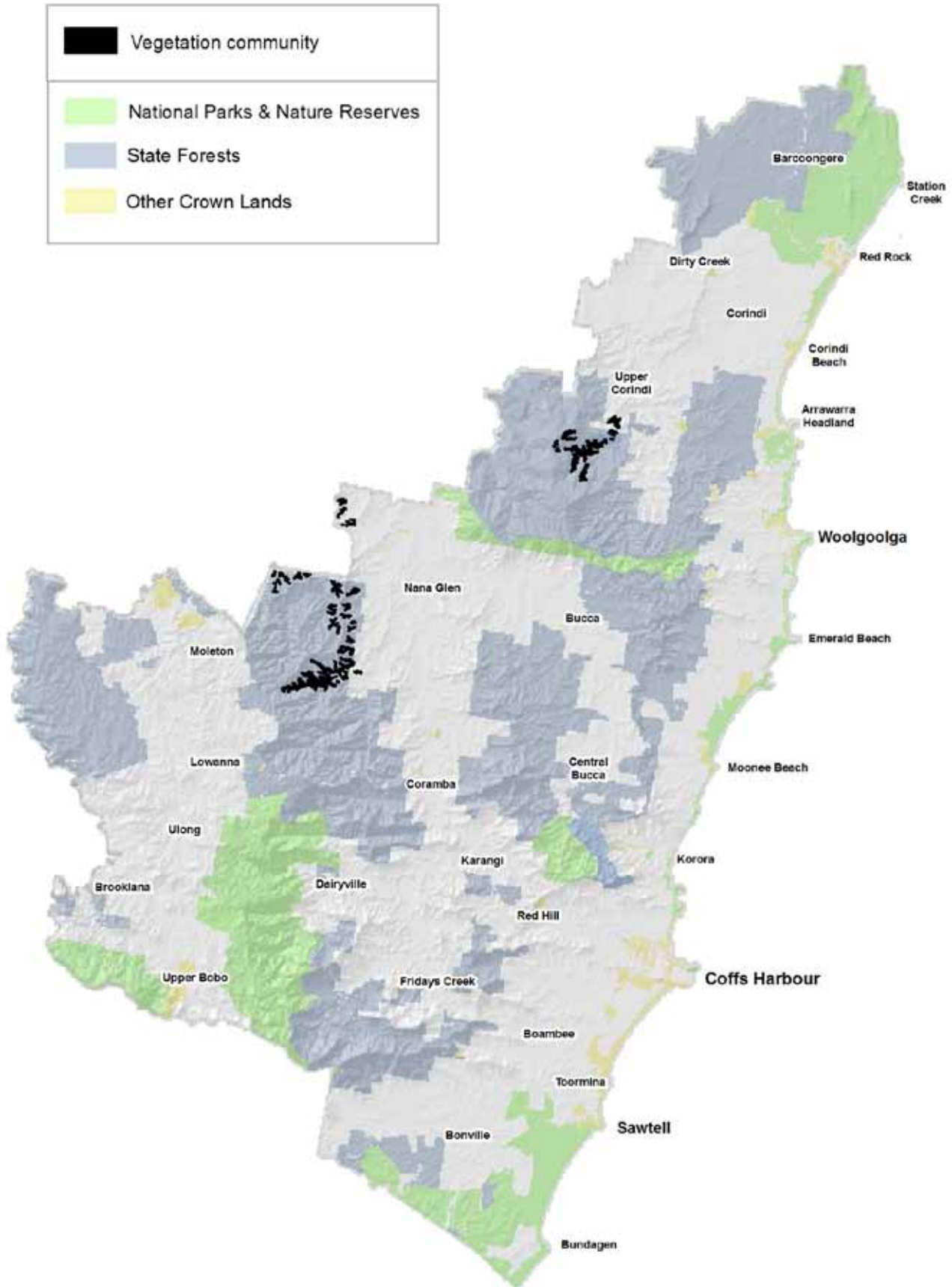
Equivalents

Biometric: Shatterwood - Giant Stinging Tree - Yellow Tulipwood dry rainforest of the North Coast (NR229)

Other: Sub-alliance 27 (Floyd, 1990). Sub-alliance 21 (Floyd, 1990)

Locations

Known examples include Madman’s Creek, Wedding Bells State Forest, Conglomerate State Forest, Tallawudjah Creek, Red, White and Blue Creek, Coldwater Creek, Bagawa State Forest and Bagawa Creek.



ESCARPMENT GREY MYRTLE - BRUSH BOX DRY RAINFOREST

CH_RF06

SCIENTIFIC NAME Escarpment Grey Myrtle (*Backhousia myrtifolia*) –
Brush Box (*Lophostemon confertus*) Dry Rainforest

PLANT COMMUNITY TYPE Brush Box – Grey Myrtle – Water Gum
dry rainforests of poorer soils of gorges and river valleys, NSW North
Coast Bioregion and South Eastern Queensland Bioregion (NSW75-23)

STATEWIDE CLASS Rainforests – Dry Rainforest (Keith 2006)



Description

A dry rainforest in which the canopy is dominated by Grey Myrtle (*Backhousia myrtifolia*) with emergent Brush Box (*Lophostemon confertus*). Mid stratum species are mostly Prickly Alyxia (*Alyxia ruscifolia*), Grey Myrtle (*Backhousia myrtifolia*), Water Gum (*Tristaniopsis laurina*), Tree Heath (*Trochocarpa laurina*) and Palm Lily (*Cordyline stricta*). Orchids and ferns are often common growing on rocks including *Cestichis* and *Dendrobium* spp. The succulent leaved vine (*Hoya australis*) is common. Ground layer species are Spiny-headed Mat-rush (*Lomandra longifolia*), rasp Fern (*Doodia aspera*) and Gristle Fern (*Blechnum cartilagineum*). The community generally grows below 200 metres altitude in sheltered locations on steep rocky slopes or rocky boulder strewn creek beds derived from metasediments of the Coramba Beds and conglomerates of the Bundamba Group. It is often associated with the *Suicide* soil landscape.

The community is located in protected drier narrow gullies and watercourses in the Nana Creek and coast range in Conglomerate State Forest.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Emergent	20-25		<i>Lophostemon confertus</i> .
Middle 1	2-10	65	<i>Backhousia myrtifolia</i> , <i>Tristaniopsis laurina</i> , <i>Trochocarpa laurina</i> , <i>Alyxia ruscifolia</i> , <i>Westringia amabilis</i> , <i>Choricarpia leptopetala</i> .
Middle 2	No data	No data	<i>Cordyline stricta</i> .
Lower	0-1		<i>Lomandra longifolia</i> , <i>Doodia aspera</i> , <i>Doodia caudata</i> , <i>Lepidosperma laterale</i> , <i>Hoya australis</i> , <i>Blechnum cartilagineum</i> .

Data collated from 1 rapid data point and information from Floyd (1990)

Species richness

Number of plots	no data
Total species	no data
Average number of species	no data

Conservation status

This community is reserved in Bindarri National Park (2 ha) and Sherwood Nature Reserve (3 ha).

Tenure	Area (ha)
Freehold	6
National Park	2
Nature Reserve	3
NSW State Forest	65
TOTAL	76

Endangered Ecological Community: *Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions EEC.*

Threatened and Rare plants: *Belvisia mucronata* subsp. *mucronata*

Relationship to other communities

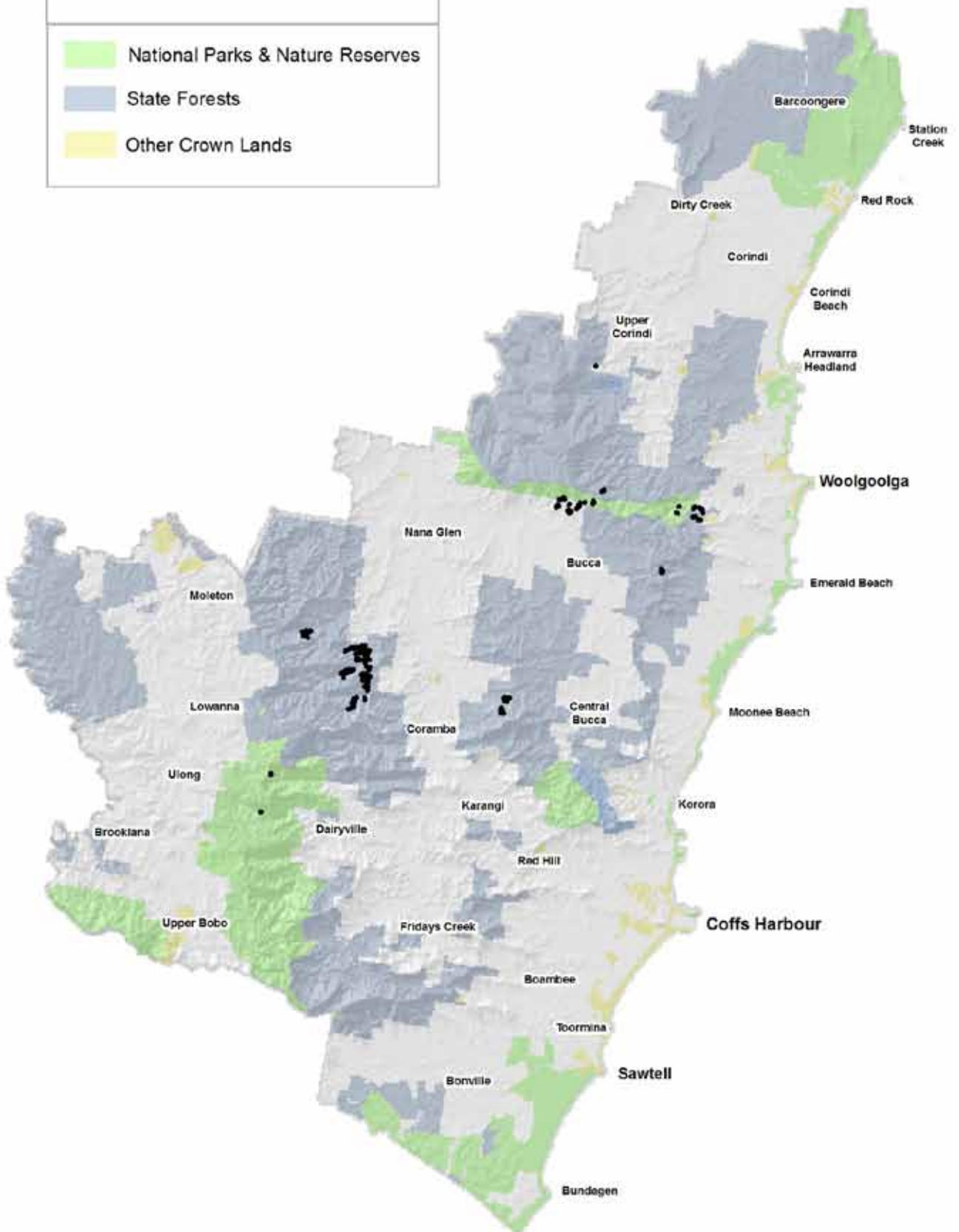
Often grading upslope to dry sclerophyll communities such as CH_WSF17 (Foothills Turpentine – Grey Gum - Ironbark Moist Shrubby Forest), CH_WSF11 (Foothills Spotted Gum - Mahogany - Grey Gum Wet Shrubby Forest), CH_DOF02 (Sandstone Bloodwood - Needlebark - Stringybark Heathy Forest) and CH_DOF01 (Coast and Escarpment Blackbutt Dry Forest). More fertile and moist rainforest gullies in the area will generally be CH_RF11 (Escarpment and Lowland Bangalow - Carabean Black Booyong Palm Gully Rainforest).

Equivalents

Biometric: Shatterwood - Giant Stinging Tree - Yellow Tulipwood dry rainforest of the North Coast (NR229)

Locations

Known examples include Nana Creek and Bagawa State Forest. It is also found in scattered localities on steep rocky slopes and gullies on the northern slopes at Mt Coramba, on the southern fall of the Coast Range in Conglomerate State Forest, Wedding Bells State Forest and Sherwood Nature Reserve.



COASTAL EXPOSED DUNE LITTORAL RAINFOREST

CH_RF07

SCIENTIFIC NAME Tuckeroo (*Cupaniopsis anacardioides*) – Corkwood (*Endiandra sieberi*) – Beach Bird's Eye (*Alectryon coriaceus*) Littoral Rainforest

PLANT COMMUNITY TYPE Tuckeroo – Bird's Eye Alectryon – Beach Acronychia Littoral Rainforests of the NSW North Coast and South Eastern Queensland Bioregions (NSW75-49)

STATEWIDE CLASS Rainforests – Littoral Rainforest (Keith 2006)



Description

Growing in exposed localities adjacent to the ocean on Holocene dunes and meta-sedimentary headlands from Dolman's Point north to Red Rock. This community sometimes occurs with emergent Pink Bloodwood (*Corymbia intermedia*) and Swamp Mahogany (*Eucalyptus robusta*), Broad-leaved Paperbark (*Melaleuca quinquenervia*) and Rusty Fig (*Ficus rubiginosa*). The tallest layer includes Tuckeroo (*Cupaniopsis anacardioides*), Beach Apple (*Acronychia imperforata*), Beach Bird's eye (*Alectryon coriaceus*) and Corkwood (*Endiandra sieberi*). The climbing plants Sweet Morinda (*Morinda jasminoides*) and Long-leaved Water Vine (*Cissus sterculiifolia*) are abundant in the lower and mid layers of the forest. A sparse to dense mid layer is present which consists of Beach Apple (*Acronychia imperforata*) Blue Lilly Pilly (*Syzygium oleosum*) and Guioa (*Guioa semiglauc*). The lower layer is sparse to dense and comprises Saw Sedge (*Gahnia clarkei*) Sickle Fern (*Pellaea nana*), *Lomandra spicata*, *Ottochloa gracillima* and Native Violet (*Viola banksii*).

Floristic summary

Layer	Height	Cover	Dominant Species
Emergent	12-15	5	<i>Melaleuca quinquenervia</i> , <i>Ficus rubiginosa</i> , <i>Corymbia intermedia</i> , <i>Eucalyptus robusta</i> .
Tallest	4-18	65-80	<i>Cupaniopsis anacardioides</i> , <i>Endiandra sieberi</i> , <i>Syzygium oleosum</i> , <i>Guioa semiglauca</i> , <i>Notelaea longifolia</i> , <i>Acronychia imperforata</i> , <i>Alectryon coriaceus</i> , <i>Drypetes deplanchei</i> .
Middle	0.5-6	10-70	<i>Syzygium oleosum</i> , <i>Trochocarpa laurina</i> , <i>Acronychia imperforata</i> .
Lower layer	0-1.5	10-70	<i>Gahnia clarkei</i> , <i>Pellaea nana</i> , <i>Morinda jasminoides</i> <i>Cordyline stricta</i> .

Data collated from 4 of 4 full floristic sites

Exotics *Asparagus aethiopicus*, *Chrysanthemoides monilifera* subsp. *rotundata*, *Citrus x taitensis*, *Lantana camara*, *Senna pendula*

Species richness

Number of plots	4
Total native species	91
Average number of species	38 ±5

Conservation status

This community is reserved in Bongil Bongil National Park (<1ha), Coffs Coast Regional Park (25ha), Moonee Beach Nature Reserve (18ha) and Yuraygir National Park (1ha).

Tenure	Area (ha)
Crown Land	43
Freehold	10
National Park	1
Nature Reserve	18
Regional Park	23
TOTAL	95

Endangered Ecological Community: *Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC

Relationship to other communities

Related to CH_RF13 (Coastal Sheltered Dune Littoral Rainforest). CH_RF07 occurs on more exposed sites with a dominance of Tuckeroo (*Cupaniopsis anacardioides*). Adjoins and intergrades with CH_H01 (Coast Banksia Shrubland on Holocene Dunes).

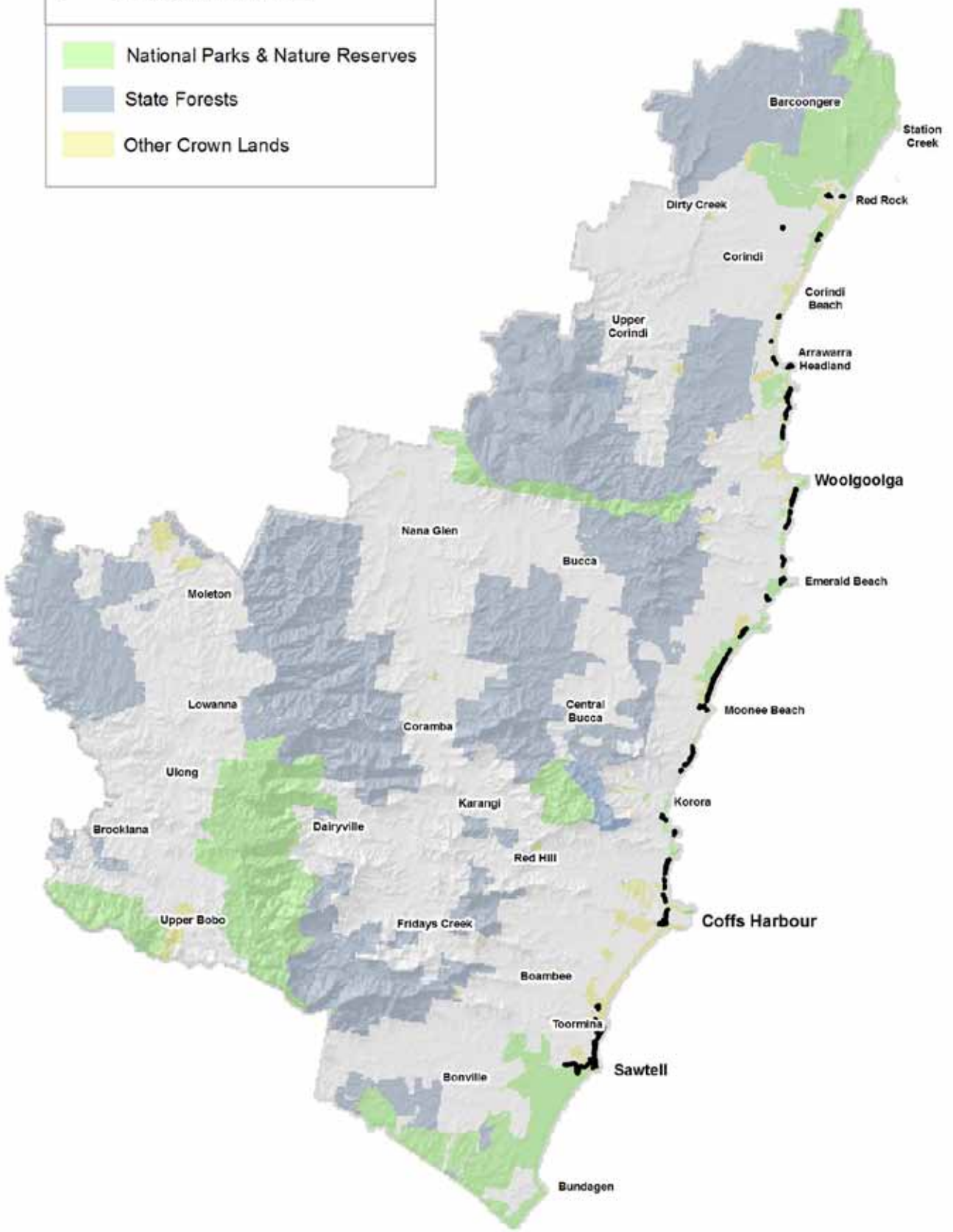
Equivalents

Biometric: Tuckeroo - Riberry - Yellow Tulipwood littoral rainforest of the North Coast (NR273)

Other: Tuckeroo Littoral Rainforest - LR17 (Fisher et al. 1996); Sub-alliance 17 (Floyd, 1990)

Locations

Known examples include Dolman's Point, Sawtell; Sawtell Beach, Boambee Creek, Beacon Hill, Jetty Beach, Park Beach, Diggers Head, Korora Beach, Campbell's Beach, Sapphire Beach, Moonee Beach Nature Reserve, Diggers Point, Sandy Beach, Woolgoolga Back Beach, South Mullaway Beach, Mullaway Beach, Arrawarra Headland, Safety Beach and Corindi Beach.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longissima</i>	1	25%	1	1%	uninformative
<i>Acmena smithii</i>	1	25%	1	26%	uninformative
<i>Acronychia imperforata</i>	1	50%	1	4%	uninformative
<i>Alectryon coriaceus</i>	2	75%	2	2%	positive
<i>Alectryon subcinereus</i>	1	25%	1	2%	uninformative
<i>Alpinia caerulea</i>	2	25%	1	18%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	75%	1	31%	uninformative
<i>Aryterea divaricata</i>	3	25%	1	1%	uninformative
<i>Asplenium australasicum</i>	1	25%	1	9%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	25%	1	8%	uninformative
<i>Breynia oblongifolia</i>	1	100%	1	29%	uninformative
<i>Calanthe triplicata</i>	1	75%	1	3%	uninformative
<i>Casuarina glauca</i>	1	25%	3	7%	uninformative
<i>Cayratia clematidea</i>	1	25%	1	8%	uninformative
<i>Cissus antarctica</i>	1	50%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	50%	1	38%	uninformative
<i>Cissus sterculiifolia</i>	2	50%	1	6%	positive
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	50%	1	9%	uninformative
<i>Commelina cyanea</i>	1	25%	1	5%	uninformative
<i>Cordyline stricta</i>	1	75%	1	38%	uninformative
<i>Corymbia intermedia</i>	2	25%	2	20%	uninformative
<i>Cryptocarya triplinervis</i>	1	75%	1	3%	uninformative
<i>Cupaniopsis anacardioides</i>	3	75%	1	10%	positive
<i>Cyclophyllum longipetalum</i>	3	50%	1	5%	positive
<i>Cyperus gracilis</i>	1	75%	2	0%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	2	25%	1	4%	uninformative
<i>Dianella caerulea</i>	1	25%	1	51%	uninformative
<i>Dioscorea transversa</i>	1	25%	1	28%	uninformative
<i>Diospyros pentamera</i>	2	25%	2	6%	uninformative
<i>Drypetes deplanchei</i>	3	50%	1	4%	positive
<i>Elaeocarpus obovatus</i>	3	25%	1	3%	uninformative
<i>Elaeodendron australe</i> var. <i>australe</i>	2	25%	1	3%	uninformative
<i>Endiandra discolor</i>	2	25%	1	5%	uninformative
<i>Endiandra sieberi</i>	3	75%	1	9%	positive
<i>Eucalyptus robusta</i>	2	25%	2	7%	uninformative
<i>Eupomatia laurina</i>	2	25%	1	14%	uninformative
<i>Eustrephus latifolius</i>	1	75%	1	29%	uninformative
<i>Ficus rubiginosa</i>	1	25%	0	0%	positive
<i>Flagellaria indica</i>	2	25%	1	4%	uninformative
<i>Gahnia aspera</i>	1	25%	1	14%	uninformative
<i>Gahnia clarkei</i>	3	75%	2	13%	positive
<i>Geitonoplesium cymosum</i>	2	25%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	25%	1	13%	uninformative
<i>Glycine clandestina</i>	1	25%	1	12%	uninformative
<i>Grammitis billardierei</i>	1	25%	1	0%	uninformative
<i>Guioa semiglauca</i>	2	75%	1	28%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Hibbertia scandens</i>	1	25%	1	32%	uninformative
<i>Hymenosporum flavum</i>	1	25%	1	2%	uninformative
<i>Imperata cylindrica</i>	1	25%	2	32%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	2	50%	1	11%	positive
<i>Leucopogon lanceolatus</i>	1	25%	1	19%	uninformative
<i>Leucopogon margarodes</i>	1	25%	1	3%	uninformative
<i>Lomandra longifolia</i>	3	25%	2	52%	negative
<i>Lomandra spicata</i>	3	25%	1	9%	uninformative
<i>Lophostemon suaveolens</i>	2	25%	2	9%	uninformative
<i>Maclura cochinchinensis</i>	1	25%	1	7%	uninformative
<i>Marsdenia rostrata</i>	2	50%	1	8%	positive
<i>Melaleuca quinquenervia</i>	2	75%	2	12%	positive
<i>Mischocarpus pyriformis</i>	1	25%	2	4%	uninformative
<i>Morinda jasminoides</i>	3	50%	1	36%	positive
<i>Myrsine variabilis</i>	1	75%	1	16%	uninformative
<i>Notelaea longifolia</i>	2	100%	1	26%	positive
<i>Ophioglossum pendulum</i>	2	25%	1	1%	uninformative
<i>Oplismenus aemulus</i>	2	25%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	2	50%	2	22%	positive
<i>Ottochloa gracillima</i>	1	25%	2	10%	uninformative
<i>Pellaea nana</i>	2	25%	0	0%	positive
<i>Pittosporum revolutum</i>	1	25%	1	13%	uninformative
<i>Pittosporum undulatum</i>	2	25%	1	10%	uninformative
<i>Platynerium bifurcatum</i>	2	75%	1	15%	positive
<i>Pratia purpurascens</i>	1	25%	1	23%	uninformative
<i>Psilotum nudum</i>	1	25%	1	2%	uninformative
<i>Psychotria loniceroides</i>	2	100%	1	13%	positive
<i>Pteridium esculentum</i>	1	25%	2	32%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	25%	1	5%	uninformative
<i>Pyrrosia rupestris</i>	1	25%	2	3%	uninformative
<i>Ripogonum album</i>	3	25%	2	6%	uninformative
<i>Sarcopetalum harveyanum</i>	2	25%	1	9%	uninformative
<i>Schizomeria ovata</i>	1	25%	1	12%	uninformative
<i>Scolopia braunii</i>	1	50%	1	6%	uninformative
<i>Smilax australis</i>	2	100%	1	44%	positive
<i>Smilax glycyphylla</i>	1	50%	1	28%	uninformative
<i>Syzygium australe</i>	1	50%	1	6%	uninformative
<i>Syzygium luehmannii</i>	1	50%	2	4%	uninformative
<i>Syzygium oleosum</i>	2	75%	1	6%	positive
<i>Triunia youngiana</i>	1	25%	1	5%	uninformative
<i>Trochocarpa laurina</i>	2	75%	1	37%	positive
<i>Vernonia cinerea</i>	1	25%	1	11%	uninformative
<i>Viola banksii</i>	1	75%	1	15%	uninformative
<i>Wikstroemia indica</i>	1	25%	1	1%	uninformative
<i>Wilkiea huegeliana</i>	1	25%	1	28%	uninformative

HEADLAND BRUSH BOX LITTORAL RAINFOREST

CH_RF08

SCIENTIFIC NAME Headland Brush Box (*Lophostemon confertus*)
Littoral Rainforest

PLANT COMMUNITY TYPE Brush Box headland littoral rainforest,
NSW North Coast Bioregion and the South Eastern Queensland Bioregion
(NSW700-411)

STATEWIDE CLASS Rainforests – Littoral Rainforest (Keith 2006)



Description

A Brushbox (*Lophostemon confertus*) dominant closed forest growing on meta-sedimentary headlands and/or intermediate sheltered aspects on sediments and foot slopes of coastal barrier sands. Emergent Pink Bloodwood (*Corymbia intermedia*) is sometimes present. There is a mid layer of Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*), Cheese Tree (*Glochidion ferdinandi* var. *ferdinandi*), Tuckeroo (*Cupaniopsis anacardioides*), Guioa (*Guioa semiglauca*) and Red Bean (*Dysoxylum mollissimum* subsp. *molle*). A sparse lower layer of Palm Lily (*Cordyline stricta*), Native Ginger (*Alpinia caerulea*) and Hairy Psychotria (*Psychotria loniceroides*) occurs. There is a ground layer of Rasp Fern (*Doodia aspera*), Pastel Flower (*Pseuderanthemum variabile*) and Basket Grass (*Oplismenus aemulus*).

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	2-25	55-75	<i>Lophostemon confertus</i> , <i>Dysoxylum mollissimum</i> subsp. <i>molle</i> .
Middle	2-8	40-70	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> , <i>Cupaniopsis anacardioides</i> , <i>Guioa semiglauca</i> .
Lower 1	1-3	10-30	<i>Cordyline stricta</i> , <i>Alpinia caerulea</i> , <i>Psychotria loniceroides</i> .
Lower 2	0-1	5-25	<i>Doodia aspera</i> , <i>Pseuderanthemum variabile</i> , <i>Oplismenus aemulus</i> .

* Data collected from 4 of 6 full floristic sites

Exotics *Ageratina adenophora*, *Asparagus aethiopicus*, *Bidens pilosa*, *Chrysanthemoides monilifera* subsp. *rotundata*, *Cinnamomum camphora*, *Gloriosa superba*, *Gomphocarpus fruticosus*, *Lantana camara*, *Ochna serrulata*, *Passiflora suberosa*, *Senna pendula*, *Senna septemtrionalis*, *Solanum mauritanium*

Species richness

Number of plots	6
Total species	143
Average number of species	51 ±18.6

Conservation status

This community is reserved in Bongil Bongil National Park (6ha) and Coffs Coast Regional Park (10ha).

Tenure	Area (ha)
Crown Land	12
Freehold	15
National Park	6
Regional Park	10
TOTAL	42

Endangered Ecological Community: *Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions EEC*

Threatened and Rare plants: *Acianthella amplexicaulis*

Relationship to other communities

This community is related to both CH_WSF14 (Forest Red Gum on Headlands) and CH_RF07 (Coastal Exposed Dune Littoral Rainforest). The clear dominance of Brush Box (*Lophostemon confertus*) in the canopy is a distinctive feature of this community.

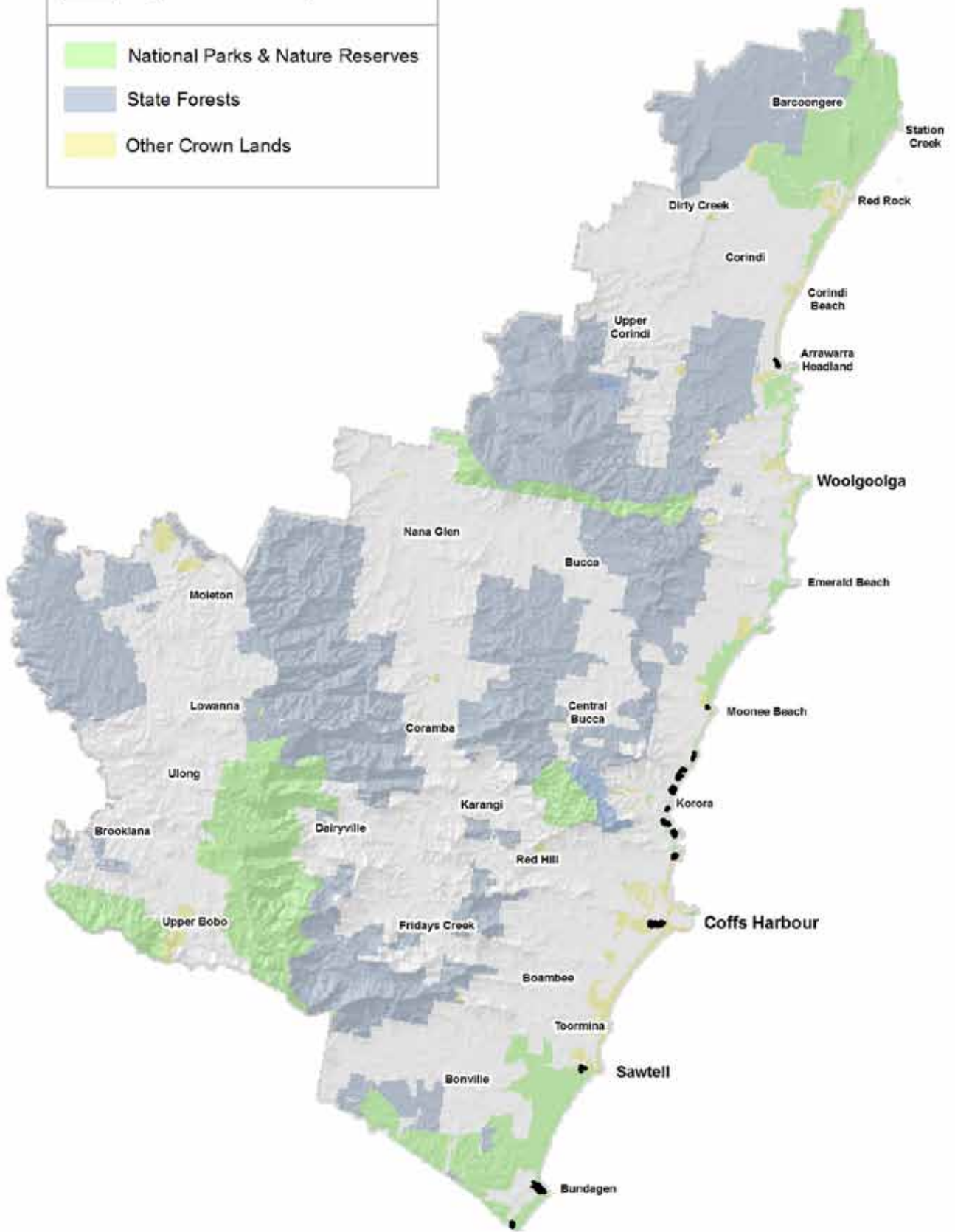
Equivalents

Biometric: Brush Box - Tuckeroo littoral rainforest on coastal headlands of the North Coast (NR 142)

Other: Sub-alliance 18 (Floyd, 1990)

Locations

Known examples include Dolmam's Point, Sawtell Headland, Beacon Hill, Korora, Sapphire Headland and Green Bluff.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	2	17%	1	6%	uninformative
<i>Acacia longissima</i>	2	17%	1	1%	uninformative
<i>Acacia maidenii</i>	1	17%	1	14%	uninformative
<i>Acacia melanoxylon</i>	2	17%	2	19%	uninformative
<i>Acmena smithii</i>	1	33%	1	26%	uninformative
<i>Acronychia imperforata</i>	2	33%	1	4%	uninformative
<i>Acronychia oblongifolia</i>	2	17%	1	4%	uninformative
<i>Adiantum formosum</i>	1	17%	2	2%	uninformative
<i>Alectryon coriaceus</i>	2	17%	2	3%	uninformative
<i>Alocasia brisbanensis</i>	1	33%	1	2%	uninformative
<i>Alpinia caerulea</i>	2	83%	1	17%	positive
<i>Archontophoenix cunninghamiana</i>	1	33%	1	32%	uninformative
<i>Arytera divaricata</i>	2	33%	1	1%	uninformative
<i>Asplenium australasicum</i>	1	33%	1	9%	uninformative
<i>Austrosteenisia blackii</i> var. <i>blackii</i>	1	67%	1	1%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	2	50%	1	7%	positive
<i>Blechnum cartilagineum</i>	2	50%	2	38%	positive
<i>Blechnum indicum</i>	1	17%	1	2%	uninformative
<i>Breynia oblongifolia</i>	1	50%	1	29%	uninformative
<i>Brunoniella australis</i>	1	17%	1	3%	uninformative
<i>Calamus muelleri</i>	1	67%	2	13%	uninformative
<i>Calanthe triplicata</i>	1	17%	1	3%	uninformative
<i>Callicarpa pedunculata</i>	1	17%	0	0%	positive
<i>Callistemon salignus</i>	1	17%	3	13%	uninformative
<i>Calochlaena dubia</i>	2	33%	2	27%	uninformative
<i>Casuarina glauca</i>	3	33%	3	7%	uninformative
<i>Cayratia clematidea</i>	1	33%	1	7%	uninformative
<i>Celastrus subspicata</i>	1	17%	1	4%	uninformative
<i>Cephalalaria cephalobotrys</i>	2	33%	1	5%	uninformative
<i>Cissus antarctica</i>	2	67%	1	18%	positive
<i>Cissus hypoglauca</i>	1	50%	1	38%	uninformative
<i>Cissus sterculiifolia</i>	3	33%	1	6%	uninformative
<i>Claoxylon australe</i>	3	33%	1	6%	uninformative
<i>Clematis aristata</i>	1	17%	1	11%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	67%	1	9%	uninformative
<i>Commelina cyanea</i>	2	17%	1	5%	uninformative
<i>Cordyline petiolaris</i>	1	17%	1	4%	uninformative
<i>Cordyline stricta</i>	2	83%	1	38%	positive
<i>Corymbia intermedia</i>	1	50%	2	20%	uninformative
<i>Crinum pedunculatum</i>	1	33%	1	4%	uninformative
<i>Cryptocarya microneura</i>	1	17%	1	20%	uninformative
<i>Cryptocarya rigida</i>	1	17%	2	27%	uninformative
<i>Cryptocarya triplinervis</i>	2	50%	1	3%	positive
<i>Cupaniopsis anacardioides</i>	2	83%	1	10%	positive
<i>Cuttsia viburnea</i>	1	17%	2	2%	uninformative
<i>Cyathea australis</i>	2	17%	1	13%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Cyathea cooperi</i>	1	17%	0	0%	positive
<i>Cyclophyllum longipetalum</i>	1	17%	1	5%	uninformative
<i>Cymbidium madidum</i>	1	33%	1	4%	uninformative
<i>Dendrobium aemulum</i>	2	17%	2	1%	uninformative
<i>Desmodium varians</i>	1	17%	1	6%	uninformative
<i>Dianella caerulea</i>	1	67%	1	50%	uninformative
<i>Dioscorea transversa</i>	1	67%	1	27%	uninformative
<i>Diospyros australis</i>	2	17%	2	1%	uninformative
<i>Diospyros pentamera</i>	1	17%	2	6%	uninformative
<i>Doodia aspera</i>	2	50%	2	15%	positive
<i>Doodia caudata</i>	3	17%	1	1%	uninformative
<i>Dysoxylum mollissimum</i> subsp. <i>molle</i>	1	50%	3	2%	uninformative
<i>Elaeocarpus obovatus</i>	1	50%	1	3%	uninformative
<i>Elaeodendron australe</i> var. <i>australe</i>	2	50%	1	3%	positive
<i>Embelia australiana</i>	1	33%	1	11%	uninformative
<i>Endiandra discolor</i>	1	17%	1	5%	uninformative
<i>Endiandra sieberi</i>	3	17%	1	10%	uninformative
<i>Entolasia marginata</i>	1	33%	1	9%	uninformative
<i>Eucalyptus microcorys</i>	2	17%	3	35%	uninformative
<i>Eucalyptus robusta</i>	1	17%	2	7%	uninformative
<i>Eupomatia laurina</i>	1	50%	1	14%	uninformative
<i>Eustrephus latifolius</i>	1	83%	1	29%	uninformative
<i>Ficus coronata</i>	1	67%	1	12%	uninformative
<i>Ficus obliqua</i> var. <i>obliqua</i>	1	33%	1	0%	uninformative
<i>Ficus watkinsiana</i>	1	33%	2	4%	uninformative
<i>Flagellaria indica</i>	1	50%	1	3%	uninformative
<i>Gahnia aspera</i>	1	67%	1	13%	uninformative
<i>Gahnia clarkei</i>	1	17%	2	14%	uninformative
<i>Geitonoplesium cymosum</i>	1	67%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	3	33%	1	13%	uninformative
<i>Guioa semiglauca</i>	3	100%	1	27%	positive
<i>Gymnostachys anceps</i>	2	33%	1	19%	uninformative
<i>Harpullia hillii</i>	2	33%	0	0%	positive
<i>Helicia glabriflora</i>	1	17%	1	1%	uninformative
<i>Hibbertia scandens</i>	1	33%	1	32%	uninformative
<i>Homalanthus populifolius</i>	1	17%	1	3%	uninformative
<i>Imperata cylindrica</i>	1	17%	2	32%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	17%	1	11%	uninformative
<i>Litsea australis</i>	1	17%	1	5%	uninformative
<i>Livistona australis</i>	1	17%	1	3%	uninformative
<i>Lobelia trigonocaulis</i>	1	33%	1	6%	uninformative
<i>Lomandra longifolia</i>	2	33%	2	52%	negative
<i>Lomandra spicata</i>	1	33%	1	9%	uninformative
<i>Lophostemon confertus</i>	4	100%	2	30%	positive
<i>Maclura cochinchinensis</i>	1	83%	1	6%	uninformative
<i>Mallotus discolor</i>	1	17%	1	0%	uninformative
<i>Marsdenia rostrata</i>	1	33%	1	8%	uninformative
<i>Melaleuca quinquenervia</i>	2	17%	2	12%	uninformative
<i>Mischocarpus pyriformis</i>	2	17%	2	4%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Morinda jasminoides</i>	2	83%	1	36%	positive
<i>Mucuna gigantea</i> subsp. <i>gigantea</i>	1	17%	1	0%	uninformative
<i>Myrsine howittiana</i>	1	17%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	50%	1	16%	uninformative
<i>Neolitsea dealbata</i>	1	17%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	83%	1	26%	uninformative
<i>Oplismenus aemulus</i>	1	33%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	1	67%	2	21%	uninformative
<i>Pararchidendron pruinatum</i> var. <i>pruinatum</i>	1	17%	1	1%	uninformative
<i>Parsonsia straminea</i>	1	17%	1	28%	uninformative
<i>Passiflora herbertiana</i> subsp. <i>herbertiana</i>	1	17%	1	1%	uninformative
<i>Pellaea falcata</i>	1	17%	3	1%	uninformative
<i>Pittosporum multiflorum</i>	2	33%	1	12%	uninformative
<i>Pittosporum revolutum</i>	2	67%	1	12%	positive
<i>Pittosporum undulatum</i>	1	17%	1	10%	uninformative
<i>Planchonella australis</i>	1	17%	1	5%	uninformative
<i>Platyterium bifurcatum</i>	2	33%	1	16%	uninformative
<i>Platyterium superbum</i>	1	17%	1	5%	uninformative
<i>Polyscias sambucifolia</i>	2	17%	1	16%	uninformative
<i>Pratia purpurascens</i>	1	17%	1	23%	uninformative
<i>Pseuderanthemum variabile</i>	1	33%	2	27%	uninformative
<i>Psilotum nudum</i>	1	17%	1	2%	uninformative
<i>Psychotria loniceroides</i>	3	67%	1	13%	positive
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	17%	1	5%	uninformative
<i>Rhodamnia rubescens</i>	1	33%	1	16%	uninformative
<i>Rhodomyrtus psidioides</i>	3	17%	1	4%	uninformative
<i>Ripogonum album</i>	3	17%	2	6%	uninformative
<i>Ripogonum discolor</i>	1	17%	2	11%	uninformative
<i>Rubus moluccanus</i> var. <i>trilobus</i>	1	17%	1	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	17%	1	9%	uninformative
<i>Scolopia braunii</i>	1	50%	1	5%	uninformative
<i>Smilax australis</i>	2	100%	1	44%	positive
<i>Smilax glycyphylla</i>	1	33%	1	29%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	83%	1	21%	uninformative
<i>Sticherus lobatus</i>	1	17%	1	1%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	3	83%	2	34%	positive
<i>Syzygium australe</i>	1	67%	1	5%	uninformative
<i>Syzygium francisii</i>	1	17%	2	0%	uninformative
<i>Syzygium luehmannii</i>	2	33%	1	4%	uninformative
<i>Syzygium oleosum</i>	1	33%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	50%	1	27%	uninformative
<i>Tetrastigma nitens</i>	3	17%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	1	50%	1	9%	uninformative
<i>Trochocarpa laurina</i>	2	33%	1	37%	uninformative
<i>Trophis scandens</i> subsp. <i>scandens</i>	1	17%	1	3%	uninformative
<i>Viola banksii</i>	1	33%	1	16%	uninformative
<i>Wilkiea austroqueenslandica</i>	3	33%	1	0%	uninformative
<i>Wilkiea huegeliana</i>	1	50%	1	28%	uninformative

HINTERLAND WHITE BOOYONG FLOODPLAIN RAINFOREST

CH_RF09

SCIENTIFIC NAME White Booyong (*Heritiera trifoliolata*) – Maidens Blush (*Sloanea australis*) Subtropical Rainforest on floodplains

PLANT COMMUNITY TYPE Maiden's Blush – White Booyong – Yellow Pear Fruit subtropical rainforest with Bangalow Palm understorey of the Coffs Coast, NSW North Coast Bioregion (NSW700-445)

STATEWIDE CLASS Rainforests – Subtropical Rainforest (Keith 2006)



Description

A subtropical rainforest community that is found in alluvial sediments along the floodplain of coastal creeks. The remaining remnants of this community are important examples of floodplain rainforest, much of which has been lost to clearing. The main canopy species include Maiden's Blush (*Sloanea australis*), White Booyong (*Heritiera trifoliolata*), Bangalow Palm (*Archontophoenix cunninghamiana*) and Pear-fruited Tamarind (*Mischocarpus pyriformis* subsp. *pyriformis*). Co-occurring species are Bolly Gum (*Litsea reticulata*), Oliver's Sassafras (*Cinnamomum oliveri*), Jackwood (*Cryptocarya glaucescens*), Native Tamarind (*Diploglottis cunninghamii*) and a very occasional Flooded Gum (*Eucalyptus grandis*). A diversity of other trees not recorded in floristic sampling include White Beech (*Gmelina leichhardtii*), Yellow Carabeen (*Sloanea woollsii*), Ringwood (*Anetholea anisata*), Blue Quandong (*Elaeocarpus grandis*) and Turnipwood (*Akania bidwillii*). Smaller trees include White Bolly Gum (*Neolitsea dealbata*), Creek Sandpaper Fig (*Ficus coronata*) and Native Gardenia (*Atractocarpus benthamianus*). Pothos (*Pothos longipes*) and (*Microsorium scandens*) can occur climbing on the smooth buttressed trunks of rainforest trees. Shrubs include Walking Stick Palm (*Linospadix monostachya*), Brush Pepperbush (*Tasmannia insipida*) and Hairy Pittosporum (*Pittosporum revolutum*). Vines include Pepper Vine (*Piper hederaceum* var. *hederaceum*), White Supple-jack (*Ripogonum album*), *Embelia australiana* and Burny Vine (*Trophis scandens*). The ground-layer includes Maidenhair Fern (*Adiantum silvaticum*), Strap Water Fern (*Blechnum patersonii*), Spiky Mat Rush (*Lomandra hystrix*) and Native Ginger (*Alpinia caerulea*).

Restricted occurrences within the LGA on alluvial flats.

Floristic summary

Layer	Height (m)	Cover	Dominant Species
Tallest	15 - 40	60 - 70	<i>Sloanea australis</i> , <i>Heritiera trifoliolata</i> , <i>Mischocarpus pyriformis</i> subsp. <i>pyriformis</i> , <i>Litsea reticulata</i> , <i>Cryptocarya glaucescens</i> , <i>Diploglottis cunninghamii</i> .
Middle	5 - 20	25 - 35	<i>Neolitsea dealbata</i> , <i>Jagera pseudorhus</i> var. <i>pseudorhus</i> <i>Ficus coronata</i> , <i>Atractocarpus benthamianus</i> , <i>Pothos longipes</i> , <i>Microsorium scandens</i> .
Lower layer 2	1.5 - 4	15 - 45	<i>Linospadix monostachya</i> , <i>Tasmania insipida</i> , <i>Pittosporum revolutum</i> , <i>Piper hederaceum</i> var. <i>hederaceum</i> , <i>Ripogonum album</i> , <i>Trophis scandens</i> .
Lower layer 1	0 - 1	15 - 20	<i>Adiantum silvaticum</i> , <i>Blechnum patersonii</i> , <i>Lomandra hystrix</i> , <i>Alpinia caerulea</i> .

* Data collated from 3 of 3 full floristic sites

Species richness

Number of plots	3
Total species	73
Average number of species	34 ±5.5

Conservation status

This community is reserved in Bongil Bongil National Park (10ha), Coramba Nature Reserve (9ha) and Sherwood Nature Reserve (5a)

Tenure	Area (ha)
Crown Land	1
Freehold	12
National Park	10
Nature Reserve	16
NSW State Forest	4
TOTAL	44

Endangered Ecological Community: *Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion* EEC

Threatened and Rare plants: *Bosistoa floydii*, *Anetholea anisata*

Relationship to other communities

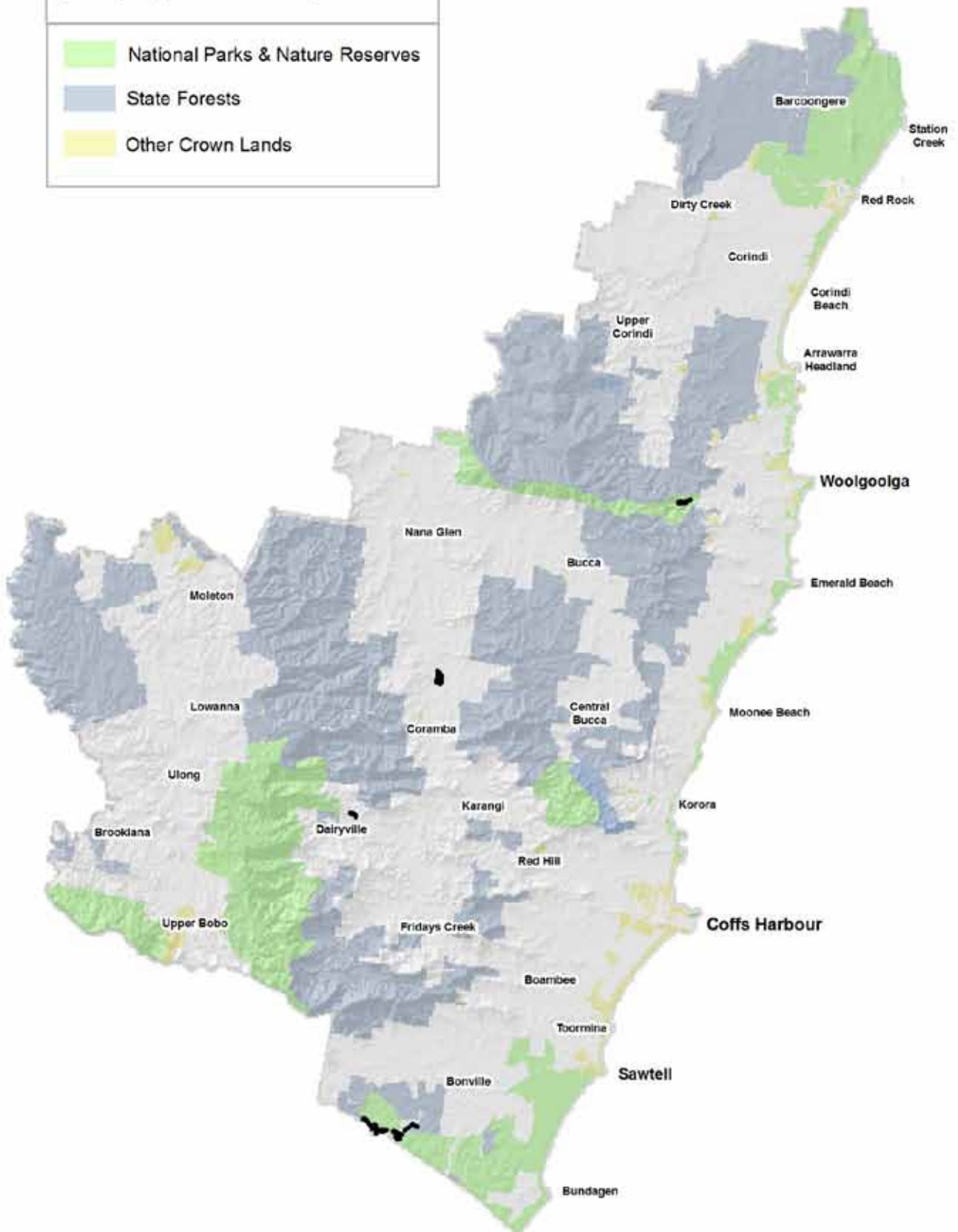
Related to CH_RF11 (Escarpment and Lowland Bangalow – Carabeen – Black Booyong Palm Gully Rainforest) however CH_RF09 is highly restricted and occurs only on the alluvial floodplains along riparian corridors.

Equivalents

Biometric: White Booyong - Fig subtropical rainforest of the North Coast (NR208)

Locations

Known examples include along Pine Creek in Bongil Bongil National Park, Orara River in Coramba Nature Reserve and Woolgoolga Creek in Sherwood Nature Reserve.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acmena smithii</i>	1	33%	1	26%	uninformative
<i>Adiantum formosum</i>	4	33%	1	2%	uninformative
<i>Alphitonia excelsa</i>	3	33%	1	14%	uninformative
<i>Archontophoenix cunninghamiana</i>	3	67%	1	32%	positive
<i>Asplenium australasicum</i>	1	33%	1	9%	uninformative
<i>Beilschmiedia elliptica</i>	1	33%	2	2%	uninformative
<i>Blechnum patersonii</i>	1	33%	3	2%	uninformative
<i>Bosistoa floydii</i>	1	33%	3	0%	uninformative
<i>Calamus muelleri</i>	4	67%	2	14%	positive
<i>Cephalalaria cephalobotrys</i>	2	67%	1	5%	positive
<i>Cinnamomum oliveri</i>	1	33%	1	6%	uninformative
<i>Cissus antarctica</i>	2	67%	1	19%	positive
<i>Cissus sterculiifolia</i>	1	33%	1	6%	uninformative
<i>Cordyline stricta</i>	1	67%	1	38%	uninformative
<i>Croton verreauxii</i>	1	100%	1	3%	uninformative
<i>Cryptocarya microneura</i>	1	67%	1	20%	uninformative
<i>Cryptocarya obovata</i>	3	33%	1	3%	uninformative
<i>Daphnandra apatela</i>	1	33%	3	0%	uninformative
<i>Dendrocnide excelsa</i>	1	33%	2	0%	uninformative
<i>Diploglottis cunninghamii</i>	3	33%	1	4%	uninformative
<i>Doodia caudata</i>	1	33%	2	1%	uninformative
<i>Doryphora sassafras</i>	3	67%	2	7%	positive
<i>Drypetes deplanchei</i>	1	33%	1	4%	uninformative
<i>Ehretia acuminata</i> var. <i>acuminata</i>	3	33%	1	1%	uninformative
<i>Elattostachys nervosa</i>	1	33%	1	3%	uninformative
<i>Embelia australiana</i>	2	67%	1	11%	positive
<i>Ficus coronata</i>	1	33%	1	13%	uninformative
<i>Ficus watkinsiana</i>	2	33%	1	4%	uninformative
<i>Flagellaria indica</i>	1	33%	1	4%	uninformative
<i>Guioa semiglauca</i>	1	33%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	67%	1	19%	uninformative
<i>Heritiera actinophylla</i>	3	33%	2	3%	uninformative
<i>Heritiera trifoliolata</i>	3	100%	3	1%	positive
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	3	67%	1	11%	positive
<i>Lastreopsis decomposita</i>	2	33%	2	6%	uninformative
<i>Lastreopsis microsora</i> subsp. <i>microsora</i>	3	33%	2	1%	uninformative
<i>Legnephora moorei</i>	2	33%	2	1%	uninformative
<i>Linospadix monostachya</i>	2	33%	1	13%	uninformative
<i>Litsea reticulata</i>	1	33%	2	7%	uninformative
<i>Lomandra hystrix</i>	3	67%	2	2%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Lygodium microphyllum</i>	2	67%	3	0%	positive
<i>Maclura cochinchinensis</i>	2	33%	1	7%	uninformative
<i>Mischocarpus pyriformis</i>	2	67%	2	4%	positive
<i>Morinda jasminoides</i>	1	67%	1	36%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Neolitsea dealbata</i>	3	100%	1	15%	positive
<i>Oplismenus imbecillis</i>	1	33%	2	22%	uninformative
<i>Orites excelsus</i>	2	33%	2	6%	uninformative
<i>Parsonia straminea</i>	1	67%	1	27%	uninformative
<i>Piper novae-hollandiae</i>	2	67%	2	1%	positive
<i>Pittosporum multiflorum</i>	1	33%	1	12%	uninformative
<i>Pittosporum revolutum</i>	1	33%	1	13%	uninformative
<i>Planchonella australis</i>	1	33%	1	5%	uninformative
<i>Polyosma cunninghamii</i>	2	33%	2	5%	uninformative
<i>Pothos longipes</i>	4	100%	2	5%	positive
<i>Psychotria loniceroides</i>	1	33%	1	14%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	2	33%	1	5%	uninformative
<i>Rhodamnia argentea</i>	1	33%	1	0%	uninformative
<i>Ripogonum discolor</i>	3	33%	2	11%	uninformative
<i>Ripogonum fawcettianum</i>	1	33%	2	21%	uninformative
<i>Rubus rosifolius</i>	1	33%	2	4%	uninformative
<i>Sarcopteryx stipata</i>	2	100%	1	11%	positive
<i>Schizomeria ovata</i>	1	33%	1	12%	uninformative
<i>Sloanea australis</i>	4	67%	2	5%	positive
<i>Sloanea woollsii</i>	2	33%	1	6%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	33%	1	21%	uninformative
<i>Syzygium australe</i>	1	33%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	100%	1	27%	uninformative
<i>Tasmania insipida</i>	2	33%	1	12%	uninformative
<i>Triunia youngiana</i>	1	33%	1	5%	uninformative
<i>Trophis scandens</i> subsp. <i>scandens</i>	3	67%	1	3%	positive
<i>Wilkiea huegeliana</i>	1	33%	1	28%	uninformative

ESCARPMENT AND LOWLAND BANGALOW - CARABEEN - BLACK BOOYONG PALM GULLY RAINFOREST

CH_RF11

SCIENTIFIC NAME Bangalow Palm (*Archontophoenix cunninghamiana*)
– Maiden's Blush (*Sloanea australis*) – Yellow Carabeen (*Sloanea woollsii*)
– Black Booyong (*Heritiera actinophylla*) – Hairy-leaved Bolly Gum
(*Neolitsea dealbata*) Subtropical Gully Rainforest

PLANT COMMUNITY TYPE Maiden's Blush – Yellow Carabeen
– Native Tamarind – Bangalow Palm subtropical rainforest on acid
volcanics, metasediments and sandstones of the northern coastal ranges
and escarpment, South Eastern Queensland Bioregion (NSW150-2)

STATEWIDE CLASS Rainforests – Subtropical Rainforest (Keith 2006)



Description

The canopy consists of tall rainforest trees such as Yellow Carabeen (*Sloanea woollsii*), Black Booyong (*Heritiera actinophylla*), Red Carabeen (*Geissois benthamiana*), Soft Cordwood (*Caldcluvia paniculosa*), Maiden's Blush (*Sloanea australis*), Hairy-leaved Bolly-gum (*Neolitsea dealbata*) and Brush Box (*Lophostemon confertus*). Bangalow Palm (*Archontophoenix cunninghamiana*) is a distinctive component of this gully rainforest community. Myrtle Ebony (*Diospyros pentamera*), Turnipwood (*Akania bidwillii*), Wild Yellow Jasmine (*Pittosporum revolutum*), Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*), Steelwood (*Sarcopteryx stipata*), Green-leaved Rose Walnut (*Endiandra muelleri*) and Sandpaper Fig (*Ficus coronata*) may occur as a smaller tree layer. Epiphytes include Bird's Nest Fern (*Asplenium australasicum*). Walking Stick Palm (*Linospadix monostachya*), Palm Lilies (*Cordyline stricta*, *Cordyline petiolaris*), Tree Ferns (*Cyathea australis*, *Cyathea leichhardtiana*) and Brush Pepperbush (*Tasmannia insipida*) occur as a second mid-layer. Vines are common and consist of Five-leaved Water Vine (*Cissus hypoglauca*), Burny Vine (*Trophis scandens*), Lawyer Cane (*Calamus muelleri*), Prickly Supplejack (*Ripogonum discolor*), Pothos (*Pothos longipes*) and Sweet Morinda (*Morinda jasminoides*). The ground layer is often sparse and ferny with Strap Water Fern (*Blechnum patersonii*) and Rough Maidenhair (*Adiantum hispidulum*), Creeping Shield Fern (*Lastreopsis acuminata*) being abundant in some sites.

This community is distributed along gullies in the foothills of the Coast Range, Gleniffer, Bonville Hills and also extends into steeper stony gullies of the Orara Escarpment. Often found in the alluvial sediments deposited in narrow creek gullies and steep gully heads in areas of alluvial, sedimentary and metasedimentary geology. Occurs from Pine Creek in Bongil Bongil National Park north to Wedding Bells State Forest near Woolgoolga.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	10 - 50	60 - 90	<i>Sloanea woollsii</i> , <i>Heritiera actinophylla</i> , <i>Geissois benthamianus</i> , <i>Caldcluvia paniculosa</i> , <i>Sloanea australis</i> , <i>Neolitsea dealbata</i> , <i>Lophostemon confertus</i> , <i>Archontophoenix cunninghamiana</i> .
Middle 1	5 - 30	40 - 80	<i>Cissus antarctica</i> , <i>Cissus hypoglauca</i> , <i>Diploglottis cunninghamii</i> , <i>Diospyros pentamera</i> , <i>Akania bidwillii</i> , <i>Polyosma cunninghamii</i> , <i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Sarcopteryx stipata</i> , <i>Ficus coronata</i> , <i>Pothos longipes</i> , <i>Endiandra muelleri</i> .
Middle 2	1 - 20	15 - 30	<i>Daphnandra micrantha</i> , <i>Linospadix monostachya</i> , <i>Cordyline stricta</i> , <i>Cordyline petiolaris</i> , <i>Cyathea australis</i> , <i>Tasmannia insipida</i> , <i>Trophis scandens</i> , <i>Calamus muelleri</i> , <i>Ripogonum discolour</i> , <i>Morinda jasminoides</i> , <i>Cyathea leichhardtiana</i> .
Lower	0.1 - 1	10 - 20	<i>Blechnum patersonii</i> , <i>Adiantum hispidulum</i> , <i>Lastreopsis acuminata</i> .

* Data collated from 9 of 12 full floristic sites

Structural and floristic variations

There is change in floristic composition from lowland examples of this community, where Bangalow Palm (*Archontophoenix cunninghamiana*), Maiden's Blush (*Sloanea australis*) and Hairy-leaved Bolly Gum (*Neolitsea dealbata*) are more common, to the foothills and escarpment where species such Yellow Carabeen (*Sloanea woollsii*), Red Carabeen (*Geissois benthamiana*), *Daphnandra micrantha* and Black Booyong (*Heritiera actinophylla*) increase in abundance.

Exotics *Lantana camara*

Species richness

Number of plots	12
Total species	228
Average number of species	52 ±30

Conservation status

This community is reserved in Bindarri National Park (529ha), Ulidarra National Park (191ha), Bongil Bongil National Park (67ha), Bruxner Park Flora Reserve (85 ha) and Sherwood Nature Reserve (120ha).

Tenure	Area (ha)
Crown Land	4
Freehold	660
National Park	842
Nature Reserve	123
NSW State Forest	2 566
NSW State Forest Flora Reserve	85
TOTAL	4 280

Endangered Ecological Community: *Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions* EEC

Threatened and Rare plants: *Bosistoa floydii*, *Niemeyera whitei*

Equivalents

Biometric: Black Booyong - Rosewood - Yellow Carabeen subtropical rainforest of the North Coast (NR111)

Other: RF33 Black Booyong and Red Bean (Fisher et al. 1996), Sub-alliance 12 (Floyd 1990), Sub-alliance 33 (Floyd 1990)

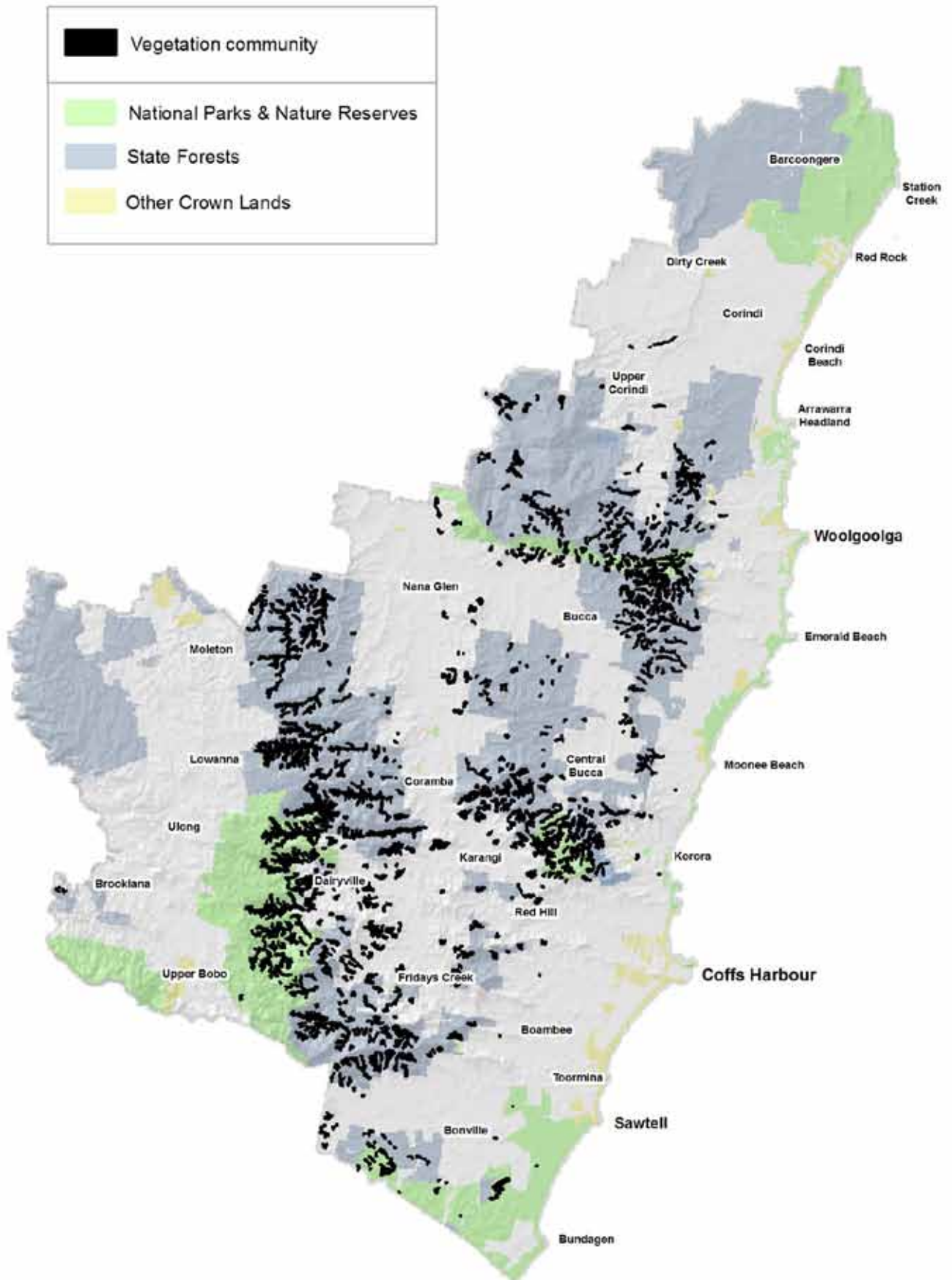
Relationship to other communities

Related to CH_RF09 (Hinterland White Booyong Floodplain Forest), however CH_RF11 is more widespread and extends beyond the alluvial plains up into the foothills and steep gullies of the escarpment. CH_RF11 is also related to and often adjoins CH_WSF05 (Foothills to Escarpment Brush Box Tallowood Blackbutt Wet Forest) and CH_WSF01 (Coast and Hinterland Riparian Flooded Gum Bangalow Wet Forest).

Scattered occurrences of CH_RF09 are often found within mapped areas of the Warm Temperate Rainforest types; CH_RF03 (Plateau and Escarpment Coachwood – Sassafras Warm Temperate Rainforest) and CH_RF12 (Escarpment Coachwood – Sassafras – Brush Box Warm Temperate Rainforest). In these instances, CH_RF11 is common on the northern and western facing slopes and gully head topographical positions.

Locations

Known examples include Conglomerate State Forest, Wedding Bells State Forest, Sherwood Nature Reserve, Orara East State Forest, Bucca Bucca Creek in Ulidarra National Park, Woolgoolga Creek in Sherwood Creek Nature Reserve, Upper reaches of Tallawudjah Creek adjacent Bagawa State Forest and Shinglebed Creek in Bindarri National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Abrophyllum ornans</i>	2	8%	2	1%	uninformative
<i>Acacia melanoxylon</i>	2	17%	2	19%	uninformative
<i>Acmena smithii</i>	1	42%	1	26%	uninformative
<i>Acronychia octandra</i>	4	8%	1	1%	uninformative
<i>Acronychia pubescens</i>	2	8%	1	2%	uninformative
<i>Adiantum diaphanum</i>	4	17%	0	0%	positive
<i>Adiantum formosum</i>	1	8%	2	2%	uninformative
<i>Adiantum hispidulum</i>	2	42%	1	8%	uninformative
<i>Adiantum silvaticum</i>	1	33%	2	4%	uninformative
<i>Akania bidwillii</i>	2	50%	3	1%	positive
<i>Alangium villosum</i> subsp. <i>polyosmoides</i>	1	17%	1	0%	uninformative
<i>Alectryon subcinereus</i>	1	17%	1	2%	uninformative
<i>Allocasuarina torulosa</i>	1	8%	2	36%	uninformative
<i>Alocasia brisbanensis</i>	3	17%	1	2%	uninformative
<i>Alphitonia excelsa</i>	1	25%	1	14%	uninformative
<i>Alpinia caerulea</i>	2	25%	1	18%	uninformative
<i>Aneilema acuminatum</i>	3	8%	1	1%	uninformative
<i>Aneilema biflorum</i>	1	8%	0	0%	positive
<i>Aphananthe philippinensis</i>	1	8%	1	1%	uninformative
<i>Araucaria cunninghamii</i>	2	8%	1	6%	uninformative
<i>Archidendron grandiflorum</i>	2	17%	1	3%	uninformative
<i>Archirhodomyrtus beckleri</i>	1	17%	2	24%	uninformative
<i>Archontophoenix cunninghamiana</i>	4	92%	1	30%	positive
<i>Arthropteris beckleri</i>	3	17%	0	0%	positive
<i>Arthropteris tenella</i>	2	25%	1	1%	uninformative
<i>Asplenium australasicum</i>	2	42%	1	8%	uninformative
<i>Asplenium flaccidum</i>	1	8%	0	0%	positive
<i>Asplenium polyodon</i>	2	8%	1	1%	uninformative
<i>Atractocarpus benthamianus</i>	1	42%	2	7%	uninformative
<i>Austrobuxus swainii</i>	1	8%	1	4%	uninformative
<i>Austrosteenisia blackii</i> var. <i>blackii</i>	1	8%	1	2%	uninformative
<i>Austrosteenisia glabristyla</i>	2	17%	1	0%	uninformative
<i>Baloghia inophylla</i>	2	33%	2	2%	uninformative
<i>Beilschmiedia elliptica</i>	2	33%	1	1%	uninformative
<i>Beilschmiedia obtusifolia</i>	2	8%	1	1%	uninformative
<i>Blechnum cartilagineum</i>	3	17%	2	39%	uninformative
<i>Blechnum patersonii</i>	3	42%	2	2%	uninformative
<i>Bosistoa floydii</i>	3	8%	1	0%	uninformative
<i>Brachychiton acerifolius</i>	2	8%	1	1%	uninformative
<i>Calamus muelleri</i>	2	92%	2	12%	positive
<i>Caldcluvia paniculosa</i>	2	50%	2	11%	positive
<i>Callicoma serratifolia</i>	2	8%	2	18%	uninformative
<i>Capparis arborea</i>	1	33%	3	0%	uninformative
<i>Cayratia clematidea</i>	1	17%	1	7%	uninformative
<i>Celastrus subspicata</i>	1	17%	1	4%	uninformative
<i>Cephalalaria cephalobotrys</i>	1	25%	1	5%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Cephalomanes caudatum</i>	1	17%	2	1%	uninformative
<i>Ceratopetalum apetalum</i>	2	17%	3	11%	uninformative
<i>Christella dentata</i>	2	8%	1	1%	uninformative
<i>Cinnamomum oliveri</i>	2	17%	1	6%	uninformative
<i>Cissus antarctica</i>	2	50%	1	18%	positive
<i>Cissus hypoglauca</i>	2	50%	1	37%	positive
<i>Cissus sterculiifolia</i>	2	8%	1	6%	uninformative
<i>Citronella moorei</i>	1	25%	1	0%	uninformative
<i>Claoxylon australe</i>	2	25%	1	5%	uninformative
<i>Cleistanthus cunninghamii</i>	2	17%	1	1%	uninformative
<i>Clematis aristata</i>	1	25%	1	11%	uninformative
<i>Clerodendrum tomentosum</i>	2	8%	1	5%	uninformative
<i>Commelina cyanea</i>	1	8%	1	5%	uninformative
<i>Cordyline petiolaris</i>	2	33%	1	3%	uninformative
<i>Cordyline stricta</i>	2	67%	1	37%	positive
<i>Corymbia intermedia</i>	1	8%	2	21%	uninformative
<i>Croton verreauxii</i>	1	17%	1	3%	uninformative
<i>Cryptocarya erythroxylon</i>	1	8%	1	0%	uninformative
<i>Cryptocarya glaucescens</i>	1	17%	2	17%	uninformative
<i>Cryptocarya meissneriana</i>	1	8%	3	2%	uninformative
<i>Cryptocarya microneura</i>	1	33%	1	20%	uninformative
<i>Cryptocarya obovata</i>	1	33%	1	2%	uninformative
<i>Cryptocarya rigida</i>	1	8%	2	27%	uninformative
<i>Cuttsia viburnea</i>	2	25%	1	2%	uninformative
<i>Cyathea australis</i>	1	50%	1	12%	uninformative
<i>Cyathea leichhardtiana</i>	2	67%	1	8%	positive
<i>Cyperus filipes</i>	1	25%	1	3%	uninformative
<i>Cyperus tetraphyllus</i>	2	17%	2	0%	uninformative
<i>Daphnandra micrantha</i>	2	50%	2	1%	positive
<i>Dendrobium gracilicaule</i>	3	8%	1	1%	uninformative
<i>Dendrobium schoeninum</i>	1	8%	0	0%	positive
<i>Dendrobium teretifolium</i>	2	8%	2	0%	uninformative
<i>Dendrobium tetragonum</i>	2	17%	1	1%	uninformative
<i>Dendrocnide excelsa</i>	2	8%	1	0%	uninformative
<i>Dendrocnide photinophylla</i>	2	33%	2	1%	uninformative
<i>Deparia petersenii</i> subsp. <i>congrua</i>	2	8%	0	0%	positive
<i>Derris involuta</i>	1	8%	1	1%	uninformative
<i>Dianella caerulea</i>	1	8%	1	51%	uninformative
<i>Dioscorea transversa</i>	1	25%	1	28%	uninformative
<i>Diospyros pentamera</i>	2	42%	2	5%	uninformative
<i>Diplazium australe</i>	2	8%	3	0%	uninformative
<i>Diplazium dilatatum</i>	2	8%	0	0%	positive
<i>Diploglottis cunninghamii</i>	2	58%	1	3%	positive
<i>Doodia aspera</i>	1	8%	2	16%	uninformative
<i>Doryphora sassafras</i>	2	33%	2	7%	uninformative
<i>Drypetes deplanchei</i>	1	8%	1	4%	uninformative
<i>Dysoxylum fraserianum</i>	2	8%	1	1%	uninformative
<i>Dysoxylum mollissimum</i> subsp. <i>molle</i>	3	25%	2	2%	uninformative
<i>Dysoxylum rufum</i>	2	25%	1	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Ehretia acuminata</i> var. <i>acuminata</i>	1	8%	1	1%	uninformative
<i>Elaeocarpus grandis</i>	2	17%	0	0%	positive
<i>Elatostema reticulatum</i>	3	8%	2	0%	uninformative
<i>Elattostachys nervosa</i>	2	33%	1	2%	uninformative
<i>Elattostachys xylocarpa</i>	1	8%	0	0%	positive
<i>Embelia australiana</i>	1	50%	1	10%	uninformative
<i>Emmenosperma alphoniooides</i>	2	8%	1	0%	uninformative
<i>Endiandra crassiflora</i>	1	8%	1	2%	uninformative
<i>Endiandra muelleri</i>	2	58%	1	8%	positive
<i>Eucalyptus grandis</i>	1	25%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	2	8%	3	35%	uninformative
<i>Eucalyptus pilularis</i>	1	8%	3	27%	uninformative
<i>Eucalyptus saligna</i>	2	8%	3	9%	uninformative
<i>Eupomatia bennettii</i>	1	8%	1	2%	uninformative
<i>Eupomatia laurina</i>	1	25%	1	14%	uninformative
<i>Euroschinus falcatus</i>	1	8%	1	4%	uninformative
<i>Ficus coronata</i>	2	67%	1	11%	positive
<i>Ficus superba</i> var. <i>henneana</i>	1	8%	0	0%	positive
<i>Ficus watkinsiana</i>	2	25%	1	4%	uninformative
<i>Flagellaria indica</i>	2	17%	1	4%	uninformative
<i>Flindersia schottiana</i>	1	8%	2	0%	uninformative
<i>Geissois benthamiana</i>	3	33%	1	2%	uninformative
<i>Geitonoplesium cymosum</i>	3	8%	1	24%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	2	8%	1	13%	uninformative
<i>Gmelina leichhardtii</i>	1	33%	1	3%	uninformative
<i>Gossia bidwillii</i>	1	8%	3	0%	uninformative
<i>Guilfoylia monostylis</i>	2	17%	1	1%	uninformative
<i>Guioa semiglauca</i>	1	17%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	33%	1	19%	uninformative
<i>Helicia ferruginea</i>	1	8%	0	0%	positive
<i>Heritiera actinophylla</i>	2	67%	3	2%	positive
<i>Heritiera trifoliolata</i>	4	33%	3	1%	uninformative
<i>Histiopteris incisa</i>	2	8%	1	1%	uninformative
<i>Hodgkinsonia ovatiflora</i>	1	17%	1	0%	uninformative
<i>Homalanthus populifolius</i>	1	17%	1	3%	uninformative
<i>Hydrocotyle pedicellosa</i>	1	25%	2	1%	uninformative
<i>Hymenosporum flavum</i>	1	8%	1	2%	uninformative
<i>Hypolepis muelleri</i>	1	8%	1	3%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	2	17%	1	11%	uninformative
<i>Lastreopsis acuminata</i>	3	17%	2	1%	uninformative
<i>Lastreopsis microsora</i> subsp. <i>microsora</i>	3	17%	2	1%	uninformative
<i>Lastreopsis munita</i>	3	8%	1	0%	uninformative
<i>Legnephora moorei</i>	2	8%	2	1%	uninformative
<i>Lepidozamia peroffskyana</i>	1	25%	1	2%	uninformative
<i>Linospadix monostachya</i>	3	83%	1	11%	positive
<i>Litsea australis</i>	2	8%	1	5%	uninformative
<i>Litsea reticulata</i>	3	8%	2	7%	uninformative
<i>Livistona australis</i>	1	8%	1	4%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Lobelia trigonocaulis</i>	1	25%	1	6%	uninformative
<i>Lomandra hystrix</i>	1	8%	2	2%	uninformative
<i>Lomandra longifolia</i>	1	25%	2	52%	negative
<i>Lomandra spicata</i>	3	25%	1	9%	uninformative
<i>Lophostemon confertus</i>	2	50%	2	31%	positive
<i>Lygodium microphyllum</i>	3	17%	2	0%	uninformative
<i>Maclura cochinchinensis</i>	1	25%	1	6%	uninformative
<i>Mallotus philippensis</i>	2	8%	1	1%	uninformative
<i>Melodinus australis</i>	2	8%	1	4%	uninformative
<i>Microsorium scandens</i>	2	33%	1	1%	uninformative
<i>Mischocarpus australis</i>	2	8%	1	0%	uninformative
<i>Mischocarpus pyriformis</i>	2	25%	2	4%	uninformative
<i>Morinda jasminoides</i>	1	58%	1	36%	uninformative
<i>Myrsine variabilis</i>	1	8%	1	17%	uninformative
<i>Neolitsea dealbata</i>	1	83%	1	14%	uninformative
<i>Niemeyera whitei</i>	2	33%	1	5%	uninformative
<i>Notelaea longifolia</i>	1	8%	1	27%	uninformative
<i>Oplismenus aemulus</i>	2	17%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	1	8%	2	22%	uninformative
<i>Orites excelsus</i>	3	17%	2	6%	uninformative
<i>Palmeria scandens</i>	2	33%	1	9%	uninformative
<i>Pandorea baileyana</i>	1	8%	0	0%	positive
<i>Pararchidendron pruinatum</i> var. <i>pruinatum</i>	2	17%	1	0%	uninformative
<i>Parsonsia fulva</i>	1	8%	0	0%	positive
<i>Pellaea paradoxa</i>	1	8%	1	1%	uninformative
<i>Petermannia cirrosa</i>	2	8%	1	6%	uninformative
<i>Pilidiostigma glabrum</i>	1	17%	1	12%	uninformative
<i>Piper novae-hollandiae</i>	2	25%	1	1%	uninformative
<i>Pittosporum multiflorum</i>	2	17%	1	12%	uninformative
<i>Pittosporum revolutum</i>	1	42%	1	12%	uninformative
<i>Planchonella australis</i>	2	50%	1	4%	positive
<i>Platynerium bifurcatum</i>	2	33%	1	16%	uninformative
<i>Platynerium superbum</i>	2	17%	1	5%	uninformative
<i>Plectranthus parviflorus</i>	1	8%	1	2%	uninformative
<i>Pollia crispata</i>	2	8%	0	0%	positive
<i>Polyosma cunninghamii</i>	2	50%	2	4%	positive
<i>Polyscias elegans</i>	1	8%	1	4%	uninformative
<i>Pothos longipes</i>	2	83%	1	3%	positive
<i>Pratia purpurascens</i>	1	8%	1	23%	uninformative
<i>Pseuderanthemum variabile</i>	2	17%	2	27%	uninformative
<i>Pseudovanilla foliata</i>	1	8%	0	0%	positive
<i>Psydrax odorata</i>	1	8%	0	0%	positive
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	8%	1	5%	uninformative
<i>Pyrrosia rupestris</i>	4	17%	2	3%	uninformative
<i>Quintinia verdonii</i>	1	25%	1	6%	uninformative
<i>Rhinerrhiza divitiflora</i>	2	8%	1	0%	uninformative
<i>Rhodamnia rubescens</i>	1	17%	1	16%	uninformative
<i>Ripogonum album</i>	1	25%	2	6%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Ripogonum discolor</i>	2	67%	2	9%	positive
<i>Ripogonum fawcettianum</i>	2	33%	2	21%	uninformative
<i>Rubus moorei</i>	2	17%	1	2%	uninformative
<i>Rubus nebulosus</i>	1	8%	1	5%	uninformative
<i>Rubus rosifolius</i>	1	8%	2	4%	uninformative
<i>Rumohra adiantiformis</i>	2	8%	0	0%	positive
<i>Sarcochilus parviflorus</i>	2	8%	0	0%	positive
<i>Sarcopetalum harveyanum</i>	3	8%	1	9%	uninformative
<i>Sarcopteryx stipata</i>	1	75%	1	10%	uninformative
<i>Schizomeria ovata</i>	2	25%	1	12%	uninformative
<i>Scolopia braunii</i>	2	8%	1	6%	uninformative
<i>Sloanea australis</i>	3	100%	1	2%	positive
<i>Sloanea woollsii</i>	2	58%	1	5%	positive
<i>Smilax australis</i>	2	8%	1	45%	uninformative
<i>Smilax glycyphylla</i>	1	17%	1	29%	uninformative
<i>Stenocarpus sinuatus</i>	1	17%	1	1%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	2	17%	1	22%	uninformative
<i>Syncarpia glomulifera</i>	2	8%	3	40%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	2	67%	2	34%	positive
<i>Syzygium australe</i>	3	17%	1	6%	uninformative
<i>Syzygium corynanthum</i>	3	8%	2	0%	uninformative
<i>Syzygium crebrinerve</i>	3	17%	2	1%	uninformative
<i>Syzygium francisii</i>	2	8%	1	0%	uninformative
<i>Syzygium oleosum</i>	1	25%	2	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	75%	1	26%	uninformative
<i>Tasmannia insipida</i>	1	75%	1	10%	uninformative
<i>Tetrastigma nitens</i>	1	8%	1	3%	uninformative
<i>Toona ciliata</i>	2	17%	1	1%	uninformative
<i>Trimenia moorei</i>	1	8%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	1	8%	1	10%	uninformative
<i>Trophis scandens</i> subsp. <i>scandens</i>	1	58%	1	2%	uninformative
<i>Tylophora paniculata</i>	1	8%	1	2%	uninformative
<i>Uvaria leichhardtii</i>	3	17%	0	0%	positive
<i>Waterhousea floribunda</i>	2	8%	0	0%	positive
<i>Wilkiea huegeliana</i>	1	75%	1	27%	uninformative
<i>Youngia japonica</i>	2	8%	1	0%	uninformative

ESCARPMENT COACHWOOD - SASSAFRAS - BRUSH BOX WARM TEMPERATE RAINFOREST

SCIENTIFIC NAME Coachwood (*Ceratopetalum apetalum*) – Sassafras (*Doryphora sassafras*) – Prickly Ash (*Orites excelsus*) – Brush Box (*Lophostemon confertus*) Warm Temperate Rainforest of the escarpment

STATEWIDE CLASS Rainforests – Warm Temperate Rainforests (Keith 2006)

PLANT COMMUNITY TYPE Coachwood – Crabapple – Booyong – Yellow Carabeen warm temperate rainforest on alluvium or enriched yellow earths, NSW North Coast Bioregion and South Eastern Queensland Bioregion (NSW75-14) *Schizomeria ovata* *Doryphora sassafras* Warm temperate rainforest (NSW700-390)



Description

A warm temperate rainforest where Coachwood (*Ceratopetalum apetalum*), Brush Box (*Lophostemon confertus*) and Prickly Ash (*Orites excelsa*) are the most common trees in the upper layer. Bolly Gum (*Litsea reticulata*), Crabapple (*Schizomeria ovata*) and Sassafras (*Doryphora sassafras*) also occur. A mid layer of smaller trees is present including Native Gardenia (*Atractocarpus benthamianus*), Featherwood (*Polyosma cunninghamii*) Oliver's Sassafras (*Cinnamomum oliveri*), Steelwood (*Sarcopteryx stipitata*), Macleay Laurel (*Anopterus macleayanus*) and Tree Heath (*Trochocarpa laurina*). The ground layer is sparse and comprises Gristle Fern (*Blechnum cartilagineum*), Walking Stick Palm (*Linospadix monostachya*), and Tree Fern (*Cyathea leichhardtiana*). Vines include Lawyer Cane (*Calamus muelleri*), Anchor Vine (*Palmeria scandens*), and *Berberidopsis beckleri*. Epiphytes such as Stag Horn (*Platyserium bifurcatum*) occur on rainforest tree trunks.

This community is located on rolling hills of the Dorrigo and Orara Escarpment and Plateau edge usually between about 500 and 700 metres in altitude on soils derived from metasedimentary geology.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	15 - 45	40 - 90	<i>Ceratopetalum apetalum</i> , <i>Lophostemon confertus</i> , <i>Orites excelsa</i> , <i>Litsea reticulata</i> , <i>Doryphora sassafras</i> .
Middle	3 - 20	25 - 80	<i>Atractocarpus benthamianus</i> , <i>Polyosma cunninghamii</i> , <i>Cinnamomum oliveri</i> , <i>Sarcopteryx stipitata</i> , <i>Trochocarpa laurina</i> , <i>Cyathea leichhardtiana</i> , <i>Calamus muelleri</i> , <i>Palmeria scandens</i> , <i>Berberidopsis beckleri</i> , <i>Anopterus macleayanus</i> , <i>Platynerium bifurcatum</i> .
Lower	0.1 – 0.8	5 - 10	<i>Blechnum cartilagineum</i> , <i>Linospadix monostachya</i> .

* Data collated from 12 of 16 full floristic sites

Species richness:

Number of plots	16
Total species	215
Average number of species	53 ±18.9

Conservation status

The vegetation community is reserved in Bindarri National Park (947ha) and Bindarri State Conservation Area (72ha)

Tenure	Area (ha)
Crown Land	31
Freehold	420
National Park	891
NSW State Forest	265
State Conservation Area	72
TOTAL	1 679

Endangered Ecological Community: Below 600 metres this community could be recognised as *Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions* EEC

Threatened and Rare plants: *Cryptocarya dorrigoensis*, *Niemeyera whitei*

Relationship to other communities

Related to CH_RF03 (Plateau and Escarpment Coachwood Sassafras Warm Temperate Rainforest). CH_RF12 occurs closer to the escarpment edge with a significant influence of subtropical elements in the species composition. CH_RF03 is more common on the western parts of the plateau within the study area.

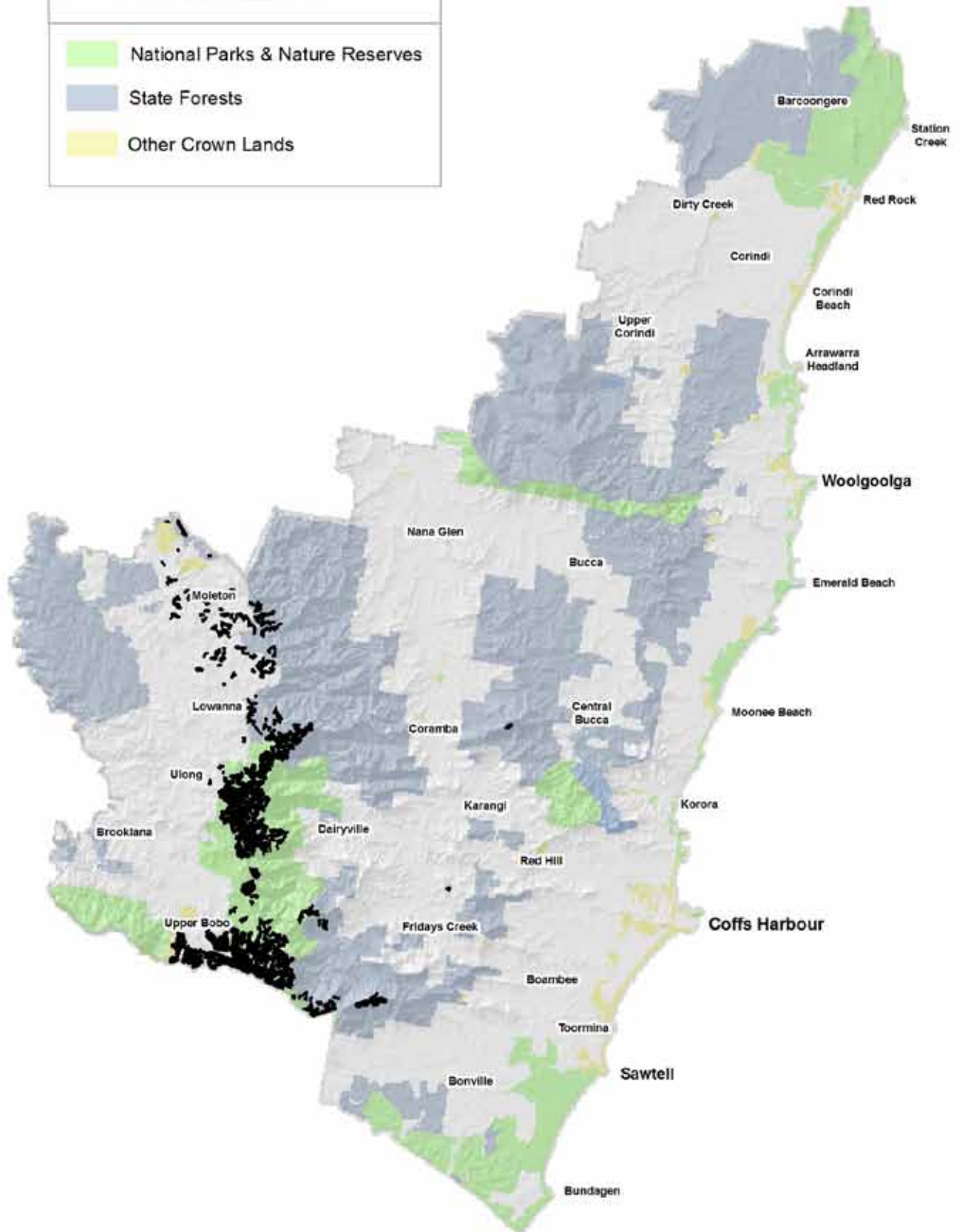
Equivalents

Biometric: Coachwood - Soft Corkwood - Crabapple warm temperate rainforest of the North Coast (NR147).

Other: RF33 Black Booyong and Red Bean (Fisher et al. 1996); Sub-alliance 33 (Floyd 1990).

Locations

Known examples include Below Tucker's Nob; Upper Urumbilum River; Bushman's Range; Mole Creek; Moleton.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	3	50%	2	17%	positive
<i>Acmena smithii</i>	1	75%	1	25%	uninformative
<i>Acradenia euodiiformis</i>	2	19%	3	2%	uninformative
<i>Acronychia octandra</i>	3	13%	4	0%	uninformative
<i>Acronychia pubescens</i>	1	25%	2	2%	uninformative
<i>Acronychia suberosa</i>	3	6%	0	0%	positive
<i>Adiantum aethiopicum</i>	1	6%	1	2%	uninformative
<i>Adiantum formosum</i>	2	6%	1	2%	uninformative
<i>Adiantum hispidulum</i>	2	13%	2	8%	uninformative
<i>Adiantum silvaticum</i>	2	38%	2	4%	uninformative
<i>Alangium villosum</i> subsp. <i>polyosmoides</i>	1	6%	1	0%	uninformative
<i>Alectryon subcinereus</i>	2	6%	1	2%	uninformative
<i>Allocasuarina torulosa</i>	3	13%	2	36%	uninformative
<i>Alloxylon pinnatum</i>	2	13%	2	1%	uninformative
<i>Alphitonia excelsa</i>	2	19%	1	14%	uninformative
<i>Alpinia caerulea</i>	2	6%	1	18%	uninformative
<i>Anopterus macleayanus</i>	2	56%	2	1%	positive
<i>Arachniodes aristata</i>	2	13%	2	1%	uninformative
<i>Araucaria cunninghamii</i>	1	63%	1	4%	uninformative
<i>Archidendron grandiflorum</i>	1	6%	1	4%	uninformative
<i>Archirhodomyrtus beckleri</i>	1	50%	2	23%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	63%	1	31%	uninformative
<i>Arthropteris tenella</i>	1	13%	3	1%	uninformative
<i>Asplenium australasicum</i>	1	69%	1	7%	uninformative
<i>Asplenium polyodon</i>	1	6%	2	1%	uninformative
<i>Atractocarpus benthamianus</i>	2	56%	2	6%	positive
<i>Austrobuxus swainii</i>	1	38%	1	3%	uninformative
<i>Austrosteenisia blackii</i> var. <i>blackii</i>	2	13%	1	2%	uninformative
<i>Baloghia inophylla</i>	1	6%	2	2%	uninformative
<i>Berberidopsis beckleri</i>	2	6%	0	0%	positive
<i>Blechnum cartilagineum</i>	2	63%	2	37%	positive
<i>Blechnum nudum</i>	2	13%	3	0%	uninformative
<i>Blechnum patersonii</i>	2	25%	3	2%	uninformative
<i>Blechnum wattsii</i>	2	6%	1	1%	uninformative
<i>Brachychiton acerifolius</i>	1	6%	1	1%	uninformative
<i>Breynia oblongifolia</i>	1	6%	1	30%	uninformative
<i>Bulbophyllum exiguum</i>	2	13%	3	0%	uninformative
<i>Calamus muelleri</i>	2	81%	1	12%	positive
<i>Calanthe triplicata</i>	1	13%	1	3%	uninformative
<i>Caldcluvia paniculosa</i>	2	50%	2	11%	positive
<i>Callicoma serratifolia</i>	2	56%	2	16%	positive
<i>Callitris macleayana</i>	1	13%	5	0%	uninformative
<i>Calochlaena dubia</i>	2	6%	2	27%	uninformative
<i>Cayratia clematidea</i>	1	6%	1	8%	uninformative
<i>Cephalalaria cephalobotrys</i>	1	13%	1	5%	uninformative
<i>Cephalomanes caudatum</i>	2	6%	2	1%	uninformative
<i>Ceratopetalum apetalum</i>	3	100%	3	8%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Cinnamomum oliveri</i>	2	69%	1	4%	positive
<i>Cinnamomum virens</i>	2	6%	1	1%	uninformative
<i>Cissus antarctica</i>	2	13%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	69%	1	37%	uninformative
<i>Cissus sterculiifolia</i>	1	19%	1	6%	uninformative
<i>Claoxylon australe</i>	1	6%	1	6%	uninformative
<i>Clerodendrum tomentosum</i>	1	6%	1	5%	uninformative
<i>Cordyline petiolaris</i>	1	6%	1	4%	uninformative
<i>Cordyline rubra</i>	1	19%	1	1%	uninformative
<i>Cordyline stricta</i>	1	25%	1	39%	uninformative
<i>Coronidium elatum</i>	1	6%	1	0%	uninformative
<i>Cryptocarya dorrigoensis</i>	1	13%	1	1%	uninformative
<i>Cryptocarya erythroxylon</i>	1	6%	1	0%	uninformative
<i>Cryptocarya glaucescens</i>	1	44%	2	16%	uninformative
<i>Cryptocarya meissneriana</i>	2	19%	3	2%	uninformative
<i>Cryptocarya microneura</i>	1	25%	1	20%	uninformative
<i>Cryptocarya obovata</i>	3	6%	1	3%	uninformative
<i>Cryptocarya rigida</i>	2	31%	2	27%	uninformative
<i>Cyathea australis</i>	1	19%	1	13%	uninformative
<i>Cyathea leichhardtiana</i>	1	81%	1	7%	uninformative
<i>Cyperus filipes</i>	1	19%	1	3%	uninformative
<i>Daphnandra micrantha</i>	2	19%	1	2%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	1	25%	1	3%	uninformative
<i>Decaspermum humile</i>	1	6%	4	0%	uninformative
<i>Dendrobium aemulum</i>	3	13%	2	1%	uninformative
<i>Dendrobium pugioniforme</i>	1	6%	0	0%	positive
<i>Dendrobium teretifolium</i>	1	6%	2	0%	uninformative
<i>Dendrobium tetragonum</i>	1	6%	1	2%	uninformative
<i>Denhamia celastroides</i>	1	50%	1	7%	uninformative
<i>Derris involuta</i>	2	13%	1	1%	uninformative
<i>Dianella caerulea</i>	1	50%	1	50%	uninformative
<i>Dictymia brownii</i>	1	6%	1	1%	uninformative
<i>Diospyros pentamera</i>	1	25%	2	5%	uninformative
<i>Diploglottis cunninghamii</i>	1	19%	1	4%	uninformative
<i>Doodia aspera</i>	1	6%	2	16%	uninformative
<i>Doryphora sassafras</i>	2	56%	2	6%	positive
<i>Drymophila moorei</i>	1	31%	2	1%	uninformative
<i>Drypetes deplanchei</i>	1	6%	1	4%	uninformative
<i>Duboisia myoporoides</i>	1	19%	1	4%	uninformative
<i>Elaeocarpus obovatus</i>	1	6%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	38%	1	27%	uninformative
<i>Elaeodendron australe</i> var. <i>australe</i>	1	6%	1	4%	uninformative
<i>Elatostema reticulatum</i>	2	6%	3	0%	uninformative
<i>Elattostachys nervosa</i>	2	6%	1	3%	uninformative
<i>Embelia australiana</i>	1	69%	1	9%	uninformative
<i>Endiandra crassiflora</i>	1	25%	1	1%	uninformative
<i>Endiandra discolor</i>	1	13%	1	5%	uninformative
<i>Endiandra introrsa</i>	3	6%	0	0%	positive
<i>Endiandra muelleri</i>	2	25%	1	8%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Endiandra sieberi</i>	1	6%	1	10%	uninformative
<i>Eucalyptus acmenoides</i>	1	6%	2	8%	uninformative
<i>Eucalyptus campanulata</i>	1	6%	5	0%	uninformative
<i>Eucalyptus grandis</i>	1	6%	3	18%	uninformative
<i>Eucalyptus microcorys</i>	3	19%	3	35%	uninformative
<i>Eucalyptus saligna</i>	3	13%	3	9%	uninformative
<i>Eupomatia bennettii</i>	1	6%	1	2%	uninformative
<i>Eupomatia laurina</i>	1	13%	1	15%	uninformative
<i>Eustrephus latifolius</i>	1	6%	1	30%	uninformative
<i>Exocarya sclerioides</i>	1	31%	2	1%	uninformative
<i>Ficus coronata</i>	1	6%	1	13%	uninformative
<i>Ficus watkinsiana</i>	2	19%	1	4%	uninformative
<i>Fieldia australis</i>	2	6%	0	0%	positive
<i>Flagellaria indica</i>	1	13%	1	4%	uninformative
<i>Gahnia aspera</i>	2	25%	1	14%	uninformative
<i>Gahnia clarkei</i>	1	6%	2	14%	uninformative
<i>Gahnia melanocarpa</i>	1	6%	1	1%	uninformative
<i>Geissois benthamiana</i>	1	31%	3	1%	uninformative
<i>Geitonoplesium cymosum</i>	2	13%	1	24%	uninformative
<i>Gmelina leichhardtii</i>	1	19%	1	3%	uninformative
<i>Guilfoylia monostylis</i>	1	6%	1	1%	uninformative
<i>Guioa semiglauca</i>	1	19%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	31%	1	19%	uninformative
<i>Helicia glabriflora</i>	1	6%	1	1%	uninformative
<i>Heritiera actinophylla</i>	2	31%	2	2%	uninformative
<i>Heritiera trifoliolata</i>	2	6%	3	2%	uninformative
<i>Hibbertia scandens</i>	1	63%	1	30%	uninformative
<i>Histiopteris incisa</i>	2	6%	1	1%	uninformative
<i>Homalanthus populifolius</i>	1	6%	1	3%	uninformative
<i>Hydrocotyle peduncularis</i>	1	6%	1	6%	uninformative
<i>Hymenophyllum cupressiforme</i>	2	6%	1	0%	uninformative
<i>Hymenophyllum flabellatum</i>	2	6%	0	0%	positive
<i>Hymenosporum flavum</i>	1	6%	1	2%	uninformative
<i>Lastreopsis decomposita</i>	1	6%	2	6%	uninformative
<i>Lastreopsis microsora</i> subsp. <i>microsora</i>	2	13%	3	1%	uninformative
<i>Lepidosperma laterale</i>	1	13%	1	17%	uninformative
<i>Linospadix monostachya</i>	2	69%	1	11%	positive
<i>Litsea australis</i>	1	19%	1	4%	uninformative
<i>Litsea reticulata</i>	2	63%	2	5%	positive
<i>Lobelia trigonocaulis</i>	1	6%	1	6%	uninformative
<i>Lomandra longifolia</i>	2	25%	2	52%	negative
<i>Lomandra spicata</i>	1	56%	1	8%	uninformative
<i>Lophostemon confertus</i>	3	69%	2	30%	positive
<i>Marsdenia lloydii</i>	2	13%	2	1%	uninformative
<i>Melicope hayesii</i>	1	25%	1	3%	uninformative
<i>Melicope micrococca</i>	1	13%	1	2%	uninformative
<i>Melodinus australis</i>	2	19%	1	3%	uninformative
<i>Microsorium scandens</i>	2	25%	1	1%	uninformative
<i>Mischocarpus australis</i>	1	6%	2	0%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Mischocarpus pyriformis</i>	3	6%	2	4%	uninformative
<i>Morinda jasminoides</i>	1	38%	1	36%	uninformative
<i>Myrsine howittiana</i>	1	6%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	6%	1	17%	uninformative
<i>Neolitsea australiensis</i>	1	6%	3	0%	uninformative
<i>Neolitsea dealbata</i>	1	81%	1	13%	uninformative
<i>Niemeyera whitei</i>	3	13%	1	5%	uninformative
<i>Orites excelsus</i>	2	81%	2	3%	positive
<i>Ozothamnus diosmifolius</i>	3	6%	1	9%	uninformative
<i>Palmeria scandens</i>	2	69%	1	8%	positive
<i>Pararchidendron pruinatum</i> var. <i>pruinatum</i>	1	6%	1	1%	uninformative
<i>Parsonsia purpurascens</i>	2	6%	1	2%	uninformative
<i>Parsonsia straminea</i>	1	31%	1	27%	uninformative
<i>Parsonsia velutina</i>	1	6%	0	0%	positive
<i>Pellaea falcata</i>	1	6%	3	1%	uninformative
<i>Persoonia media</i>	2	38%	1	6%	uninformative
<i>Petermannia cirrosa</i>	1	50%	1	4%	uninformative
<i>Pilidiostigma glabrum</i>	2	38%	1	11%	uninformative
<i>Piper novae-hollandiae</i>	1	6%	2	1%	uninformative
<i>Pittosporum multiflorum</i>	1	56%	1	11%	uninformative
<i>Pittosporum revolutum</i>	1	31%	1	12%	uninformative
<i>Pittosporum undulatum</i>	1	13%	1	10%	uninformative
<i>Planchonella australis</i>	1	25%	1	4%	uninformative
<i>Platynerium bifurcatum</i>	2	44%	1	15%	uninformative
<i>Platynerium superbum</i>	1	6%	1	5%	uninformative
<i>Plectorrhiza tridentata</i>	1	19%	1	2%	uninformative
<i>Polyosma cunninghamii</i>	2	56%	2	3%	positive
<i>Polyscias murrayi</i>	2	6%	1	0%	uninformative
<i>Pothos longipes</i>	2	38%	2	4%	uninformative
<i>Psychotria loniceroides</i>	1	13%	1	14%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	6%	1	5%	uninformative
<i>Pyrrosia rupestris</i>	2	25%	2	2%	uninformative
<i>Quintinia sieberi</i>	2	19%	1	1%	uninformative
<i>Quintinia verdonii</i>	2	50%	1	5%	positive
<i>Rhodamnia rubescens</i>	1	6%	1	16%	uninformative
<i>Ripogonum album</i>	2	13%	2	6%	uninformative
<i>Ripogonum discolor</i>	2	69%	2	9%	positive
<i>Ripogonum elseyanum</i>	2	94%	2	5%	positive
<i>Ripogonum fawcettianum</i>	2	63%	2	19%	positive
<i>Rubus moorei</i>	2	13%	1	2%	uninformative
<i>Rubus nebulosus</i>	1	31%	1	4%	uninformative
<i>Sarcochilus falcatus</i>	2	6%	1	1%	uninformative
<i>Sarcomelicope simplicifolia</i> subsp. <i>simplicifolia</i>	1	6%	1	0%	uninformative
<i>Sarcopteryx stipata</i>	2	88%	1	9%	positive
<i>Schizomeria ovata</i>	2	81%	1	9%	positive
<i>Sloanea australis</i>	4	6%	3	5%	uninformative
<i>Sloanea woollsii</i>	1	50%	2	4%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Smilax australis</i>	1	50%	1	44%	uninformative
<i>Smilax glycyphylla</i>	1	44%	1	28%	uninformative
<i>Solanum inaequilaterum</i>	2	13%	1	0%	uninformative
<i>Stenocarpus salignus</i>	1	44%	1	3%	uninformative
<i>Stenocarpus sinuatus</i>	1	13%	1	1%	uninformative
<i>Sticherus lobatus</i>	1	6%	1	1%	uninformative
<i>Streptothamnus moorei</i>	1	13%	1	0%	uninformative
<i>Syncarpia glomulifera</i>	3	13%	3	40%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	31%	2	35%	uninformative
<i>Syzygium crebrinerve</i>	3	13%	1	1%	uninformative
<i>Syzygium oleosum</i>	1	6%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	56%	1	26%	uninformative
<i>Tasmannia insipida</i>	1	75%	1	9%	uninformative
<i>Toona ciliata</i>	1	6%	2	1%	uninformative
<i>Trimenia moorei</i>	1	19%	1	2%	uninformative
<i>Tripladenia cunninghamii</i>	1	13%	1	10%	uninformative
<i>Tristaniopsis collina</i>	2	19%	2	4%	uninformative
<i>Tristaniopsis laurina</i>	2	13%	2	3%	uninformative
<i>Triunia youngiana</i>	2	63%	1	3%	positive
<i>Trochocarpa laurina</i>	2	75%	1	36%	positive
<i>Vittaria elongata</i>	1	6%	0	0%	positive
<i>Wilkiea huegeliana</i>	1	88%	1	26%	uninformative

COASTAL SHELTERED DUNE LITTORAL RAINFOREST

CH_RF13

SCIENTIFIC NAME Small-leaved Lilly Pilly (*Syzygium luehmannii*)
– Pear-fruited Tamarind (*Mischocarpus pyriformis* subsp. *pyriformis*)
Sheltered Littoral Rainforest

PLANT COMMUNITY TYPE Small-leaved Lilly Pilly – Broad-leaved
Lilly Pilly – Lilly Pilly littoral rainforest mainly on sands of the NSW North
Coast and South Eastern Queensland Bioregions (NSW700-459)

STATEWIDE CLASS Rainforests – Littoral Rainforest (Keith 2006)



Description

This is a structurally and floristically diverse littoral rainforest that grows in sheltered locations on dune sands, sometimes with alluvial enrichment. It is located in hind dune areas protected by more exposed Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) and littoral rainforest plant community types and often fringes coastal creeklines. The community is best developed at Scrub Creek and Bundagaree Creek in Bongil Bongil National Park with occurrences further north at Boambee and in Moonee Creek Nature Reserve.

This community has emergent Pink Bloodwood (*Corymbia intermedia*), Brush Box (*Lophostemon confertus*) and occasionally Flooded Gum (*Eucalyptus grandis*). In the best developed examples Strangler Figs (*Ficus watkinsiana*) are common growing on large Brush Box (*Lophostemon confertus*) trees. There is a dense sub canopy of rainforest trees, with Pear-fruited Tamarind (*Mischocarpus pyriformis* subsp. *pyriformis*), Myrtle Ebony (*Diospyros pentamera*), Small-leaved Lilly Pilly (*Syzygium luehmannii*) and Brown Bolly Gum (*Litsea australis*) being most common.

Numerous other rainforest trees and shrubs are present, including Water Gum (*Tristaniopsis laurina*), Blue Lilly Pilly (*Syzygium oleosum*), Yellow Tulipwood (*Drypetes deplanchei*), Guioa (*Guioa semiglauca*), Lilly Pilly (*Acmena smithii*), Tuckeroo (*Cupaniopsis anacardioides*), Flintwood (*Scolopia braunii*) and Bolly Gum (*Litsea reticulata*). Epiphytic ferns are prolific in some of the sites, including Elkhorn (*Platynerium bifurcatum*), Stag Horn (*Platynerium superbum*), Felt Fern (*Pyrrhosia confluens* var. *confluens*), Ribbon Fern (*Ophioglossum pendulum*), Bird's Nest Fern (*Asplenium australasicum*) and Hare's Foot Fern (*Davallia solida* var. *pyxidata*). The most abundant climber is Long-leaved Water Vine (*Cissus sterculiifolia*). An open ground layer is present and the more abundant species recorded were Narrow-leaved Palm Lily (*Cordyline stricta*) and *Lomandra spicata*. Fork Fern (*Tmesipteris truncata*) occurs commonly in the ground layer and was only recorded in this community.

Floristic summary

Layer	Height	Cover	Dominant Species
Emergent	20-35	35	<i>Corymbia intermedia</i> , <i>Lophostemon confertus</i> .
Tallest	8-35	20-75	<i>Mischocarpus pyriformis</i> subsp. <i>pyriformis</i> , <i>Diospyros pentamera</i> , <i>Syzygium luehmannii</i> , <i>Litsea australis</i> , <i>Tristaniopsis laurina</i> , <i>Syzygium oleosum</i> , <i>Drypetes deplanchei</i> , <i>Guioa semiglauca</i> , <i>Acmena smithii</i> , <i>Cupaniopsis anacardioides</i> , <i>Scolopia braunii</i> , <i>Litsea reticulata</i> .
Middle	2-10	35-75	<i>Mischocarpus pyriformis</i> subsp. <i>pyriformis</i> , <i>Diospyros pentamera</i> , <i>Syzygium luehmannii</i> .
Lower layer 1	0.3-3	15-25	<i>Cissus sterculiifolia</i> , <i>Lomandra spicata</i> , <i>Ripogonum album</i> , <i>Smilax australis</i> .
Lower layer 2	0-0.3	5-20	<i>Tripladenia cunninghamii</i> , <i>Oplismenus imbecillis</i> , <i>Tmesipteris truncata</i> .

* Data collated from 7 of 9 full floristic sites

Exotics

Cinnamomum camphora, *Gloriosa superba*, *Lantana camara*

Species richness

Number of plots	9
Total native species	107
Average number of species	49 ±9

Conservation status

This community is reserved in Bongil Bongil National park (68ha), Moonee Beach Nature Reserve (6ha) and Coffs Coast Regional Park (1ha), Yuraygir National Park (3ha)

Tenure	Area (ha)
Crown Land	3
Freehold	7
National Park	65
Nature Reserve	6
NSW State Forest	4
Regional Park	1
TOTAL	87

Endangered Ecological Community: *Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC.

Threatened and Rare plants: *Acronychia littoralis*, *Peristeranthus hillii*



Relationship to other communities

Related to CH_RF07 (Coastal Exposed Dune Littoral Rainforest) but with a more developed structure and a higher species richness. CH_RF07 occurs in more exposed locations and is often windswept.

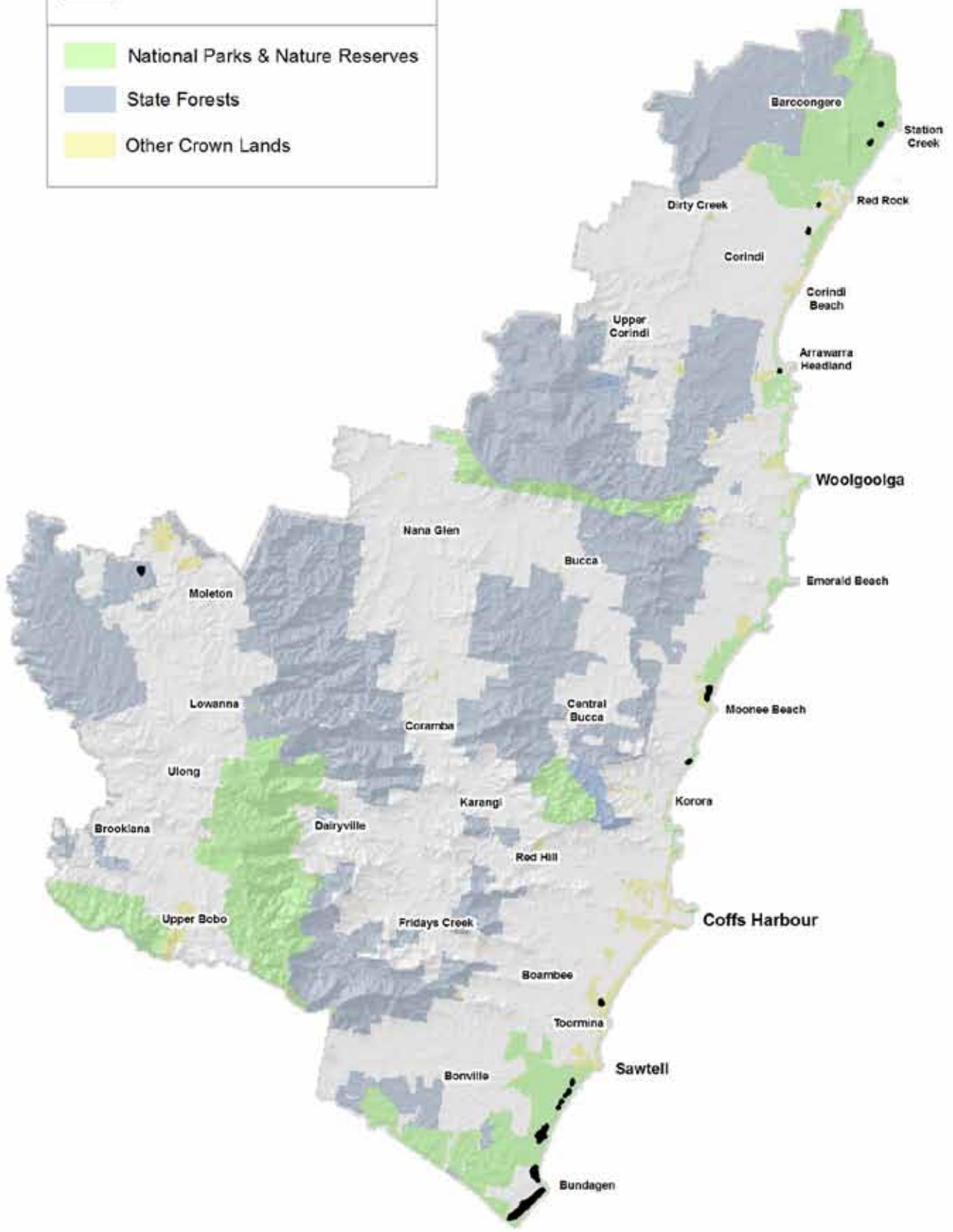
Equivalents

Biometric: Tuckeroo - Riberry - Yellow Tulipwood littoral rainforest of the North Coast (NR273)

Other: Sub-alliance 16 (Floyd 1990); Community 18- Small-leaved Lilly Pilly Tamarind Littoral Rainforest - *Bongil Bongil* (Cameron et al. 2011)

Locations


Known examples include Bundagen and Scrub Creek, Boambee Creek, Sapphire Beach, Moonee Creek and Moonee Beach Nature Reserve.



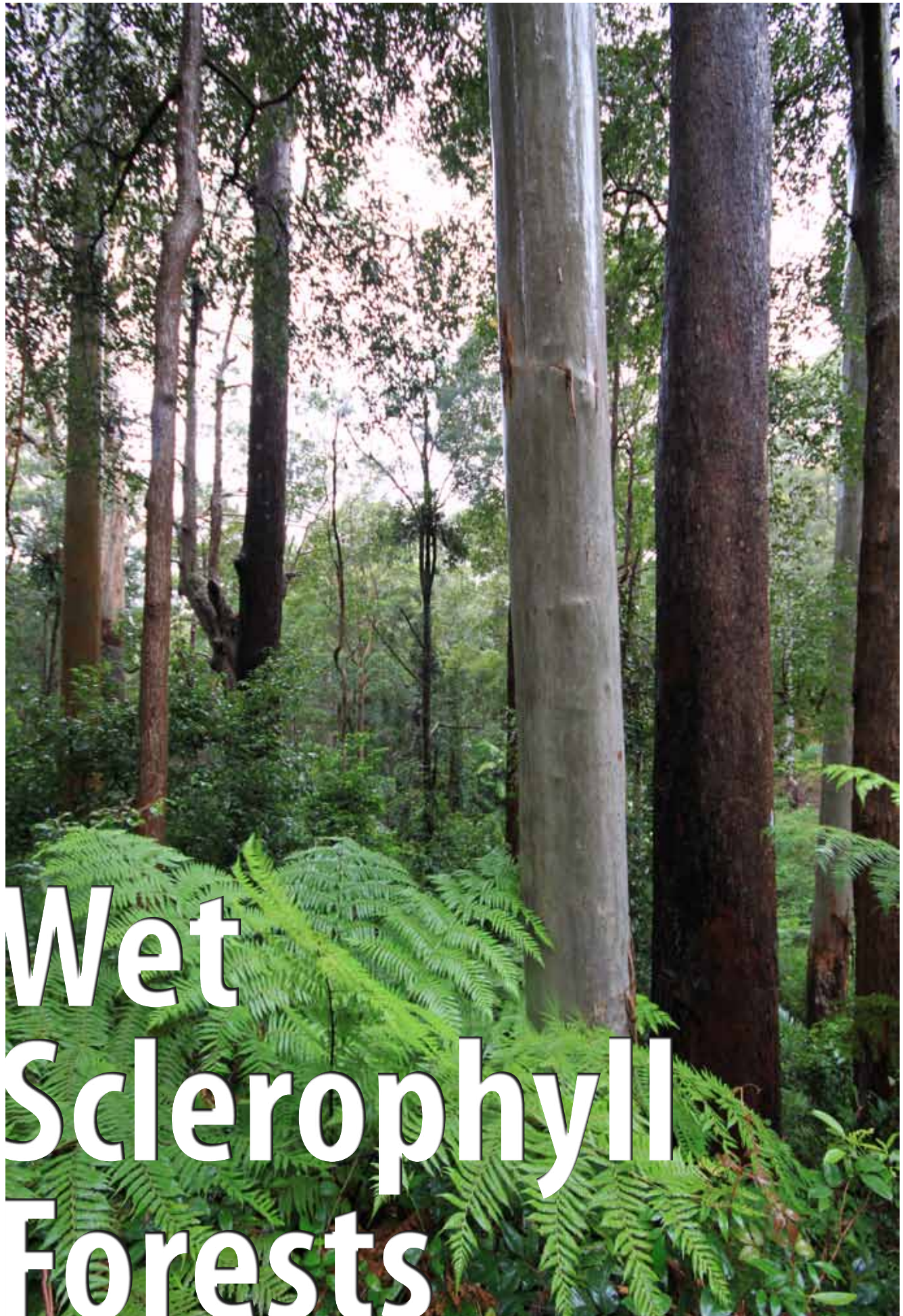
Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia maidenii</i>	1	11%	1	14%	uninformative
<i>Acianthus fornicatus</i>	1	11%	1	1%	uninformative
<i>Acmena smithii</i>	1	100%	1	25%	uninformative
<i>Acronychia imperforata</i>	1	22%	1	4%	uninformative
<i>Acronychia oblongifolia</i>	1	56%	1	3%	uninformative
<i>Alectryon coriaceus</i>	1	22%	2	2%	uninformative
<i>Alphitonia excelsa</i>	1	11%	1	14%	uninformative
<i>Alpinia arundelliana</i>	1	11%	1	1%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	78%	1	31%	uninformative
<i>Arytera divaricata</i>	1	22%	2	1%	uninformative
<i>Asplenium australasicum</i>	1	33%	1	8%	uninformative
<i>Beilschmiedia obtusifolia</i>	1	22%	2	0%	uninformative
<i>Breynia oblongifolia</i>	1	22%	1	29%	uninformative
<i>Calamus muelleri</i>	1	22%	2	14%	uninformative
<i>Calanthe triplicata</i>	2	22%	1	3%	uninformative
<i>Celastrus subspicata</i>	1	44%	1	3%	uninformative
<i>Celtis paniculata</i>	1	22%	0	0%	positive
<i>Cinnamomum oliveri</i>	1	11%	1	6%	uninformative
<i>Cissus antarctica</i>	1	11%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	44%	1	38%	uninformative
<i>Cissus sterculifolia</i>	3	100%	1	5%	positive
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	44%	1	9%	uninformative
<i>Cordyline stricta</i>	1	100%	1	37%	uninformative
<i>Corymbia intermedia</i>	2	78%	2	19%	positive
<i>Cryptocarya microneura</i>	1	44%	1	20%	uninformative
<i>Cryptocarya triplinervis</i>	1	22%	1	4%	uninformative
<i>Cupaniopsis anacardioides</i>	1	100%	2	9%	uninformative
<i>Cyclophyllum longipetalum</i>	1	89%	1	4%	uninformative
<i>Cymbidium madidum</i>	1	67%	1	3%	uninformative
<i>Cyperus tetraphyllus</i>	1	11%	2	1%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	2	22%	1	3%	uninformative
<i>Denhamia celastroides</i>	1	44%	1	8%	uninformative
<i>Desmodium nemorosum</i>	1	11%	1	0%	uninformative
<i>Dianella caerulea</i>	1	78%	1	50%	uninformative
<i>Dioscorea transversa</i>	1	56%	1	27%	uninformative
<i>Diospyros pentamera</i>	3	89%	1	4%	positive
<i>Drypetes deplanchei</i>	1	78%	1	3%	uninformative
<i>Elaeocarpus obovatus</i>	2	22%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	11%	1	28%	uninformative
<i>Elaeodendron australe</i> var. <i>australe</i>	1	78%	1	2%	uninformative
<i>Embelia australiana</i>	1	11%	1	11%	uninformative
<i>Endiandra discolor</i>	3	22%	1	5%	uninformative
<i>Endiandra muelleri</i>	1	11%	1	9%	uninformative
<i>Endiandra sieberi</i>	1	67%	1	8%	uninformative
<i>Eucalyptus grandis</i>	2	56%	3	17%	positive
<i>Eucalyptus robusta</i>	2	11%	2	7%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Eupomatia laurina</i>	1	67%	1	13%	uninformative
<i>Euroschinus falcatus</i>	1	67%	1	3%	uninformative
<i>Eustrephus latifolius</i>	1	67%	1	29%	uninformative
<i>Ficus obliqua</i> var. <i>obliqua</i>	1	22%	1	0%	uninformative
<i>Ficus watkinsiana</i>	1	78%	2	3%	uninformative
<i>Geitonoplesium cymosum</i>	1	56%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	11%	1	13%	uninformative
<i>Gmelina leichhardtii</i>	1	11%	1	3%	uninformative
<i>Guioa semiglauca</i>	2	89%	1	27%	positive
<i>Gymnostachys anceps</i>	1	11%	1	19%	uninformative
<i>Hibbertia scandens</i>	1	44%	1	31%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	44%	1	10%	uninformative
<i>Linospadix monostachya</i>	1	11%	2	13%	uninformative
<i>Litsea australis</i>	3	100%	1	3%	positive
<i>Litsea reticulata</i>	2	56%	2	6%	positive
<i>Livistona australis</i>	1	22%	1	3%	uninformative
<i>Lomandra longifolia</i>	2	33%	2	52%	negative
<i>Lomandra spicata</i>	2	89%	1	8%	positive
<i>Lophostemon confertus</i>	3	44%	2	31%	uninformative
<i>Lophostemon suaveolens</i>	1	11%	2	9%	uninformative
<i>Maclura cochinchinensis</i>	1	44%	1	6%	uninformative
<i>Marsdenia rostrata</i>	1	44%	1	7%	uninformative
<i>Mischocarpus pyriformis</i>	4	89%	1	3%	positive
<i>Morinda jasminoides</i>	1	11%	1	37%	uninformative
<i>Myrsine variabilis</i>	1	89%	1	15%	uninformative
<i>Neolitsea dealbata</i>	1	11%	1	16%	uninformative
<i>Notelaea longifolia</i>	2	89%	1	25%	positive
<i>Ophioglossum pendulum</i>	1	44%	2	0%	uninformative
<i>Oplismenus aemulus</i>	1	22%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	1	56%	2	21%	uninformative
<i>Pellaea falcata</i>	4	11%	1	1%	uninformative
<i>Peristeranthus hillii</i>	1	22%	0	0%	positive
<i>Pittosporum multiflorum</i>	1	11%	1	13%	uninformative
<i>Pittosporum revolutum</i>	1	67%	1	12%	uninformative
<i>Platycerium bifurcatum</i>	2	78%	1	15%	positive
<i>Platycerium superbum</i>	1	33%	1	5%	uninformative
<i>Podocarpus elatus</i>	1	33%	0	0%	positive
<i>Psilotum nudum</i>	1	44%	1	1%	uninformative
<i>Psychotria loniceroides</i>	1	33%	1	13%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	44%	1	4%	uninformative
<i>Rhodamnia rubescens</i>	1	33%	1	16%	uninformative
<i>Rhodomyrtus psidioides</i>	1	44%	1	3%	uninformative
<i>Ripogonum album</i>	1	33%	2	6%	uninformative
<i>Ripogonum brevifolium</i>	3	22%	1	0%	uninformative
<i>Ripogonum discolor</i>	3	11%	2	11%	uninformative
<i>Sarcopetalum harveyanum</i>	1	33%	1	8%	uninformative
<i>Scolopia braunii</i>	1	89%	1	4%	uninformative
<i>Smilax australis</i>	2	89%	1	43%	positive
<i>Smilax glycyphylla</i>	1	56%	1	28%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	89%	2	33%	uninformative
<i>Syzygium australe</i>	1	44%	2	5%	uninformative
<i>Syzygium luehmannii</i>	3	100%	1	3%	positive
<i>Syzygium oleosum</i>	2	78%	1	5%	positive
<i>Tmesipteris truncata</i>	1	44%	0	0%	positive
<i>Tripladenia cunninghamii</i>	1	67%	1	9%	uninformative
<i>Tristaniopsis laurina</i>	4	22%	2	3%	uninformative
<i>Trochocarpa laurina</i>	1	89%	1	36%	uninformative
<i>Trophis scandens</i> subsp. <i>scandens</i>	1	11%	1	3%	uninformative
<i>Viola banksii</i>	1	33%	2	16%	uninformative
<i>Wilkiea huegeliana</i>	1	89%	1	27%	uninformative
<i>Xanthorrhoea macronema</i>	1	33%	1	5%	uninformative



Wet Sclerophyll Forests

COAST AND HINTERLAND RIPARIAN FLOODED GUM - BANGALOW WET FOREST

CH_WSF01

SCIENTIFIC NAME Flooded Gum (*Eucalyptus grandis*) – Bangalow Palm (*Archontophoenix cunninghamiana*) riparian forest of coastal and hinterland floodplains

PLANT COMMUNITY TYPE Flooded Gum moist open forest of sheltered lower slopes and gullies in the Clarence and Bellinger River valleys, NSW North Coast Bioregion (NSW700-399)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A wet forest of riparian areas with a canopy usually dominated by Flooded Gum (*Eucalyptus grandis*). Other species of Eucalypt may be present in lower abundances or rarely as co-dominants including Turpentine (*Syncarpia glomulifera*), Tallowwood (*Eucalyptus microcorys*) and Blackbutt (*Eucalyptus pilularis*). The mid layer is composed of a diverse array of species including Bangalow Palm (*Archontophoenix cunninghamiana*), Forest Oak (*Allocasuarina torulosa*), Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*), Forest Maple (*Cryptocarya rigida*), Tree Heath (*Trochocarpa laurina*), Black Wattle (*Callicoma serratifolia*), Wilkiea (*Wilkiea huegeliana*) and Banana Bush (*Tabernaemontana pandacaqui*). There are several epiphytes and climbers including Small Supplejack (*Ripogonum fawcettianum*), Elkhorn (*Platyserium bifurcatum*) and Layer Vine (*Smilax australis*). The ground layer consists of Pastel Flower (*Pseuderanthemum variabile*), Palm Lily (*Cordyline stricta*), Gristle Fern (*Blechnum cartilagineum*), Native Violet (*Viola banksii*) and Creeping Beard Grass (*Oplismenus imbecillis*). This community was recorded commonly along riparian areas and lower slopes on floodplains on the coastal lowlands, foothill gullies and river flats throughout the study area. This community is common at very low elevations (<100m ASL) up to around 270m ASL. Uncommon above 270m.

Remaining examples of this community are typically heavily disturbed and weed infested. This community often forms a mosaic with CH_FrW07 (River Oak Riparian Forest) in the Orara Valley and mapped examples of both communities may contain elements of the other.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	12 - 30	20 - 40	<i>Eucalyptus grandis</i> , <i>Syncarpia glomulifera</i> , <i>Lophostemon confertus</i> , <i>Eucalyptus pilularis</i> , <i>Eucalyptus saligna</i> , <i>Eucalyptus acmenoides</i> , <i>Eucalyptus microcorys</i> .
Middle 1	5 - 12	10 - 40	<i>Allocasuarina torulosa</i> , <i>Archontophoenix cunninghamiana</i> , <i>Callicoma serratifolia</i> , <i>Schizomeria ovata</i> .
Middle 2	2 - 6	20 - 40	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Trochocarpa laurina</i> , <i>Cryptocarya rigida</i> , <i>Ripogonum album</i> .
Lower	0 - 5	5 - 35	<i>Oplismenus imbecillis</i> , <i>Blechnum cartilagineum</i> , <i>Ottochloa gracillima</i> , <i>Pseuderanthemum variabile</i> , <i>Alpinia caerulea</i> , <i>Cordyline stricta</i> , <i>Calochlaena dubia</i> .

* Data collated from 20 of 22 full floristic sites

Structural and floristic variations

In some areas this community had undergone significant modification along many creek lines, which are now heavily infested by weed species such as Camphor Laurel (*Cinnamomum camphora*) and Lantana (*Lantana camara*). This type is also heavily logged in some areas and structural differences occur due to various silvicultural techniques including plantation establishment.

Exotics *Ageratina adenophora*, *Cinnamomum camphora*, *Lantana camara*, *Ligustrum sinense*

Species richness

Number of plots	22
Total species	194
Average number of species	49 ±8.5

Conservation status

This community is reserved in Bindarri National Park (31ha), Orara East State Forest – Bruxner Park Flora reserve (44ha) Bongil Bongil National Park (376ha), Sherwood Nature Reserve (9ha) and Ulidarra National Park (27ha).

Tenure	Area (ha)
Crown Land	10
Freehold	2 666
National Park	454
Nature Reserve	17
NSW State Forest	1 557
NSW State Forest Flora Reserve	44
TOTAL	4 748

Threatened and Rare plants: *Marsdenia longiloba*, *Niemeyera whitei*

Equivalents

Biometric: Flooded Gum - Brush Box moist forest of the coastal ranges of the North Coast (NR159).

Other: N27 - Flooded Gum (Fisher et al. 1996).

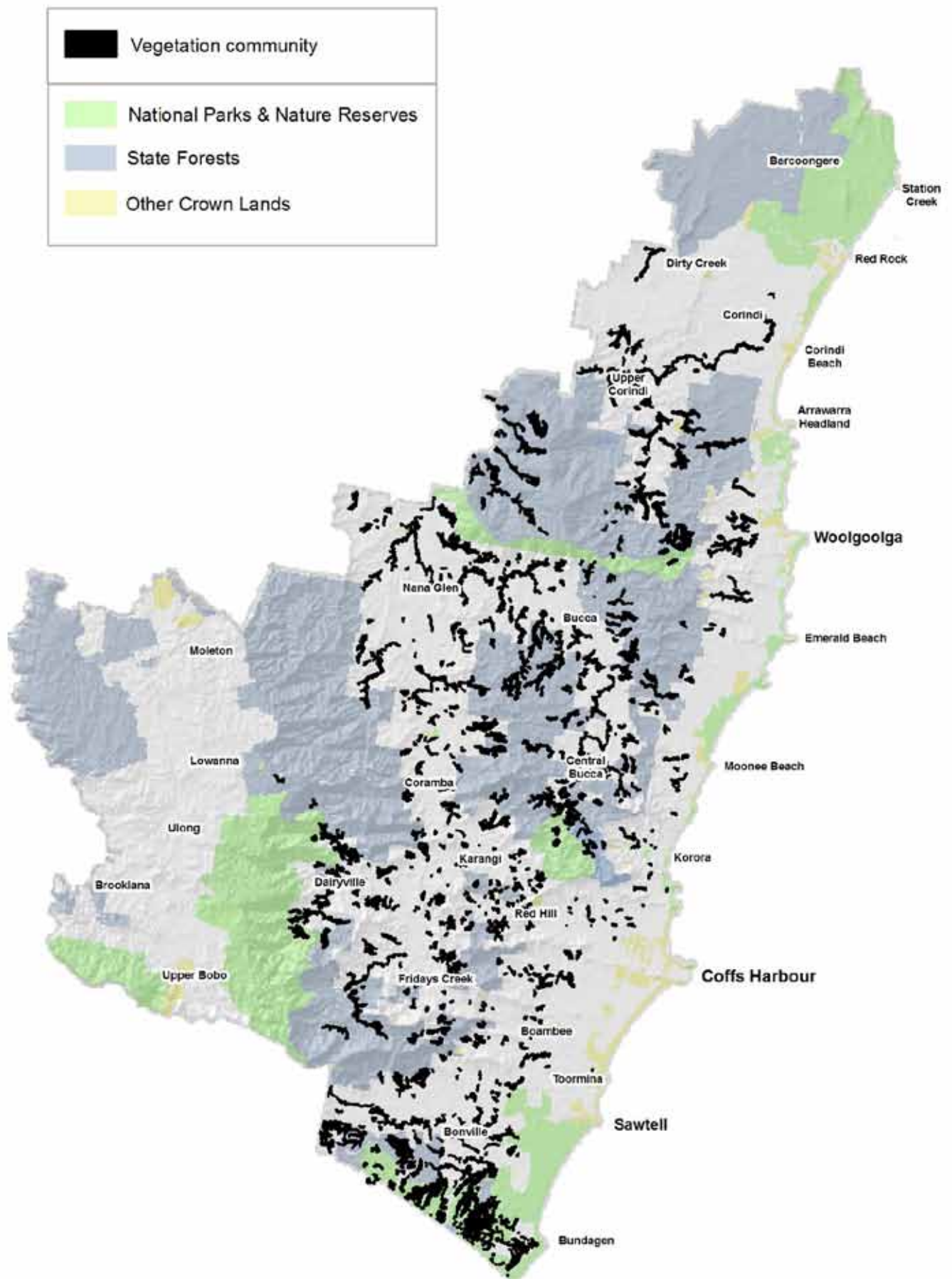


Relationship to other communities

Related to CH_WSF05 (Foothills to Escarpment Brush Box - Tallowwood - Blackbutt Wet Forest) and may transition to this community with altitude and topographic position. CH_WSF05 is indicated by a dominance of Flooded Gum (*Eucalyptus grandis*) and high cover of Bangalow Palm (*Archontophoenix cunninghamiana*). This community may also be replaced by CH_WSF03 (Foothills and Escarpment Blue Gum - Tallowwood - Turpentine Wet Shrubby Forest) away from the coast (Orara valley and Dorrigo escarpment) with an increasing proportion of Sydney Blue Gum (*Eucalyptus saligna*) and decreasing proportion of Bangalow Palm (*Archontophoenix cunninghamiana*). Other species such as Callicoma (*Callicoma serratifolia*) and Rose Myrtle (*Archirhodomyrtus beckleri*) are likely to be more common. CH_WSF01 can transition into CH_RF11 (Escarpment and Lowland Bangalow - Carabeen - Black Booyong Palm Gully Rainforest) or CH_RF09 (Hinterland White Booyong Floodplain Rainforest) in more sheltered areas. This community often forms a mosaic with CH_FrW07 (River Oak Riparian Forest) in the Orara Valley and mapped examples of both communities may elements of the other.

Locations

Known localities include Bundageree Creek in Bongil Bongil National Park, Corindi River, Bucca Bucca River in Bruxner Park Flora Reserve, junction of Orara River and Coldwater Creek and Bonville Creek.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia floribunda</i>	1	5%	1	0%	uninformative
<i>Acacia maidenii</i>	1	45%	1	12%	uninformative
<i>Acmena smithii</i>	1	36%	1	26%	uninformative
<i>Acronychia oblongifolia</i>	1	9%	1	4%	uninformative
<i>Adiantum aethiopicum</i>	1	5%	1	2%	uninformative
<i>Adiantum hispidulum</i>	1	18%	2	8%	uninformative
<i>Adiantum silvaticum</i>	3	18%	2	4%	uninformative
<i>Allocasuarina torulosa</i>	2	91%	2	33%	positive
<i>Alphitonia excelsa</i>	1	9%	1	14%	uninformative
<i>Alpinia caerulea</i>	1	77%	1	15%	uninformative
<i>Aneilema acuminatum</i>	2	5%	1	1%	uninformative
<i>Aphananthe philippinensis</i>	3	5%	1	1%	uninformative
<i>Aphanopetalum resinosum</i>	2	5%	3	1%	uninformative
<i>Archidendron grandiflorum</i>	1	27%	1	2%	uninformative
<i>Archirhodomyrtus beckleri</i>	1	18%	2	24%	uninformative
<i>Archontophoenix cunninghamiana</i>	2	82%	1	29%	positive
<i>Asplenium australasicum</i>	1	14%	1	9%	uninformative
<i>Astrotricha latifolia</i>	1	5%	1	2%	uninformative
<i>Atractocarpus benthamianus</i>	2	36%	2	6%	uninformative
<i>Blechnum cartilagineum</i>	2	95%	2	35%	positive
<i>Blechnum minus</i>	1	5%	0	0%	positive
<i>Breynia oblongifolia</i>	1	41%	1	29%	uninformative
<i>Calamus muelleri</i>	2	59%	2	12%	positive
<i>Calanthe triplicata</i>	1	14%	1	3%	uninformative
<i>Caldcluvia paniculosa</i>	1	5%	2	13%	uninformative
<i>Callicoma serratifolia</i>	2	45%	2	16%	uninformative
<i>Callistemon salignus</i>	2	14%	3	13%	uninformative
<i>Calochlaena dubia</i>	1	86%	2	24%	uninformative
<i>Carex appressa</i>	2	5%	2	1%	uninformative
<i>Cayratia clematidea</i>	1	14%	1	7%	uninformative
<i>Celastrus subspicata</i>	3	9%	1	4%	uninformative
<i>Cephalalaria cephalobotrys</i>	2	18%	1	4%	uninformative
<i>Ceratopetalum apetalum</i>	3	9%	3	11%	uninformative
<i>Chiloglottis sylvestris</i>	1	5%	0	0%	positive
<i>Cinnamomum oliveri</i>	1	9%	1	6%	uninformative
<i>Cissus antarctica</i>	1	59%	1	17%	uninformative
<i>Cissus hypoglauca</i>	1	86%	1	35%	uninformative
<i>Cissus sterculiifolia</i>	1	23%	1	6%	uninformative
<i>Claoxylon australe</i>	1	14%	1	6%	uninformative
<i>Clematis aristata</i>	1	18%	1	11%	uninformative
<i>Clematis glycinoides</i>	1	5%	1	6%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	50%	1	8%	uninformative
<i>Clerodendrum tomentosum</i>	1	5%	1	5%	uninformative
<i>Commelina cyanea</i>	2	5%	1	5%	uninformative
<i>Cordyline stricta</i>	2	95%	1	35%	positive
<i>Corymbia intermedia</i>	1	41%	2	19%	uninformative
<i>Croton verreauxii</i>	3	23%	1	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Cryptocarya glaucescens</i>	1	5%	2	18%	uninformative
<i>Cryptocarya microneura</i>	1	50%	1	19%	uninformative
<i>Cryptocarya obovata</i>	1	5%	1	3%	uninformative
<i>Cryptocarya rigida</i>	2	86%	2	24%	positive
<i>Cyathea australis</i>	1	23%	1	13%	uninformative
<i>Cyathea leichhardtiana</i>	1	5%	1	10%	uninformative
<i>Cyclophyllum longipetalum</i>	1	9%	1	5%	uninformative
<i>Cymbidium madidum</i>	1	9%	1	4%	uninformative
<i>Cyperus filipes</i>	1	18%	1	3%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	1	9%	1	4%	uninformative
<i>Desmodium gunnii</i>	1	5%	1	4%	uninformative
<i>Desmodium varians</i>	1	14%	1	6%	uninformative
<i>Dianella caerulea</i>	1	82%	1	49%	uninformative
<i>Dichondra repens</i>	2	9%	1	5%	uninformative
<i>Dioscorea transversa</i>	2	91%	1	25%	positive
<i>Diospyros pentamera</i>	1	5%	2	6%	uninformative
<i>Doodia aspera</i>	2	36%	2	14%	uninformative
<i>Dysoxylum rufum</i>	1	9%	2	2%	uninformative
<i>Echinostephia aculeata</i>	1	5%	1	3%	uninformative
<i>Ehretia acuminata</i> var. <i>acuminata</i>	1	5%	1	1%	uninformative
<i>Elaeocarpus reticulatus</i>	1	32%	1	27%	uninformative
<i>Elaeodendron australe</i> var. <i>australe</i>	1	5%	1	4%	uninformative
<i>Elattostachys nervosa</i>	1	5%	1	3%	uninformative
<i>Embelia australiana</i>	1	23%	1	11%	uninformative
<i>Endiandra discolor</i>	2	27%	1	4%	uninformative
<i>Endiandra sieberi</i>	1	14%	1	9%	uninformative
<i>Entolasia marginata</i>	1	36%	2	8%	uninformative
<i>Entolasia stricta</i>	1	9%	2	26%	uninformative
<i>Eucalyptus acmenoides</i>	1	32%	3	7%	uninformative
<i>Eucalyptus carnea</i>	2	5%	2	11%	uninformative
<i>Eucalyptus eugenioides</i>	1	5%	1	1%	uninformative
<i>Eucalyptus fusiformis</i>	3	18%	1	0%	uninformative
<i>Eucalyptus grandis</i>	3	86%	3	14%	positive
<i>Eucalyptus microcorys</i>	2	55%	3	34%	positive
<i>Eucalyptus pilularis</i>	3	59%	3	25%	positive
<i>Eucalyptus propinqua</i>	1	23%	3	13%	uninformative
<i>Eucalyptus saligna</i>	1	5%	3	10%	uninformative
<i>Eucalyptus siderophloia</i>	3	5%	3	11%	uninformative
<i>Eupomatia laurina</i>	1	59%	1	12%	uninformative
<i>Eustrephus latifolius</i>	1	82%	1	27%	uninformative
<i>Ficus coronata</i>	1	27%	1	12%	uninformative
<i>Flagellaria indica</i>	1	9%	1	4%	uninformative
<i>Gahnia aspera</i>	1	14%	1	14%	uninformative
<i>Gahnia clarkei</i>	1	59%	2	12%	uninformative
<i>Gahnia melanocarpa</i>	1	5%	1	1%	uninformative
<i>Galactia tenuiflora</i>	1	41%	0	0%	positive
<i>Geitonoplesium cymosum</i>	1	23%	1	23%	uninformative
<i>Glycine clandestina</i>	1	5%	1	13%	uninformative
<i>Grevillea robusta</i>	1	5%	1	0%	uninformative
<i>Guioa semiglauca</i>	1	36%	1	28%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Gymnostachys anceps</i>	1	59%	1	17%	uninformative
<i>Hibbertia dentata</i>	1	18%	1	6%	uninformative
<i>Hibbertia scandens</i>	1	18%	1	32%	uninformative
<i>Hibiscus diversifolius</i>	1	5%	1	1%	uninformative
<i>Histiopteris incisa</i>	1	5%	1	1%	uninformative
<i>Hovea acutifolia</i>	1	5%	2	1%	uninformative
<i>Hydrocotyle peduncularis</i>	1	23%	1	5%	uninformative
<i>Hypolepis muelleri</i>	1	27%	2	2%	uninformative
<i>Imperata cylindrica</i>	1	23%	2	32%	uninformative
<i>Indigofera australis</i>	1	9%	2	4%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	27%	1	10%	uninformative
<i>Lepidosperma laterale</i>	1	14%	1	17%	uninformative
<i>Linospadix monostachya</i>	1	45%	2	11%	uninformative
<i>Litsea australis</i>	1	5%	1	5%	uninformative
<i>Livistona australis</i>	1	14%	1	3%	uninformative
<i>Lobelia trigonocaulis</i>	1	45%	1	4%	uninformative
<i>Lomandra filiformis</i>	1	32%	1	11%	uninformative
<i>Lomandra hystrix</i>	1	5%	2	2%	uninformative
<i>Lomandra longifolia</i>	1	32%	2	52%	negative
<i>Lomandra spicata</i>	1	55%	1	7%	uninformative
<i>Lophostemon confertus</i>	2	32%	2	31%	uninformative
<i>Maclura cochinchinensis</i>	1	9%	1	7%	uninformative
<i>Marsdenia longiloba</i>	1	5%	1	0%	uninformative
<i>Marsdenia rostrata</i>	1	5%	1	8%	uninformative
<i>Maytenus silvestris</i>	1	5%	1	2%	uninformative
<i>Melicope hayesii</i>	1	14%	1	3%	uninformative
<i>Melicope micrococca</i>	1	5%	1	2%	uninformative
<i>Mischocarpus pyriformis</i>	1	5%	2	4%	uninformative
<i>Morinda jasminoides</i>	2	95%	1	34%	positive
<i>Mucuna gigantea</i> subsp. <i>gigantea</i>	1	5%	1	0%	uninformative
<i>Myrsine howittiana</i>	1	5%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	36%	1	15%	uninformative
<i>Neolitsea dealbata</i>	1	9%	1	16%	uninformative
<i>Niemeyera whitei</i>	2	9%	1	5%	uninformative
<i>Notelaea longifolia</i>	1	32%	1	26%	uninformative
<i>Oplismenus aemulus</i>	2	5%	2	13%	uninformative
<i>Oplismenus imbecillis</i>	2	59%	2	20%	positive
<i>Ottochloa gracillima</i>	2	36%	2	9%	uninformative
<i>Oxalis exilis</i>	1	5%	1	2%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	23%	1	11%	uninformative
<i>Parsonsia straminea</i>	1	27%	1	28%	uninformative
<i>Petermannia cirrosa</i>	3	9%	1	6%	uninformative
<i>Phebalium squamulosum</i>	1	5%	0	0%	positive
<i>Pilidiostigma glabrum</i>	1	59%	1	10%	uninformative
<i>Pittosporum multiflorum</i>	1	36%	1	11%	uninformative
<i>Pittosporum revolutum</i>	1	9%	1	13%	uninformative
<i>Pittosporum undulatum</i>	1	18%	1	10%	uninformative
<i>Platynerium bifurcatum</i>	1	59%	1	14%	uninformative
<i>Platynerium superbum</i>	1	5%	1	5%	uninformative
<i>Plectorrhiza tridentata</i>	1	5%	1	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Polyosma cunninghamii</i>	3	9%	2	5%	uninformative
<i>Polyscias elegans</i>	1	5%	1	4%	uninformative
<i>Pratia purpurascens</i>	1	50%	1	22%	uninformative
<i>Pseuderanthemum variabile</i>	2	100%	2	23%	positive
<i>Pteridium esculentum</i>	1	9%	2	33%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	5%	1	5%	uninformative
<i>Rhodamnia rubescens</i>	1	41%	1	15%	uninformative
<i>Ripogonum album</i>	1	36%	2	5%	uninformative
<i>Ripogonum discolor</i>	2	9%	2	11%	uninformative
<i>Ripogonum elseyanum</i>	2	14%	2	7%	uninformative
<i>Ripogonum fawcettianum</i>	2	68%	2	19%	positive
<i>Rubus moluccanus</i> var. <i>trilobus</i>	1	9%	1	4%	uninformative
<i>Rubus nebulosus</i>	1	27%	1	4%	uninformative
<i>Rubus rosifolius</i>	1	5%	2	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	9%	1	9%	uninformative
<i>Sarcopteryx stipata</i>	1	14%	1	11%	uninformative
<i>Sarcopteryx stipitata</i>	1	5%	2	2%	uninformative
<i>Schizomeria ovata</i>	1	27%	1	11%	uninformative
<i>Seringia arborescens</i>	1	5%	1	2%	uninformative
<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	1	5%	1	2%	uninformative
<i>Sloanea australis</i>	2	9%	3	5%	uninformative
<i>Sloanea woollsii</i>	3	5%	1	6%	uninformative
<i>Smilax australis</i>	1	77%	1	43%	uninformative
<i>Smilax glycyphylla</i>	1	32%	1	28%	uninformative
<i>Solanum hapalum</i>	1	5%	1	6%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	45%	1	20%	uninformative
<i>Streblus brunonianus</i>	1	5%	0	0%	positive
<i>Symplocos thwaitesii</i>	1	5%	0	0%	positive
<i>Syncarpia glomulifera</i>	2	68%	3	37%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	3	91%	2	32%	positive
<i>Syzygium luehmannii</i>	1	14%	1	4%	uninformative
<i>Syzygium oleosum</i>	1	5%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	82%	1	25%	uninformative
<i>Tasmannia insipida</i>	1	27%	1	11%	uninformative
<i>Todea barbara</i>	1	14%	1	0%	uninformative
<i>Toona ciliata</i>	2	5%	1	1%	uninformative
<i>Trema tomentosa</i> var. <i>aspera</i>	1	5%	1	3%	uninformative
<i>Trimenia moorei</i>	1	14%	1	2%	uninformative
<i>Tripladenia cunninghamii</i>	1	18%	1	9%	uninformative
<i>Trochocarpa laurina</i>	1	68%	1	35%	uninformative
<i>Trophis scandens</i> subsp. <i>scandens</i>	2	5%	1	3%	uninformative
<i>Tylophora paniculata</i>	1	5%	1	2%	uninformative
<i>Vernonia cinerea</i>	1	9%	1	11%	uninformative
<i>Veronica plebeia</i>	1	5%	1	1%	uninformative
<i>Viola banksii</i>	1	50%	2	14%	uninformative
<i>Wilkiea huegeliana</i>	1	64%	1	26%	uninformative
<i>Zieria smithii</i>	1	5%	1	4%	uninformative

HINTERLAND BLACKBUTT - BANGALOW - TURPENTINE WET SHRUBBY FOREST

SCIENTIFIC NAME Hinterland Blackbutt (*Eucalyptus pilularis*) –
Bangalow Palm (*Archontophoenix cunninghamiana*) – Turpentine
(*Syncarpia glomulifera*) wet shrubby forest

PLANT COMMUNITY TYPE Blackbutt – Turpentine – Brush Box –
Bangalow Palm – Corkwood shrubby wet gully forest, NSW North Coast
Bioregion (NSW1500-930)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet
Sclerophyll Forests (Keith 2006)



Description

A very tall to extremely tall wet forest with rainforest elements in the understorey. The canopy is dominated by Coastal Blackbutt (*Eucalyptus pilularis*). A range of other canopy species may be present in moderate abundance including Tallowwood (*Eucalyptus microcorys*), Brush Box (*Lophostemon confertus*), Turpentine (*Syncarpia glomulifera*) and Flooded Gum (*Eucalyptus grandis*). The mid-stratum is strongly dominated by Bangalow Palm (*Archontophoenix cunninghamiana*), Forest Oak (*Allocasuarina torulosa*), Black Wattle (*Callicoma serratifolia*), Forest Maple (*Cryptocarya rigida*), Prickly Tree-Fern (*Cyathea leichhardtiana*), Soft Corkwood (*Caldcluvia paniculosa*), Tree Heath (*Trochocarpa laurina*) and Rose Myrtle (*Archirhodomyrtus beckleri*). Vines include False Sarsaparilla (*Smilax glycyphylla*) and Small-leaved Supplejack (*Ripogonum fawcettianum*). The ground layer is sparse with Gristle Fern (*Blechnum cartilagineum*), Pastel Flower (*Pseuderanthemum variabile*) and Palm Lily (*Cordylina stricta*).

This community is widespread in sheltered aspects on gullies, often in the mid to upper slopes. The community occurs from very wet areas on very steep hills of the Orara Escarpment to the steep hills and rolling low hills of the Coast Range. It is found between about 100 metres to almost 500 metres above sea level on the Orara Escarpment rim. The geology comprises both sedimentary and metasedimentary geology north from near Crossmaglen in Tuckers Nob State Forest to Conglomerate State Forest near upper Corindi.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	20-55	30-75	<i>Eucalyptus pilularis</i> , <i>Lophostemon confertus</i> , <i>Syncarpia glomulifera</i> , <i>Corymbia intermedia</i> , <i>Eucalyptus grandis</i> , <i>Eucalyptus microcorys</i>
Middle Layer	0.1-18	35-85	<i>Caldcluvia paniculosa</i> , <i>Smilax glycyphylla</i> , <i>Morinda jasminoides</i> , <i>Archontophoenix cunninghamiana</i> , <i>Cordyline stricta</i> , <i>Cryptocarya rigida</i> , <i>Palmeria scandens</i> , <i>Callicoma serratifolia</i> , <i>Cyathea leichhardtiana</i> .
Lower layer	0.1-1.5	5-60	<i>Blechnum cartilagineum</i> , <i>Lastreopsis decomposita</i> , <i>Pseuderanthemum variabile</i> , <i>Blechnum watsii</i> , <i>Ripogonum fawcettianum</i> , <i>Sarcopteryx stipata</i> , <i>Dianella caerulea</i> , <i>Gymnostachys anceps</i> .

* Data collated from 7 of 7 full floristic sites

Structural and floristic variations

Examples of this community in areas of very high fertility have an overstorey almost completely dominated by Coastal Blackbutt (*Eucalyptus pilularis*) for example, Bruxner Park and Orara West State Forest. Less fertile occurrences have a tendency for more diversity in the canopy species. Brush box (*Lophostemon confertus*) occurs in half the sites for this floristic community.

Exotics *Cinnamomum camphora*, *Lantana camara*

Species richness

Number of plots	7
Total species	113
Average number of species	37 ±6.6

Conservation status

This community is reserved in Bindarri National Park (280ha), Bindarri State Conservation Area (1ha), Orara East State Forest – Bruxner Park Flora Reserve (81ha), Sherwood Nature Reserve (281ha) and Ulidarra National Park (267ha).

Tenure	Area (ha)
Crown Land	3
Freehold	509
National Park	552
Nature Reserve	281
NSW State Forest	2 493
NSW State Forest Flora Reserve	62
State Conservation Area	1
TOTAL	3 902

Threatened and Rare plants: *Niemeyera whitei*

Relationship to other communities

Related to CH_WSF09 (Northern Escarpment Blackbutt - Apple Wet Ferny Forest). This community generally



transitions to CH_WSF09 with increasing frequency of Smooth-barked Apple (*Angophora costata*) and decreasing frequency of Bangalow Palm (*Archontophoenix cunninghamiana*). Generally CH_WSF09 occurs on slightly less fertile and more exposed sites. CH_WSF02 also occurs adjacent to and merges into CH_RF11 (Escarpment and Lowland Bangalow - Carabeen - Black Booyong Palm Gully Rainforest).

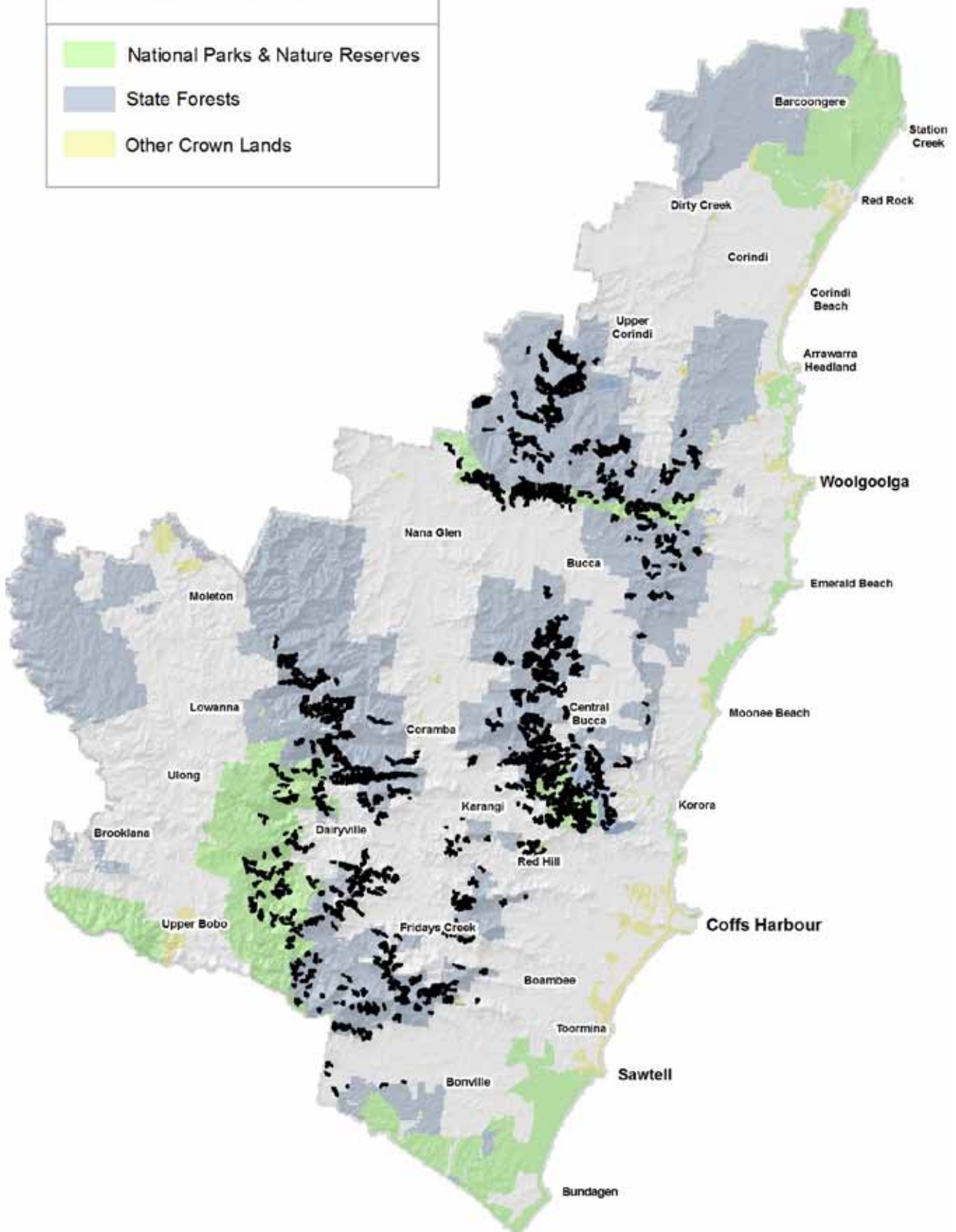
Equivalents

Biometric: Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central North Coast (NR122)

Other: Community 26 - (upper and western extent - *E. saligna* occurrences) (Cameron et al. 2011); N3a - *Eucalyptus saligna*, *E. grandis*, *E. microcorys*, *E. pilularis* (Fisher et al. 1996)

Locations

Common along the Eastern Dorrigo Escarpment and the coastal range. Known at Pine Creek State Forest, Friday's Creek, Orara West State Forest, Nana Creek State Forest, Lower Bucca State Forest, Ulidarra National Park and Sherwood Nature Reserve.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acmena smithii</i>	1	14%	1	27%	uninformative
<i>Adiantum hispidulum</i>	2	14%	1	8%	uninformative
<i>Adiantum silvaticum</i>	1	14%	2	5%	uninformative
<i>Alectryon subcinereus</i>	1	14%	1	2%	uninformative
<i>Allocasuarina torulosa</i>	3	71%	2	35%	positive
<i>Alpinia caerulea</i>	1	29%	1	18%	uninformative
<i>Angophora costata</i>	3	14%	2	14%	uninformative
<i>Archidendron grandiflorum</i>	1	14%	1	3%	uninformative
<i>Archirhodomyrtus beckleri</i>	1	57%	2	23%	uninformative
<i>Archontophoenix cunninghamiana</i>	3	100%	1	31%	positive
<i>Asplenium australasicum</i>	1	14%	1	9%	uninformative
<i>Asplenium polyodon</i>	1	14%	2	1%	uninformative
<i>Atractocarpus benthamianus</i>	1	14%	2	7%	uninformative
<i>Austrobuxus swainii</i>	1	14%	1	4%	uninformative
<i>Beilschmiedia obtusifolia</i>	1	14%	1	1%	uninformative
<i>Blechnum cartilagineum</i>	2	100%	2	37%	positive
<i>Blechnum wattsii</i>	1	29%	2	1%	uninformative
<i>Caldcluvia paniculosa</i>	1	100%	2	11%	uninformative
<i>Callicoma serratifolia</i>	3	57%	2	17%	positive
<i>Cephalomanes caudatum</i>	2	14%	2	1%	uninformative
<i>Ceratopetalum apetalum</i>	1	29%	3	11%	uninformative
<i>Cissus hypoglauca</i>	1	71%	1	37%	uninformative
<i>Cissus sterculiifolia</i>	1	29%	1	6%	uninformative
<i>Citronella moorei</i>	1	14%	1	1%	uninformative
<i>Claoxylon australe</i>	1	14%	1	6%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	14%	1	10%	uninformative
<i>Clerodendrum tomentosum</i>	1	29%	1	5%	uninformative
<i>Cordyline petiolaris</i>	1	29%	1	4%	uninformative
<i>Cordyline stricta</i>	1	86%	1	37%	uninformative
<i>Corymbia intermedia</i>	4	29%	2	20%	uninformative
<i>Cryptocarya glaucescens</i>	1	14%	2	17%	uninformative
<i>Cryptocarya microneura</i>	1	57%	1	20%	uninformative
<i>Cryptocarya obovata</i>	1	29%	1	3%	uninformative
<i>Cryptocarya rigida</i>	3	86%	2	26%	positive
<i>Cyathea australis</i>	1	43%	1	13%	uninformative
<i>Cyathea leichhardtiana</i>	3	57%	1	9%	positive
<i>Cymbidium suave</i>	1	14%	1	3%	uninformative
<i>Cyperus filipes</i>	1	14%	1	3%	uninformative
<i>Dianella caerulea</i>	1	29%	1	51%	uninformative
<i>Dioscorea transversa</i>	1	43%	1	28%	uninformative
<i>Diospyros pentamera</i>	1	14%	2	6%	uninformative
<i>Diploglottis cunninghamii</i>	1	14%	1	4%	uninformative
<i>Doodia aspera</i>	2	14%	2	15%	uninformative
<i>Dysoxylum rufum</i>	1	14%	2	2%	uninformative
<i>Elaeocarpus reticulatus</i>	1	14%	1	27%	uninformative
<i>Embelia australiana</i>	1	14%	1	11%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Endiandra discolor</i>	1	29%	1	5%	uninformative
<i>Endiandra muelleri</i>	3	43%	1	8%	uninformative
<i>Endiandra sieberi</i>	1	14%	1	10%	uninformative
<i>Eucalyptus grandis</i>	3	29%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	4	29%	3	35%	uninformative
<i>Eucalyptus pilularis</i>	4	100%	3	26%	positive
<i>Eupomatia laurina</i>	1	29%	1	14%	uninformative
<i>Ficus coronata</i>	1	43%	1	12%	uninformative
<i>Flagellaria indica</i>	1	14%	1	4%	uninformative
<i>Gahnia aspera</i>	1	14%	1	14%	uninformative
<i>Geissois benthamiana</i>	1	14%	2	2%	uninformative
<i>Geitonoplesium cymosum</i>	1	29%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	14%	1	13%	uninformative
<i>Gymnostachys anceps</i>	1	29%	1	19%	uninformative
<i>Hibbertia scandens</i>	1	14%	1	32%	uninformative
<i>Hymenophyllum cupressiforme</i>	1	14%	2	0%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	29%	1	11%	uninformative
<i>Lastreopsis decomposita</i>	1	43%	2	6%	uninformative
<i>Lepidozamia peroffskyana</i>	1	14%	1	2%	uninformative
<i>Linospadix monostachya</i>	1	71%	2	12%	uninformative
<i>Litsea australis</i>	1	14%	1	5%	uninformative
<i>Litsea reticulata</i>	1	14%	2	7%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Lomandra spicata</i>	1	14%	1	10%	uninformative
<i>Lophostemon confertus</i>	3	57%	2	31%	positive
<i>Melodinus australis</i>	1	57%	1	3%	uninformative
<i>Microsorium scandens</i>	1	14%	2	2%	uninformative
<i>Morinda jasminoides</i>	1	86%	1	36%	uninformative
<i>Mucuna gigantea</i> subsp. <i>gigantea</i>	1	14%	1	0%	uninformative
<i>Neolitsea dealbata</i>	1	43%	1	15%	uninformative
<i>Niemeyera whitei</i>	1	43%	1	5%	uninformative
<i>Palmeria scandens</i>	1	71%	1	9%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	14%	1	12%	uninformative
<i>Parsonsia purpurascens</i>	1	14%	1	2%	uninformative
<i>Parsonsia straminea</i>	1	29%	1	27%	uninformative
<i>Piper novae-hollandiae</i>	1	14%	2	1%	uninformative
<i>Pittosporum revolutum</i>	1	57%	1	12%	uninformative
<i>Pittosporum undulatum</i>	1	14%	1	10%	uninformative
<i>Planchonella australis</i>	3	29%	1	5%	uninformative
<i>Platycerium bifurcatum</i>	1	29%	1	16%	uninformative
<i>Pothos longipes</i>	1	14%	2	5%	uninformative
<i>Pseuderanthemum variabile</i>	2	43%	2	27%	uninformative
<i>Quintinia verdonii</i>	1	43%	2	6%	uninformative
<i>Rhodamnia rubescens</i>	1	14%	1	16%	uninformative
<i>Ripogonum discolor</i>	1	14%	2	11%	uninformative
<i>Ripogonum elseyanum</i>	2	14%	2	8%	uninformative
<i>Ripogonum fawcettianum</i>	1	86%	2	20%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Rubus nebulosus</i>	2	29%	1	5%	uninformative
<i>Sarcopteryx stipata</i>	1	71%	1	10%	uninformative
<i>Schizomeria ovata</i>	1	14%	1	12%	uninformative
<i>Scolopia braunii</i>	1	14%	1	6%	uninformative
<i>Sloanea woollsii</i>	1	14%	2	6%	uninformative
<i>Smilax australis</i>	1	29%	1	45%	uninformative
<i>Smilax glycyphylla</i>	1	86%	1	28%	uninformative
<i>Sticherus lobatus</i>	5	14%	1	1%	uninformative
<i>Syncarpia glomulifera</i>	3	57%	2	39%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	57%	2	34%	uninformative
<i>Syzygium australe</i>	1	14%	1	6%	uninformative
<i>Syzygium luehmannii</i>	1	14%	1	5%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	43%	1	27%	uninformative
<i>Tasmania insipida</i>	1	43%	1	11%	uninformative
<i>Tetrastigma nitens</i>	1	14%	1	3%	uninformative
<i>Tristaniopsis collina</i>	4	14%	2	5%	uninformative
<i>Trochocarpa laurina</i>	3	43%	1	37%	uninformative
<i>Trophis scandens</i>	1	14%	3	0%	uninformative
<i>Tylophora paniculata</i>	1	14%	1	2%	uninformative
<i>Wilkiea huegeliana</i>	1	57%	1	28%	uninformative
<i>Zieria southwellii</i>	1	14%	1	1%	uninformative

FOOTHILLS AND ESCARPMENT BLUE GUM - TALLOWWOOD - TURPENTINE WET SHRUBBY FOREST

CH_WSF03

SCIENTIFIC NAME Sydney Blue Gum (*Eucalyptus saligna*) – Tallowwood (*Eucalyptus microcorys*) – Turpentine (*Syncarpia glomulifera*) sheltered wet shrubby forest of metasedimentary hinterland foothills and the escarpment

PLANT COMMUNITY TYPE Brush Box – Tallowwood – Sydney Blue Gum shrubby wet open forest of coastal hills and escarpment ranges, NSW North Coast Bioregion and the South Eastern Queensland Bioregion (NSW1500-933)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A very tall wet shrubby forest with a variable canopy composition usually dominated by Sydney Blue Gum (*Eucalyptus saligna*) with Turpentine (*Syncarpia glomulifera*) and Tallowwood (*Eucalyptus microcorys*) as common associates. Other canopy species that may occur with this community include Pink Bloodwood (*Corymbia intermedia*), Brush Box (*Lophostemon confertus*) and Flooded Gum (*Eucalyptus grandis*). The mid layer is characterised by the presence of Bangalow Palm (*Archontophoenix cunninghamiana*) and wet shrubby species such as Rose Myrtle (*Archirhodomyrtus beckleri*), Murrogun (*Cryptocarya microneura*), Jackwood (*Cryptocarya glaucescens*), Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*), Guioa (*Guioa semiglauca*), Tree Heath (*Trochocarpa laurina*) and Forest Oak (*Allocasuarina torulosa*). Vines are predominantly Water Vine (*Cissus hypoglauca*) and the ground layer features Gristle Fern (*Blechnum cartilagineum*), Pastel Flower (*Pseuderanthemum variabile*) and False Bracken (*Calochlaena dubia*).

This community is almost entirely restricted to metasediments on sheltered mid to lower slopes in the foothills of the Orara Escarpment, Coast Range and Gleniffer/Bonville Hills. It occurs north from Valery/Bonville to Conglomerate State Forest, commonly below 400 metres above sea level and is often found on the lower slopes and spurs of the coastal hinterland in areas of high soil richness.

Floristic summary

Layer	Height	Cover	Dominant Species
Tallest	15-45	55-90	<i>Eucalyptus microcorys</i> , <i>Syncarpia glomulifera</i> , <i>Eucalyptus saligna</i> , <i>Eucalyptus grandis</i> , <i>Corymbia intermedia</i> , <i>Eucalyptus pilularis</i> , <i>Eucalyptus acmenoides</i> .
Middle layer 1	15-25	70	<i>Syncarpia glomulifera</i> , <i>Allocasuarina torulosa</i> .
Middle layer 2	0.5- 15	30-75	<i>Cryptocarya rigida</i> , <i>Archirhodomomyrtus beckleri</i> , <i>Callicoma serratifolia</i> , <i>Cryptocarya glaucescens</i> , <i>Syncarpia glomulifera</i> , <i>Cryptocarya microneura</i> , <i>Rhodamnia rubescens</i> , <i>Cyathea australis</i> .
Ground	0- 1.5	10-40	<i>Blechnum cartilagineum</i> , <i>Calochlaena dubia</i> , <i>Ripogonum fawcettianum</i> , <i>Oplismenus imbecillis</i> .

* Data collated from 25 of 25 full floristic sites

Structural and floristic variations

Flooded Gum (*Eucalyptus grandis*) is known to replace Sydney Blue Gum (*Eucalyptus saligna*) in some parts of the communities geographic range. Examples include Dairyville, Dingo Creek and Orara East State Forest (west of Shephards Lane near Red Hill).

Exotics *Araujia sericifera*, *Ageratina riparia*, *Cinnamomum camphora*, *Lantana camara*, *Ligustrum lucidum*, *Ligustrum sinense*, *Passiflora edulis*, *Ochna serrulata*, *Schefflera actinophylla*, *Solanum pseudocapsicum*

Species richness

Number of plots	25
Total species	201
Average number of species	40 ±8.8

Conservation status

This community is reserved in Bindarri National Park (205ha), Bongil Bongil National Park (73ha), Bruxner Park Flora Reserve (11ha), Sherwood Nature Reserve (17ha) and Ulidarra National Park (25ha).

Tenure	Area (ha)
Crown Land	10
Freehold	1 789
National Park	313
Nature Reserve	18
NSW State Forest	1 384
NSW State Forest Flora Reserve	10
TOTAL	3 525

Threatened and Rare plants: *Austrobuxus swainii*, *Marsdenia liisae*, *Niemeyera whitei*, *Parsonsia dorrigoensis*

Relationship to other communities

This community often occurs adjacent to and may be replaced by CH_WSF01 (Coast and Hinterland Riparian Flooded Gum - Bangalow Wet Forest) toward the coast and alluvial river flats where there is an increasing proportion of Flooded Gum (*Eucalyptus grandis*) and Bangalow Palm (*Archontophoenix cunninghamiana*). Other species such as Callicoma (*Callicoma serratifolia*) and Rose Myrtle (*Archirhodomomyrtus beckleri*) are likely to be less common in CH_WSF01. CH_WSF03 is also related to CH_WSF02 (Hinterland Blackbutt Bangalow Turpentine Wet Shrubby Forest) and often occurs in close proximity and, at times, CH_WSF03 will transition to CH_WSF02 along

the topographical gradient from the lower foot slopes to the steeper and more sheltered aspects in the gully. CH_WSF02 is distinguished by an increase in Coastal Blackbutt (*Eucalyptus pilularis*) and less Sydney Blue Gum (*Eucalyptus saligna*). CH_WSF02 generally occurs higher up in the topography and at the head of gullies rather than the lower foothills and spurs.

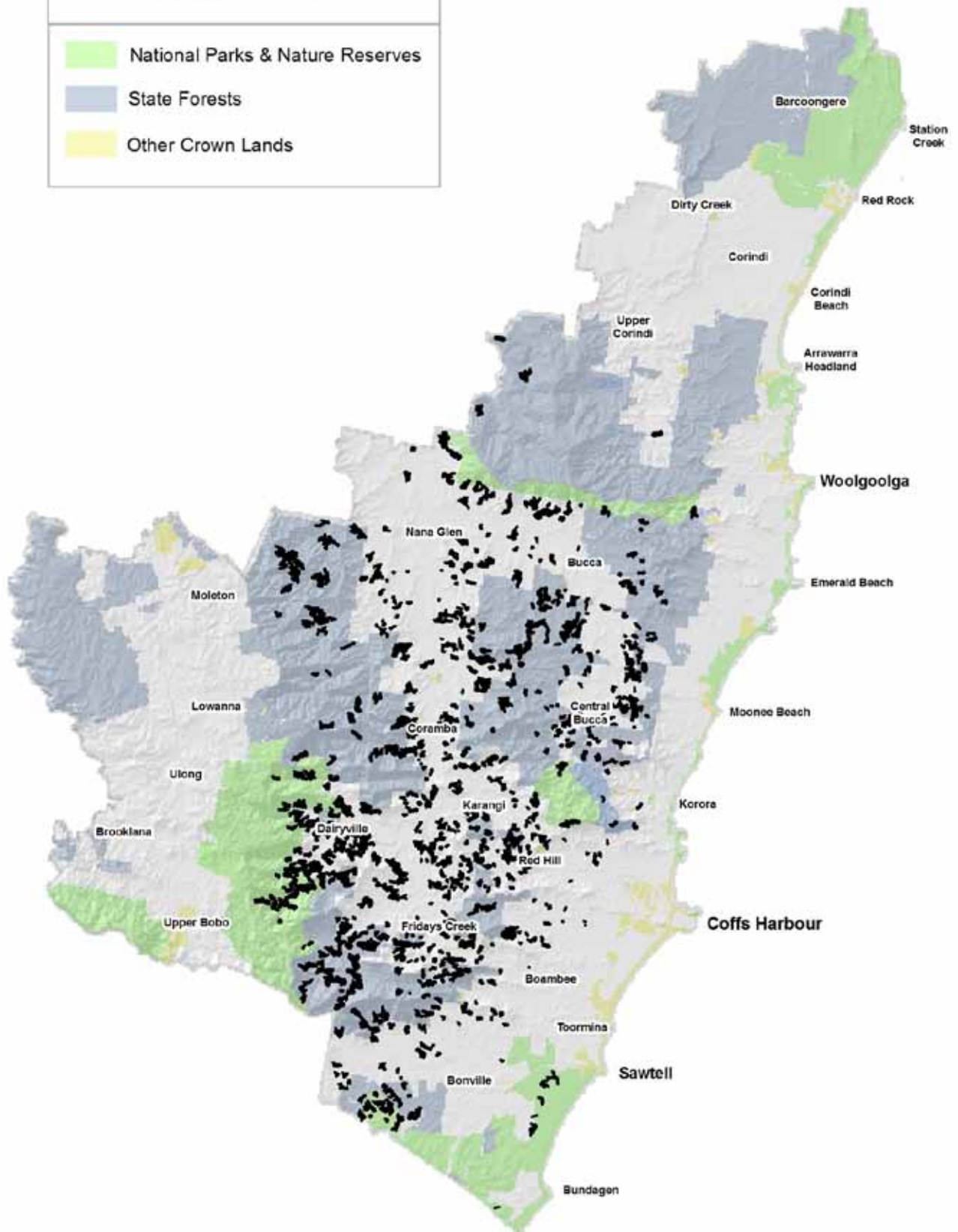
Equivalents

Biometric: Sydney Blue Gum Open Forest on Coastal Foothills and Escarpment of the North Coast (NR 258)

Other: Community 26 - Upper and western extent Sydney Blue Gum occurrences only (Cameron et al. 2011); N3a – Sydney Blue Gum (Fisher et al. 1996).

Locations

Known locations include the Urumbilum Valley, Frontage Creek, upper reaches of the Orara River, south-facing slopes in Sherwood Nature Reserve, Mirum Creek, Dingo Creek, Friday's Creek, Wongiwomble Creek and Tallawudjah Creek.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Abrophyllum ornans</i>	2	4%	2	1%	uninformative
<i>Acacia binervata</i>	1	8%	2	5%	uninformative
<i>Acacia irrorata</i>	1	4%	1	8%	uninformative
<i>Acacia maidenii</i>	1	16%	1	14%	uninformative
<i>Acacia melanoxylon</i>	1	12%	2	19%	uninformative
<i>Acmena smithii</i>	1	36%	1	26%	uninformative
<i>Acronychia oblongifolia</i>	1	4%	1	4%	uninformative
<i>Acronychia pubescens</i>	1	4%	2	2%	uninformative
<i>Adiantum formosum</i>	2	4%	1	2%	uninformative
<i>Adiantum hispidulum</i>	1	8%	2	9%	uninformative
<i>Adiantum silvaticum</i>	1	4%	2	5%	uninformative
<i>Allocasuarina torulosa</i>	2	56%	2	34%	positive
<i>Alphitonia excelsa</i>	1	40%	1	13%	uninformative
<i>Alpinia arundelliana</i>	1	8%	1	0%	uninformative
<i>Alpinia caerulea</i>	1	48%	1	16%	uninformative
<i>Aneilema acuminatum</i>	1	4%	2	1%	uninformative
<i>Angophora costata</i>	2	16%	2	14%	uninformative
<i>Aphananthe philippinensis</i>	1	4%	1	1%	uninformative
<i>Archirhodomyrtus beckleri</i>	3	88%	2	20%	positive
<i>Archontophoenix cunninghamiana</i>	1	84%	1	29%	uninformative
<i>Asplenium australasicum</i>	1	12%	1	9%	uninformative
<i>Asterolasia correifolia</i>	1	4%	1	1%	uninformative
<i>Austrobuxus swainii</i>	2	8%	1	4%	uninformative
<i>Austrosteenisia glabristyla</i>	1	8%	2	0%	uninformative
<i>Billardiera scandens</i>	1	8%	1	11%	uninformative
<i>Blechnum cartilagineum</i>	3	100%	2	34%	positive
<i>Breynia oblongifolia</i>	1	32%	1	29%	uninformative
<i>Caldcluvia paniculosa</i>	1	12%	2	12%	uninformative
<i>Callicoma serratifolia</i>	3	52%	2	15%	positive
<i>Calochlaena dubia</i>	1	64%	2	25%	uninformative
<i>Cayratia clematidea</i>	1	4%	1	8%	uninformative
<i>Celastrus subspicata</i>	1	4%	1	4%	uninformative
<i>Cephalalaria cephalobotrys</i>	1	4%	1	5%	uninformative
<i>Cinnamomum virens</i>	1	4%	1	1%	uninformative
<i>Cissus antarctica</i>	1	12%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	68%	1	36%	uninformative
<i>Cissus sterculiifolia</i>	1	4%	1	7%	uninformative
<i>Claoxylon australe</i>	1	8%	1	6%	uninformative
<i>Clematis aristata</i>	1	8%	1	11%	uninformative
<i>Clematis glycinoides</i>	1	8%	1	6%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	12%	1	10%	uninformative
<i>Clerodendrum tomentosum</i>	1	8%	1	5%	uninformative
<i>Cordyline stricta</i>	1	80%	1	36%	uninformative
<i>Corymbia intermedia</i>	1	44%	2	19%	uninformative
<i>Cryptocarya glaucescens</i>	2	80%	2	14%	positive
<i>Cryptocarya microneura</i>	2	56%	1	18%	positive
<i>Cryptocarya obovata</i>	1	12%	1	3%	uninformative
<i>Cryptocarya rigida</i>	3	80%	2	24%	positive
<i>Cyathea australis</i>	3	32%	1	12%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Cyathea leichhardtiana</i>	1	8%	1	10%	uninformative
<i>Cyperus filipes</i>	2	8%	1	3%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	1	4%	1	4%	uninformative
<i>Deeringia amaranthoides</i>	1	4%	0	0%	positive
<i>Denhamia celastroides</i>	4	4%	1	9%	uninformative
<i>Desmodium gunnii</i>	1	8%	1	4%	uninformative
<i>Dianella caerulea</i>	1	68%	1	49%	uninformative
<i>Dictymia brownii</i>	1	4%	1	1%	uninformative
<i>Dioscorea transversa</i>	1	92%	1	24%	uninformative
<i>Diospyros fasciculosa</i>	2	8%	1	1%	uninformative
<i>Diploglottis cunninghamii</i>	1	12%	1	4%	uninformative
<i>Dipodium variegatum</i>	1	4%	1	2%	uninformative
<i>Dodonaea triquetra</i>	1	8%	1	9%	uninformative
<i>Doodia aspera</i>	2	16%	2	15%	uninformative
<i>Drypetes deplanchei</i>	1	4%	1	5%	uninformative
<i>Duboisia myoporoides</i>	1	4%	1	5%	uninformative
<i>Elaeocarpus obovatus</i>	1	4%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	52%	1	26%	uninformative
<i>Embelia australiana</i>	1	20%	1	11%	uninformative
<i>Emmenosperma alphonoioides</i>	1	4%	2	0%	uninformative
<i>Endiandra discolor</i>	1	16%	1	5%	uninformative
<i>Endiandra muelleri</i>	1	12%	1	9%	uninformative
<i>Endiandra sieberi</i>	1	20%	1	9%	uninformative
<i>Endiandra virens</i>	4	4%	0	0%	positive
<i>Entolasia stricta</i>	1	24%	2	25%	uninformative
<i>Eucalyptus acmenoides</i>	4	8%	2	8%	uninformative
<i>Eucalyptus grandis</i>	4	36%	3	16%	uninformative
<i>Eucalyptus microcorys</i>	3	60%	2	33%	positive
<i>Eucalyptus pilularis</i>	4	24%	3	27%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	1	4%	3	11%	uninformative
<i>Eucalyptus saligna</i>	4	44%	3	7%	uninformative
<i>Eupomatia bennettii</i>	1	8%	1	2%	uninformative
<i>Eupomatia laurina</i>	2	32%	1	14%	uninformative
<i>Eustrephus latifolius</i>	1	32%	1	29%	uninformative
<i>Ficus coronata</i>	1	12%	1	13%	uninformative
<i>Ficus watkinsiana</i>	1	4%	2	5%	uninformative
<i>Flagellaria indica</i>	1	4%	1	4%	uninformative
<i>Gahnia aspera</i>	1	24%	1	14%	uninformative
<i>Gahnia clarkei</i>	1	8%	2	14%	uninformative
<i>Geitonoplesium cymosum</i>	1	28%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	20%	1	13%	uninformative
<i>Gmelina leichhardtii</i>	1	4%	1	3%	uninformative
<i>Guilfoylia monostylis</i>	1	4%	1	1%	uninformative
<i>Guioa semiglauca</i>	1	60%	1	26%	uninformative
<i>Gymnostachys anceps</i>	1	28%	1	18%	uninformative
<i>Hardenbergia violacea</i>	1	4%	1	8%	uninformative
<i>Hibbertia dentata</i>	1	24%	1	6%	uninformative
<i>Hibbertia scandens</i>	1	60%	1	30%	uninformative
<i>Homalanthus populifolius</i>	1	4%	1	3%	uninformative
<i>Hymenosporum flavum</i>	1	8%	1	2%	uninformative
<i>Imperata cylindrica</i>	2	12%	2	33%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	48%	1	9%	uninformative
<i>Lastreopsis decomposita</i>	1	16%	2	6%	uninformative
<i>Lepidosperma latens</i>	1	12%	1	0%	uninformative
<i>Lepidosperma laterale</i>	1	20%	1	17%	uninformative
<i>Lepidozamia peroffskyana</i>	1	16%	1	1%	uninformative
<i>Lindsaea microphylla</i>	1	4%	1	2%	uninformative
<i>Linospadix monostachya</i>	1	8%	2	13%	uninformative
<i>Litsea australis</i>	1	8%	1	5%	uninformative
<i>Litsea reticulata</i>	1	4%	2	7%	uninformative
<i>Lobelia trigonocaulis</i>	1	8%	1	6%	uninformative
<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	1	4%	1	4%	uninformative
<i>Lomandra filiformis</i>	1	8%	1	12%	uninformative
<i>Lomandra hystrix</i>	1	4%	2	2%	uninformative
<i>Lomandra longifolia</i>	1	44%	2	52%	negative
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	1	8%	1	5%	uninformative
<i>Lomandra spicata</i>	1	4%	1	10%	uninformative
<i>Lomatia silaifolia</i>	1	4%	1	9%	uninformative
<i>Lophostemon confertus</i>	1	36%	2	31%	uninformative
<i>Lophostemon suaveolens</i>	3	8%	2	9%	uninformative
<i>Maclura cochinchinensis</i>	1	4%	1	7%	uninformative
<i>Marsdenia liisae</i>	1	4%	1	0%	uninformative
<i>Maytenus silvestris</i>	1	4%	1	2%	uninformative
<i>Melicope hayesii</i>	1	16%	1	3%	uninformative
<i>Melicope micrococca</i>	1	4%	1	2%	uninformative
Melodinus acutiflorus	1	4%	0	0%	positive
<i>Melodinus australis</i>	1	12%	1	3%	uninformative
<i>Morinda jasminoides</i>	1	64%	1	35%	uninformative
<i>Myrsine howittiana</i>	1	4%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	16%	1	16%	uninformative
<i>Neolitsea dealbata</i>	1	16%	1	16%	uninformative
<i>Niemeyera whitei</i>	1	4%	1	5%	uninformative
<i>Notelaea longifolia</i>	1	36%	1	26%	uninformative
Notodanthonia longifolia	1	4%	0	0%	positive
<i>Oplismenus aemulus</i>	2	4%	2	13%	uninformative
<i>Oplismenus imbecillis</i>	2	44%	2	21%	uninformative
<i>Ottochloa gracillima</i>	1	16%	2	9%	uninformative
<i>Oxalis exilis</i>	1	4%	1	2%	uninformative
<i>Oxalis perennans</i>	1	4%	1	1%	uninformative
<i>Ozothamnus diosmifolius</i>	1	4%	1	9%	uninformative
<i>Palmeria scandens</i>	1	16%	1	9%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	16%	1	11%	uninformative
<i>Panicum pygmaeum</i>	1	4%	2	1%	uninformative
Parsonsia dorrigoensis	1	4%	0	0%	positive
<i>Parsonsia straminea</i>	1	28%	1	27%	uninformative
<i>Persoonia media</i>	1	4%	2	7%	uninformative
<i>Persoonia stradbrokeensis</i>	1	16%	1	18%	uninformative
<i>Petermannia cirrosa</i>	1	4%	1	6%	uninformative
<i>Phyllanthus similis</i>	1	4%	1	2%	uninformative
<i>Pilidiostigma glabrum</i>	1	36%	1	11%	uninformative
<i>Pittosporum multiflorum</i>	1	4%	1	13%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Pittosporum revolutum</i>	1	12%	1	13%	uninformative
<i>Pittosporum undulatum</i>	1	24%	1	10%	uninformative
<i>Platynerium bifurcatum</i>	1	16%	1	16%	uninformative
<i>Polyscias sambucifolia</i>	1	16%	1	16%	uninformative
<i>Pomaderris aspera</i>	2	8%	2	0%	uninformative
<i>Pratia purpurascens</i>	1	12%	1	24%	uninformative
<i>Pseuderanthemum variabile</i>	2	72%	2	25%	positive
<i>Psychotria loniceroides</i>	1	16%	1	14%	uninformative
<i>Pteridium esculentum</i>	1	20%	2	32%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	2	4%	1	5%	uninformative
<i>Pyrrosia rupestris</i>	2	4%	2	3%	uninformative
<i>Quintinia verdonii</i>	1	12%	1	6%	uninformative
<i>Rhodamnia rubescens</i>	1	36%	1	15%	uninformative
<i>Ripogonum elseyanum</i>	1	8%	2	8%	uninformative
<i>Ripogonum fawcettianum</i>	2	92%	2	17%	positive
<i>Rubus moluccanus</i> var. <i>moluccanus</i>	1	8%	1	2%	uninformative
<i>Rubus moorei</i>	2	4%	1	3%	uninformative
<i>Rubus nebulosus</i>	1	16%	1	5%	uninformative
<i>Rubus parvifolius</i>	1	4%	1	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	8%	1	9%	uninformative
<i>Sarcopteryx stipata</i>	1	16%	1	11%	uninformative
<i>Schizomeria ovata</i>	1	8%	1	12%	uninformative
<i>Seringia arborescens</i>	1	4%	1	2%	uninformative
<i>Sloanea woollsii</i>	1	4%	2	6%	uninformative
<i>Smilax australis</i>	1	60%	1	43%	uninformative
<i>Smilax glycyphylla</i>	1	52%	1	27%	uninformative
<i>Solanum hapalum</i>	1	8%	1	6%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	36%	1	21%	uninformative
<i>Symplocos stawellii</i>	1	4%	0	0%	positive
<i>Syncarpia glomulifera</i>	3	76%	2	37%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	68%	2	33%	uninformative
<i>Syzygium crebrinerve</i>	1	4%	2	1%	uninformative
<i>Syzygium oleosum</i>	1	8%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	76%	1	25%	uninformative
<i>Tasmania insipida</i>	1	4%	1	12%	uninformative
<i>Toechima dasyrrhache</i>	1	4%	0	0%	positive
<i>Toona ciliata</i>	1	4%	2	1%	uninformative
<i>Trimenia moorei</i>	1	4%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	2	20%	1	9%	uninformative
<i>Tristaniopsis collina</i>	1	20%	2	4%	uninformative
<i>Tristaniopsis laurina</i>	1	4%	2	3%	uninformative
<i>Trochocarpa laurina</i>	1	60%	2	36%	uninformative
<i>Trophis scandens</i>	1	4%	3	0%	uninformative
<i>Tylophora paniculata</i>	1	4%	1	2%	uninformative
<i>Veronica plebeia</i>	1	4%	1	1%	uninformative
<i>Viola banksii</i>	2	12%	1	16%	uninformative
<i>Wikstroemia indica</i>	1	4%	1	1%	uninformative
<i>Wilkiea huegeliana</i>	1	76%	1	25%	uninformative
<i>Xanthorrhoea macronema</i>	1	4%	1	6%	uninformative
<i>Zieria smithii</i>	1	8%	1	4%	uninformative
<i>Zieria southwellii</i>	1	4%	1	1%	uninformative

FOOTHILLS TO ESCARPMENT BRUSH BOX - TALLOWWOOD - BLACKBUTT WET FOREST

CH_WSF05

SCIENTIFIC NAME Brush Box (*Lophostemon confertus*) – Tallowwood (*Eucalyptus microcorys*) – Blackbutt (*Eucalyptus pilularis*) – Flooded Gum (*Eucalyptus grandis*) wet shrubby forest of sheltered gully heads and slopes on metasediments

PLANT COMMUNITY TYPE Turpentine – Brush Box – Flooded Gum – Blackbutt shrubby moist forest of sub-coastal lowlands, NSW North Coast Bioregion and South Eastern Queensland Bioregion (NSW1500-929)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

The dominance of Brush Box (*Lophostemon confertus*) in the canopy is a diagnostic feature of this community which occurs predominantly in gully heads of the escarpment and coastal ranges. Other associated canopy species include Tallowwood (*Eucalyptus microcorys*), Blackbutt (*Eucalyptus pilularis*) and Turpentine (*Syncarpia glomulifera*). In the mid layer a diversity of small rainforest trees and shrubs are present such as Jackwood (*Cryptocarya glaucescens*), Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*), Scrub Turpentine (*Rhodamnia rubescens*), Rose Myrtle (*Archirhodomyrtus beckleri*), Forest Maple (*Cryptocarya rigida*), and Murrogon (*Cryptocarya microneura*). Water Vine (*Cissus hypoglauca*) grows in dense smothering layers in canopy gaps. Tree Ferns (*Cyathea australis*) are often common. The sparse ground layer comprises Gristle Fern (*Blechnum cartilagineum*) and Pastel Flower (*Pseuderanthemum variabile*).

Often adjacent to gully rainforest on metasediments or alluvial areas on sheltered steep slopes and upper gully reaches. Common below the eastern Dorrigo escarpment rim (around 500m elevation).

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	5 - 45	20-60	<i>Lophostemon confertus</i> , <i>Eucalyptus grandis</i> , <i>Syncarpia glomulifera</i> <i>Eucalyptus microcorys</i> , <i>Eucalyptus pilularis</i> ,
Middle layer 1	5 - 30	5-50	<i>Lophostemon confertus</i> , <i>Syncarpia glomulifera</i> , <i>Cissus hypoglauca</i> , <i>Guioa semiglauca</i> , <i>Cryptocarya rigida</i> , <i>Cryptocarya microneura</i> , <i>Neolitsea dealbata</i> , <i>Elaeocarpus reticulatus</i>
Middle layer 2	1 - 10	20-60	<i>Archirhodomyrtus beckleri</i> , <i>Cryptocarya glaucescens</i> , <i>Cryptocarya microneura</i> , <i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Cordyline stricta</i> , <i>Cyathea australis</i> , <i>Endiandra sieberi</i> , <i>Ficus coronata</i> , <i>Morinda jasminoides</i> , <i>Notelaea longifolia</i> , <i>Pittosporum undulatum</i> , <i>Rhodamnia rubescens</i> , <i>Ripogonum fawcettianum</i> , <i>Smilax australis</i> , <i>Tabernaemontana pandacaqui</i> , <i>Trochocarpa laurina</i> , <i>Wilkiea huegeliana</i>
Lower layer 1	0 - 1.2	20-70	<i>Doodia aspera</i> , <i>Blechnum cartilagineum</i> , <i>Clematis glycinoides</i> , <i>Dianella caerulea</i> , <i>Dioscorea transversa</i> , <i>Eupomatia laurina</i> , <i>Gahnia aspera</i> , <i>Gymnostachys anceps</i> , <i>Lomandra longifolia</i> , <i>Oplismenus imbecillis</i> , <i>Pseuderanthemum variable</i>

* Structural data collated from 26 of 27 full floristic sites

Exotics *Cinnamomum camphora*, *Lantana camara*, *Murraya paniculata*, *Ochna serrulata*, *Passiflora edulis*, *Passiflora suberosa*, *Senna pendula*, *Syagrus romanzoffiana*

Species richness

Number of plots	27
Total species	249
Average number of species	40 ±12

Conservation status

This community is reserved in Bindarri National Park (154ha), Conglomerate SF – Madman’s Creek Flora Reserve (9ha), Sherwood Nature Reserve (86ha), Ulidarra National Park (112ha), Orara East SF – Bruxner Park flora Reserve (58ha) and Yuraygir National Park (17ha).

Tenure	Area (ha)
Crown Land	18
Freehold	1 721
National Park	304
Nature Reserve	102
NSW State Forest	2 544
NSW State Forest Flora Reserve	85
TOTAL	4 774

Threatened and Rare plants: *Cryptocarya dorrigoensis*, *Niemeyera whitei*, *Quassia* sp, ‘Moonee Creek’

Relationship to other communities

Often this community occurs upslope of CH_RF11 (Escarpment and Lowland Bangalow - Carabeen - Black Booyong Palm Gully Rainforest). CH_WSF05 adjoins and grades into several wet sclerophyll communities including CH_WSF02 (Hinterland Blackbutt - Bangalow - Turpentine Wet Shrubby Tall Forest), CH_WSF03 (Foothills and Escarpment Blue Gum – Tallowood - Turpentine Wet Shrubby Forest) and CH_WSF01 (Coast and Hinterland Riparian Flooded Gum Bangalow Wet Forest). Understorey species can be similar across these communities

but Brush Box (*Lophostemon confertus*) becomes less dominant and is replaced by other canopy species as the topography, soil and aspect changes. The dominance of Brush Box (*L. confertus*) in the gully head environment is a key distinguishing feature of this community.

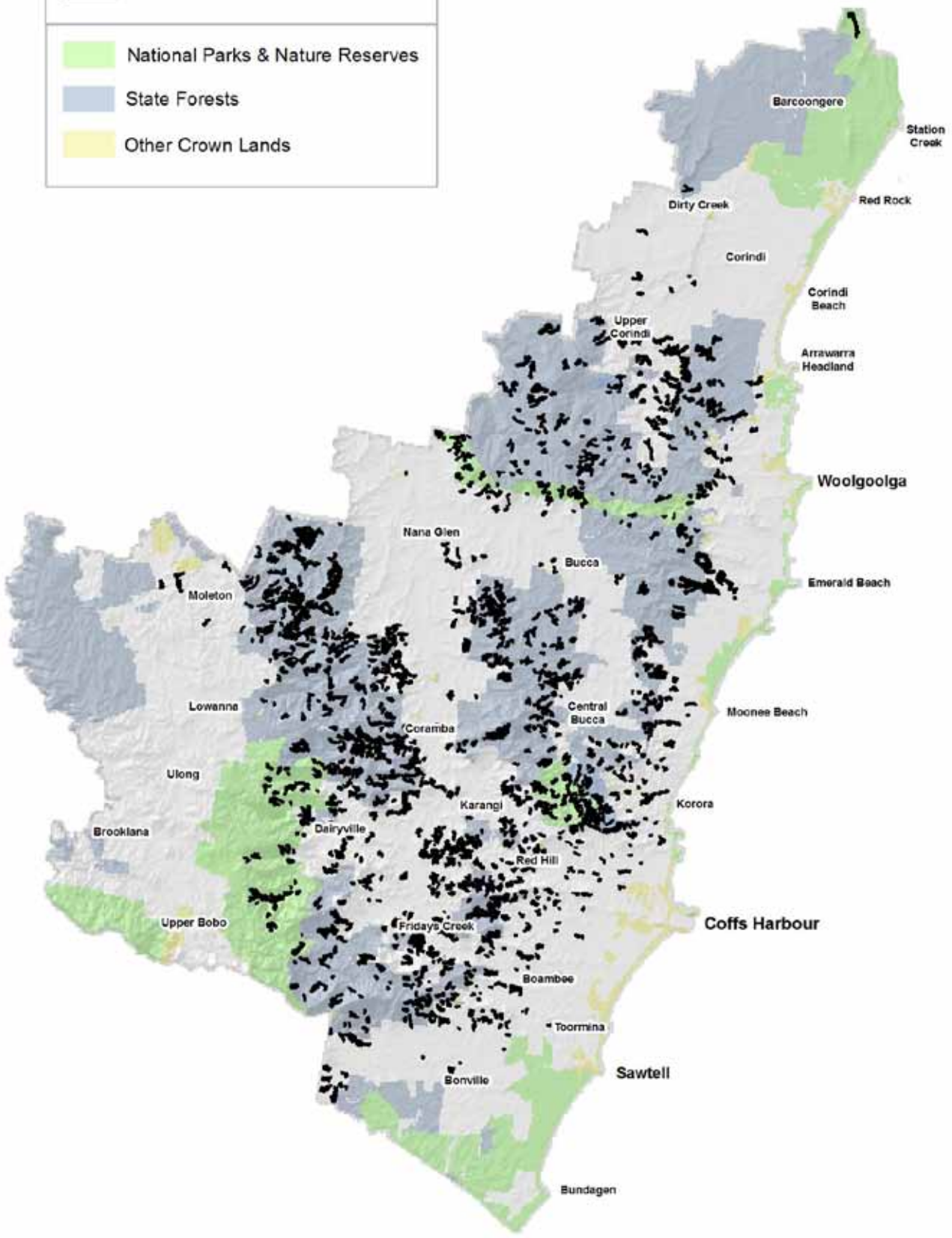
Equivalentents

Biometric: Blackbutt - Turpentine - Tallowwood shrubby open forest of the coastal foothills of the central North Coast (NR122).

Other: N52a – Flooded Gum (Fisher et al. 1996)

Locations

Urumbilum Creek (escarpment); Fridays' Creek Orara West State Forest, Tucker's Knob State Forest, Matilda Road, Bagawa State Forest; Mt. Brown Road near South Island Loop Road, Upper Orara; Karangie, above Karangie Dam; Woolgoolga Creek Road near Gentle Annie Road.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Abrophyllum ornans</i>	3	7%	2	1%	uninformative
<i>Acacia elongata</i>	2	4%	1	0%	uninformative
<i>Acacia fimbriata</i>	1	4%	1	5%	uninformative
<i>Acacia irrorata</i>	1	11%	1	8%	uninformative
<i>Acacia longissima</i>	1	7%	1	1%	uninformative
<i>Acacia maidenii</i>	1	26%	1	13%	uninformative
<i>Acacia melanoxylon</i>	2	22%	2	18%	uninformative
<i>Acacia oshanesii</i>	1	4%	3	1%	uninformative
<i>Acmena smithii</i>	1	56%	1	25%	uninformative
<i>Acronychia oblongifolia</i>	1	11%	1	4%	uninformative
<i>Adiantum aethiopicum</i>	1	4%	1	2%	uninformative
<i>Adiantum atroviride</i>	1	4%	1	0%	uninformative
<i>Adiantum formosum</i>	1	4%	2	2%	uninformative
<i>Adiantum hispidulum</i>	2	26%	1	7%	uninformative
<i>Adiantum silvaticum</i>	2	7%	1	5%	uninformative
<i>Akania bidwillii</i>	1	7%	2	2%	uninformative
<i>Alchornea ilicifolia</i>	1	4%	2	0%	uninformative
<i>Allocasuarina littoralis</i>	3	19%	3	9%	uninformative
<i>Allocasuarina torulosa</i>	1	44%	2	35%	uninformative
<i>Alphitonia excelsa</i>	1	11%	1	14%	uninformative
<i>Alpinia arundelliana</i>	1	4%	1	1%	uninformative
<i>Alpinia caerulea</i>	1	37%	1	17%	uninformative
<i>Angophora costata</i>	3	22%	2	13%	uninformative
<i>Araucaria cunninghamii</i>	1	4%	1	6%	uninformative
<i>Archirhodomyrtus beckleri</i>	2	41%	2	22%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	41%	1	31%	uninformative
<i>Arytera divaricata</i>	1	4%	1	1%	uninformative
<i>Asplenium australasicum</i>	1	7%	1	9%	uninformative
<i>Atractocarpus benthamianus</i>	1	4%	2	8%	uninformative
<i>Austrobuxus swainii</i>	2	7%	1	4%	uninformative
<i>Austrosteenisia blackii</i> var. <i>blackii</i>	1	4%	1	2%	uninformative
<i>Backhousia myrtifolia</i>	1	4%	2	2%	uninformative
<i>Baloghia inophylla</i>	1	4%	2	2%	uninformative
<i>Beilschmiedia elliptica</i>	1	7%	2	2%	uninformative
<i>Billardiera scandens</i>	2	4%	1	11%	uninformative
<i>Blechnum cartilagineum</i>	3	93%	2	35%	positive
<i>Breynia oblongifolia</i>	1	33%	1	29%	uninformative
<i>Brunoniella australis</i>	1	4%	1	3%	uninformative
<i>Caladenia carnea</i>	1	4%	1	1%	uninformative
<i>Calamus muelleri</i>	2	15%	2	14%	uninformative
<i>Caldcluvia paniculosa</i>	2	33%	2	11%	uninformative
<i>Callicoma serratifolia</i>	1	7%	2	18%	uninformative
<i>Callistemon salignus</i>	2	19%	3	12%	uninformative
<i>Calochlaena dubia</i>	2	44%	2	26%	uninformative
<i>Cayratia clematidea</i>	1	7%	1	8%	uninformative
<i>Celastrus subspicata</i>	1	4%	1	4%	uninformative
<i>Cephalalaria cephalobotrys</i>	2	7%	1	5%	uninformative
<i>Ceratopetalum gummiferum</i>	3	7%	1	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Choricarpia leptopetala</i>	2	7%	4	2%	uninformative
<i>Christella dentata</i>	1	4%	1	1%	uninformative
<i>Cinnamomum oliveri</i>	2	7%	1	6%	uninformative
<i>Cissus antarctica</i>	1	37%	1	18%	uninformative
<i>Cissus hypoglauca</i>	2	67%	1	36%	positive
<i>Claoxylon australe</i>	1	11%	1	6%	uninformative
<i>Clematis aristata</i>	2	7%	1	11%	uninformative
<i>Clematis glycinoides</i>	1	19%	1	5%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	4%	1	10%	uninformative
<i>Clerodendrum tomentosum</i>	1	7%	1	5%	uninformative
<i>Commelina cyanea</i>	1	4%	1	5%	uninformative
<i>Cordyline petiolaris</i>	2	7%	1	4%	uninformative
<i>Cordyline stricta</i>	1	70%	1	36%	uninformative
<i>Corymbia gummifera</i>	3	7%	2	9%	uninformative
<i>Corymbia intermedia</i>	1	11%	2	21%	uninformative
<i>Croton verreauxii</i>	1	4%	1	3%	uninformative
<i>Cryptocarya dorrigoensis</i>	1	4%	1	1%	uninformative
<i>Cryptocarya glaucescens</i>	2	41%	2	16%	uninformative
<i>Cryptocarya microneura</i>	1	63%	1	18%	uninformative
<i>Cryptocarya obovata</i>	1	4%	1	3%	uninformative
<i>Cryptocarya rigida</i>	2	74%	2	24%	positive
<i>Cryptocarya triplinervis</i>	1	4%	1	4%	uninformative
<i>Cupaniopsis anacardioides</i>	1	7%	1	11%	uninformative
<i>Cuttsia viburnea</i>	2	7%	2	2%	uninformative
<i>Cyathea australis</i>	2	33%	1	12%	uninformative
<i>Cyathea leichhardtiana</i>	1	4%	1	10%	uninformative
<i>Cyclophyllum longipetalum</i>	1	11%	1	5%	uninformative
<i>Cyperus filipes</i>	2	4%	1	3%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	1	4%	1	4%	uninformative
<i>Dendrobium aemulum</i>	2	7%	2	1%	uninformative
<i>Dendrobium gracilicaule</i>	1	4%	2	1%	uninformative
<i>Dendrobium tetragonum</i>	1	7%	1	1%	uninformative
<i>Denhamia celastroides</i>	1	15%	1	8%	uninformative
<i>Denhamia pittosporoides</i> subsp. <i>pittosporoides</i>	1	4%	0	0%	positive
<i>Desmodium gunnii</i>	1	4%	1	5%	uninformative
<i>Desmodium rhytidophyllum</i>	1	7%	1	7%	uninformative
<i>Desmodium varians</i>	1	4%	1	7%	uninformative
<i>Dianella caerulea</i>	1	56%	1	50%	uninformative
<i>Dichondra repens</i>	1	4%	1	5%	uninformative
<i>Dictymia brownii</i>	1	4%	1	1%	uninformative
<i>Dioscorea transversa</i>	1	74%	1	25%	uninformative
<i>Diospyros australis</i>	1	4%	2	1%	uninformative
<i>Diospyros fasciculosa</i>	2	11%	1	1%	uninformative
<i>Dodonaea triquetra</i>	3	4%	1	10%	uninformative
<i>Doodia aspera</i>	2	67%	2	12%	positive
<i>Doodia linearis</i>	1	4%	1	0%	uninformative
<i>Drypetes deplanchei</i>	1	4%	1	5%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Dysoxylum mollissimum</i> subsp. <i>molle</i>	1	7%	2	2%	uninformative
<i>Dysoxylum rufum</i>	1	11%	2	2%	uninformative
<i>Echinostephia aculeata</i>	1	4%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	37%	1	27%	uninformative
<i>Elaeodendron australe</i> var. <i>australe</i>	1	7%	1	3%	uninformative
<i>Elattostachys nervosa</i>	1	4%	1	3%	uninformative
<i>Embelia australiana</i>	1	11%	1	11%	uninformative
<i>Endiandra discolor</i>	1	7%	1	5%	uninformative
<i>Endiandra muelleri</i>	2	15%	1	9%	uninformative
<i>Endiandra sieberi</i>	1	19%	1	9%	uninformative
<i>Entolasia marginata</i>	2	4%	1	9%	uninformative
<i>Entolasia stricta</i>	2	22%	2	25%	uninformative
<i>Eucalyptus acmenoides</i>	2	15%	2	8%	uninformative
<i>Eucalyptus ancophila</i>	4	4%	0	0%	positive
<i>Eucalyptus biturbinata</i>	2	4%	3	0%	uninformative
<i>Eucalyptus carnea</i>	1	4%	2	11%	uninformative
<i>Eucalyptus grandis</i>	3	22%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	2	78%	3	32%	positive
<i>Eucalyptus pilularis</i>	3	44%	3	26%	uninformative
<i>Eucalyptus propinqua</i>	3	11%	3	14%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	3	11%	3	10%	uninformative
<i>Eucalyptus saligna</i>	4	15%	3	9%	uninformative
<i>Eucalyptus siderophloia</i>	2	7%	3	11%	uninformative
<i>Eucalyptus signata</i>	1	4%	3	2%	uninformative
<i>Eupomatia bennettii</i>	1	4%	1	2%	uninformative
<i>Eupomatia laurina</i>	1	52%	1	12%	uninformative
<i>Euroschinus falcatus</i>	2	7%	1	4%	uninformative
<i>Eustrephus latifolius</i>	1	7%	1	31%	uninformative
<i>Ficus coronata</i>	1	33%	1	12%	uninformative
<i>Gahnia aspera</i>	1	33%	1	13%	uninformative
<i>Gahnia clarkei</i>	1	4%	2	14%	uninformative
<i>Geitonoplesium cymosum</i>	1	33%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	15%	1	13%	uninformative
<i>Gmelina leichhardtii</i>	1	7%	1	3%	uninformative
<i>Guilfoylia monostylis</i>	1	4%	1	1%	uninformative
<i>Guioa semiglauca</i>	2	59%	1	26%	positive
<i>Gymnostachys anceps</i>	1	33%	1	18%	uninformative
<i>Heritiera actinophylla</i>	1	4%	2	3%	uninformative
<i>Hibbertia aspera</i>	2	7%	1	10%	uninformative
<i>Hibbertia scandens</i>	1	26%	1	32%	uninformative
<i>Hibiscus heterophyllus</i> subsp. <i>heterophyllus</i>	1	4%	2	1%	uninformative
<i>Homalanthus populifolius</i>	1	7%	1	3%	uninformative
<i>Hovea acutifolia</i>	1	4%	2	1%	uninformative
<i>Hybanthus enneaspermus</i>	1	4%	1	3%	uninformative
<i>Hybanthus stellarioides</i>	1	4%	1	4%	uninformative
<i>Hymenosporum flavum</i>	1	4%	1	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Imperata cylindrica</i>	1	11%	2	33%	uninformative
<i>Indigofera australis</i>	2	4%	2	4%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	11%	1	11%	uninformative
<i>Jasminum volubile</i>	1	4%	0	0%	positive
<i>Lagenophora gracilis</i>	1	4%	1	1%	uninformative
<i>Lastreopsis acuminata</i>	1	4%	3	1%	uninformative
<i>Lastreopsis decomposita</i>	2	44%	1	4%	uninformative
<i>Lepidosperma elatius</i>	2	4%	2	1%	uninformative
<i>Lepidosperma laterale</i>	2	15%	1	17%	uninformative
<i>Leptospermum petersonii</i>	2	4%	3	0%	uninformative
<i>Leptospermum polygalifolium</i>	2	7%	1	12%	uninformative
<i>Leucopogon lanceolatus</i>	1	4%	1	20%	uninformative
<i>Linospadix monostachya</i>	1	7%	2	13%	uninformative
<i>Litsea australis</i>	1	4%	1	5%	uninformative
<i>Litsea reticulata</i>	2	4%	2	7%	uninformative
<i>Lobelia trigonocaulis</i>	1	7%	1	6%	uninformative
<i>Lomandra filiformis</i>	1	7%	1	12%	uninformative
<i>Lomandra longifolia</i>	1	52%	2	51%	negative
<i>Lomandra spicata</i>	1	4%	1	10%	uninformative
<i>Lophostemon confertus</i>	3	96%	2	27%	positive
<i>Lophostemon suaveolens</i>	3	4%	2	9%	uninformative
<i>Mallotus philippensis</i>	1	4%	2	1%	uninformative
<i>Marsdenia flavescens</i>	1	4%	0	0%	positive
<i>Marsdenia lloydii</i>	2	4%	1	2%	uninformative
<i>Marsdenia rostrata</i>	2	7%	1	8%	uninformative
<i>Maytenus bilocularis</i>	1	11%	1	4%	uninformative
<i>Melaleuca styphelioides</i>	2	4%	2	1%	uninformative
<i>Melicope hayesii</i>	1	4%	1	4%	uninformative
<i>Melodinus australis</i>	3	7%	1	4%	uninformative
<i>Morinda jasminoides</i>	1	67%	1	35%	uninformative
<i>Myosotis exarrhena</i>	2	4%	0	0%	positive
<i>Myrsine howittiana</i>	1	4%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	19%	1	16%	uninformative
<i>Neolitsea dealbata</i>	1	44%	1	14%	uninformative
<i>Niemeyera whitei</i>	1	26%	2	4%	uninformative
<i>Notelaea longifolia</i>	1	37%	1	26%	uninformative
<i>Notelaea venosa</i>	3	7%	1	1%	uninformative
<i>Olea paniculata</i>	2	4%	1	0%	uninformative
<i>Olearia nernstii</i>	2	4%	2	0%	uninformative
<i>Oplismenus imbecillis</i>	2	37%	2	21%	uninformative
<i>Palmeria scandens</i>	1	15%	1	9%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	15%	1	12%	uninformative
<i>Parsonsia straminea</i>	1	26%	1	28%	uninformative
<i>Persoonia media</i>	1	4%	2	7%	uninformative
<i>Persoonia stradbokensis</i>	1	11%	1	19%	uninformative
<i>Petalostigma triloculare</i>	1	4%	1	0%	uninformative
<i>Petermannia cirrosa</i>	1	4%	1	6%	uninformative
<i>Pilidiostigma glabrum</i>	1	7%	1	12%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Pimelea latifolia</i>	1	4%	1	1%	uninformative
<i>Pittosporum multiflorum</i>	1	19%	1	12%	uninformative
<i>Pittosporum revolutum</i>	1	26%	1	12%	uninformative
<i>Pittosporum undulatum</i>	1	30%	1	9%	uninformative
<i>Platycerium bifurcatum</i>	1	15%	1	16%	uninformative
<i>Platycerium superbium</i>	1	7%	1	5%	uninformative
<i>Plectranthus parviflorus</i>	2	4%	1	2%	uninformative
<i>Poa sieberiana</i>	1	4%	2	5%	uninformative
<i>Polyscias elegans</i>	1	4%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	11%	1	17%	uninformative
<i>Pomax umbellata</i>	2	7%	1	6%	uninformative
<i>Pratia purpurascens</i>	1	11%	1	24%	uninformative
<i>Prostanthera ovalifolia</i>	3	4%	0	0%	positive
<i>Pseuderanthemum variabile</i>	2	41%	2	26%	uninformative
<i>Psychotria loniceroides</i>	1	26%	1	13%	uninformative
<i>Pteridium esculentum</i>	1	7%	2	33%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	2	4%	1	5%	uninformative
<i>Quassia</i> sp. 'Moonee Creek'	2	4%	0	0%	positive
<i>Quintinia verdonii</i>	1	4%	1	6%	uninformative
<i>Rhodamnia rubescens</i>	2	59%	1	13%	positive
<i>Rhodomyrtus psidioides</i>	1	4%	1	4%	uninformative
<i>Ripogonum album</i>	2	7%	2	7%	uninformative
<i>Ripogonum discolor</i>	1	7%	2	11%	uninformative
<i>Ripogonum elseyanum</i>	1	7%	2	8%	uninformative
<i>Ripogonum fawcettianum</i>	2	44%	2	19%	uninformative
<i>Rubus moluccanus</i> var. <i>moluccanus</i>	1	7%	1	2%	uninformative
<i>Rubus nebulosus</i>	1	7%	1	5%	uninformative
<i>Rubus parvifolius</i>	1	4%	1	4%	uninformative
<i>Sarcophilus falcatus</i>	1	4%	2	1%	uninformative
<i>Sarcopetalum harveyanum</i>	1	22%	1	8%	uninformative
<i>Sarcopteryx stipata</i>	1	22%	1	11%	uninformative
<i>Schizomeria ovata</i>	1	15%	1	12%	uninformative
<i>Scolopia braunii</i>	1	19%	1	5%	uninformative
<i>Sloanea australis</i>	3	7%	3	5%	uninformative
<i>Sloanea woollsii</i>	1	7%	2	6%	uninformative
<i>Smilax australis</i>	1	59%	1	43%	uninformative
<i>Smilax glycyphylla</i>	1	33%	1	28%	uninformative
<i>Solanum hapalum</i>	1	4%	1	6%	uninformative
<i>Solanum stelligerum</i>	1	4%	1	1%	uninformative
<i>Stenocarpus salignus</i>	2	4%	1	4%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	33%	1	21%	uninformative
<i>Syncarpia glomulifera</i>	2	74%	3	37%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	2	85%	2	31%	positive
<i>Syzygium oleosum</i>	2	7%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	37%	1	27%	uninformative
<i>Tasmannia insipida</i>	1	11%	1	12%	uninformative
<i>Tetrastigma nitens</i>	1	11%	1	2%	uninformative
<i>Themeda australis</i>	1	4%	3	25%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Tripladenia cunninghamii</i>	2	7%	1	10%	uninformative
<i>Tristaniopsis collina</i>	1	4%	2	5%	uninformative
<i>Trochocarpa laurina</i>	2	74%	1	35%	positive
<i>Tylophora paniculata</i>	1	19%	1	2%	uninformative
<i>Vernonia cinerea</i>	2	4%	1	11%	uninformative
<i>Viola banksii</i>	1	4%	1	17%	uninformative
<i>Wilkiea huegeliana</i>	1	52%	1	27%	uninformative
<i>Xanthorrhoea macronema</i>	2	4%	1	6%	uninformative
<i>Xanthorrhoea malacophylla</i>	3	4%	2	1%	uninformative
<i>Zieria arborescens</i>	1	4%	2	0%	uninformative
<i>Zieria smithii</i>	1	7%	1	4%	uninformative
<i>Zieria southwellii</i>	1	4%	1	1%	uninformative

PLATEAU BLUE GUM - TALLOWWOOD - FLOODED GUM WET SHRUBBY FOREST

CH_WSF06

SCIENTIFIC NAME Sydney Blue Gum (*Eucalyptus saligna*) –
Tallowwood (*Eucalyptus microcorys*) – Flooded Gum (*Eucalyptus grandis*)
wet shrubby forest on sheltered metasedimentary hills of the Eastern
Dorrigo Plateau

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet
Sclerophyll Forest (Keith 2006)

PLANT COMMUNITY TYPE Brush Box – Tallowwood – Sydney Blue
Gum shrubby wet open forest of coastal hills and escarpment ranges,
NSW North Coast Bioregion and the South Eastern Queensland Bioregion
(NSW1500-933)



Description

A medium to tall open moist forest with a variable canopy usually dominated by Sydney Blue Gum (*Eucalyptus saligna*), Tallowwood (*Eucalyptus microcorys*) or Flooded Gum (*Eucalyptus grandis*). Brush Box (*Lophostemon confertus*) and Turpentine (*Syncarpia glomulifera*) are common associates. The mid stratum is diverse and contains Black Wattle (*Callicoma serratifolia*), Blackwood (*Acacia melanoxylon*), Rose Myrtle (*Archirhodomyrtus beckleri*), Jackwood (*Cryptocarya glaucescens*), Tree Heath (*Trochocarpa laurina*) and Forest Maple (*Cryptocarya rigida*) which

are often dense especially in less disturbed examples of this community. The ground layer is often sparse and consists mainly of Gristle Fern (*Blechnum cartilagineum*) and Spiny-headed Mat-rush (*Lomandra longifolia*).

Common on the lower and middle slopes of the eastern Dorrigo plateau above the escarpment rim (about 500m ASL) on soils of sedimentary and metasedimentary origin.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	5 - 45	25 - 50	<i>Eucalyptus saligna</i> , <i>Eucalyptus microcorys</i> , <i>Eucalyptus pilularis</i> , <i>Lophostemon confertus</i> .
Middle 1	0.5 - 20	30 - 80	<i>Callicoma serratifolia</i> , <i>Acacia melanoxylon</i> , <i>Tristaniopsis collina</i> , <i>Alphitonia excelsa</i> .
Middle 2	3 - 20	25 - 70	<i>Cryptocarya glaucescens</i> , <i>Cryptocarya rigida</i> , <i>Trochocarpa laurina</i> , <i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Persoonia media</i> , <i>Archirhodomyrtus beckleri</i> , <i>Duboisia myoporoides</i> , <i>Parsonsia straminea</i> .
Lower	.01 - 0.5	5 - 65	<i>Blechnum cartilagineum</i> , <i>Lomandra longifolia</i> , <i>Gahnia aspera</i> , <i>Pseuderanthemum variabile</i> , <i>Pratia purpurascens</i> , <i>Panicum pygmaeum</i> , <i>Lobelia trigonocaulis</i> , <i>Doodia aspera</i> .

* Structural data collated from 10 of 11 full floristic sites

Structural and floristic variations

The canopy dominance of this community is varied across its distribution. Strong dominance of Sydney Blue Gum (*Eucalyptus saligna*), Flooded Gum (*Eucalyptus grandis*) and Tallowwood (*Eucalyptus microcorys*) which have all been recorded, though a mix of these species is the most common occurrence. The dense mid stratum of predominantly warm temperate shrubby species is consistent throughout all occurrences. There is an example of this community where Tallowwood (*Eucalyptus microcorys*) is the only canopy species that occurs along Cooperook Creek Road in Dorrigo National Park. This community also occurs with a high proportion of Flooded Gum (*Eucalyptus grandis*) in various areas around the eastern Dorrigo plateau including Wild Cattle Creek State Forest near Cooperook Creek and some areas near Eve Creek.

Exotics *Araujia sericifera*, *Cinnamomum camphora*, *Passiflora subpeltata*, *Solanum mauritianum*, *Solanum pseudocapsicum*

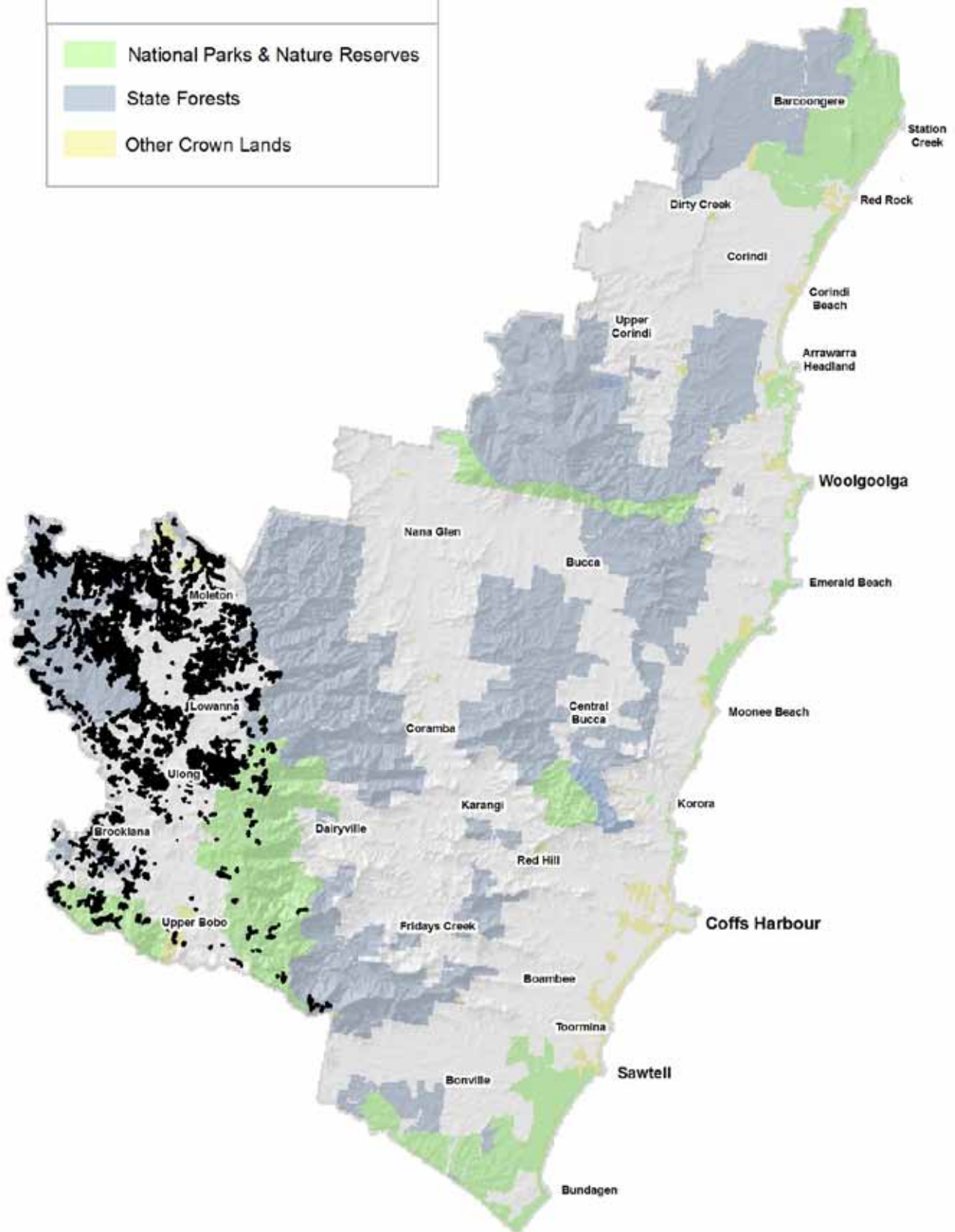
Species richness

Number of plots	11
Total species	140
Average number of species	31 ±11.5

Conservation status

This community is reserved in Bindarri NP (213ha), Dorrigo NP (134ha) and Bindarri SCA (18ha).

Tenure	Area (ha)
Crown Land	66
Freehold	2122
National Park	349
NSW State Forest	1400
State Conservation Area	18
TOTAL	3956





Relationship to other communities

Strongly related to CH_RF12 (Escarpment Coachwood - Sassafras - Brush Box Warm Temperate Rainforest), CH_RF03 (Plateau/Escarpment Coachwood Sassafras Warm Temperate Rainforest) and CH_WSF07 (Plateau and Escarpment Rim Brush Box Blackbutt Wet Forest). CH_WSF07 is similar in the understorey but has a relative dominance of Coastal Blackbutt (*Eucalyptus pilularis*) and Brush Box (*Lophostemon confertus*) in the canopy. CH_WSF06 is replaced by CH_WSF03 (Blue Gum – Tallowwood – Turpentine Wet Shrubby Forest) at lower elevations where the sub-tropical influence on the understorey species is stronger.

Equivalents

Biometric: Tallowwood - Sydney Blue Gum moist open forest of the coastal ranges of the North Coast (NR264).

Other: N3/N3a – Sydney Blue Gum (Fisher et al. 1996)

Locations

Known examples include St. John's Creek, near Bobo River in Wild Cattle Creek State Forest; Eastern Dorrigo Way, Timmsvale; Ulong; Moleton Road, Moleton.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	2	27%	1	5%	uninformative
<i>Acacia fimbriata</i>	3	18%	1	5%	uninformative
<i>Acacia irrorata</i>	1	9%	1	8%	uninformative
<i>Acacia melanoxylon</i>	2	73%	2	17%	positive
<i>Acacia suaveolens</i>	1	9%	1	3%	uninformative
<i>Acmena smithii</i>	1	18%	1	27%	uninformative
<i>Acrotriche aggregata</i>	3	9%	1	1%	uninformative
<i>Adiantum formosum</i>	1	9%	2	2%	uninformative
<i>Allocasuarina littoralis</i>	3	36%	3	9%	uninformative
<i>Allocasuarina torulosa</i>	1	27%	2	36%	uninformative
<i>Alphitonia excelsa</i>	1	18%	1	14%	uninformative
<i>Angophora costata</i>	2	9%	2	14%	uninformative
<i>Aphanopetalum resinosum</i>	1	9%	3	1%	uninformative
<i>Araucaria cunninghamii</i>	1	9%	1	6%	uninformative
<i>Archirhodomyrtus beckleri</i>	2	64%	2	22%	positive
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	9%	1	8%	uninformative
<i>Billardiera scandens</i>	1	9%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	2	82%	2	37%	positive
<i>Blechnum nudum</i>	3	9%	2	0%	uninformative
<i>Caldcluvia paniculosa</i>	2	36%	2	12%	uninformative
<i>Callicoma serratifolia</i>	2	82%	2	16%	positive
<i>Callistemon salignus</i>	1	18%	3	12%	uninformative
<i>Callitris macleayana</i>	5	9%	1	1%	uninformative
<i>Calochlaena dubia</i>	2	18%	2	27%	uninformative
<i>Carex longebrachiata</i>	2	9%	2	0%	uninformative
<i>Cayratia clematidea</i>	1	9%	1	8%	uninformative
<i>Ceratopetalum apetalum</i>	3	18%	3	11%	uninformative
<i>Cinnamomum oliveri</i>	1	9%	1	6%	uninformative
<i>Cissus antarctica</i>	1	27%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	45%	1	38%	uninformative
<i>Claoxylon australe</i>	1	9%	1	6%	uninformative
<i>Clematis glycinoides</i>	1	9%	1	6%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	9%	1	10%	uninformative
<i>Cordyline petiolaris</i>	1	9%	1	4%	uninformative
<i>Cordyline stricta</i>	2	45%	1	38%	uninformative
<i>Cryptocarya glaucescens</i>	2	73%	2	16%	positive
<i>Cryptocarya rigida</i>	3	55%	2	26%	positive
<i>Cyathea australis</i>	1	45%	1	12%	uninformative
<i>Cyathea leichhardtiana</i>	2	18%	1	10%	uninformative
<i>Denhamia celastroides</i>	1	27%	1	8%	uninformative
<i>Desmodium gunnii</i>	1	9%	1	4%	uninformative
<i>Deyeuxia reflexa</i>	1	9%	0	0%	positive
<i>Dianella caerulea</i>	2	18%	1	51%	uninformative
<i>Dichondra repens</i>	2	9%	1	5%	uninformative
<i>Dioscorea transversa</i>	1	18%	1	28%	uninformative
<i>Diospyros fasciculosa</i>	1	9%	2	1%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Doodia aspera</i>	2	18%	2	15%	uninformative
<i>Duboisia myoporoides</i>	1	27%	1	4%	uninformative
<i>Ehretia acuminata</i> var. <i>acuminata</i>	1	9%	1	1%	uninformative
<i>Elaeocarpus reticulatus</i>	2	45%	1	27%	uninformative
<i>Endiandra muelleri</i>	1	9%	1	9%	uninformative
<i>Entolasia marginata</i>	2	18%	1	9%	uninformative
<i>Eucalyptus carnea</i>	4	9%	2	10%	uninformative
<i>Eucalyptus grandis</i>	3	27%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	2	73%	3	34%	positive
<i>Eucalyptus pilularis</i>	4	18%	3	27%	uninformative
<i>Eucalyptus saligna</i>	3	73%	3	8%	positive
<i>Eustrephus latifolius</i>	1	27%	1	29%	uninformative
<i>Gahnia aspera</i>	2	27%	1	14%	uninformative
<i>Gahnia melanocarpa</i>	2	9%	1	1%	uninformative
<i>Geitonoplesium cymosum</i>	1	9%	1	24%	uninformative
<i>Glycine microphylla</i>	1	9%	1	3%	uninformative
<i>Gonocarpus oreophilus</i>	2	9%	1	0%	uninformative
<i>Guioa semiglauca</i>	2	18%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	27%	1	19%	uninformative
<i>Hibbertia dentata</i>	1	9%	1	7%	uninformative
<i>Hibbertia scandens</i>	1	36%	1	31%	uninformative
<i>Hydrocotyle pedicellosa</i>	1	9%	2	2%	uninformative
<i>Hydrocotyle peduncularis</i>	2	9%	1	6%	uninformative
<i>Hypolepis glandulifera</i>	1	9%	0	0%	positive
<i>Imperata cylindrica</i>	1	9%	2	32%	uninformative
<i>Lepidosperma elatius</i>	2	9%	2	1%	uninformative
<i>Lepidosperma laterale</i>	2	9%	1	17%	uninformative
<i>Leptospermum polygalifolium</i>	1	9%	1	12%	uninformative
<i>Leucopogon juniperinus</i>	1	9%	1	3%	uninformative
<i>Leucopogon lanceolatus</i>	2	18%	1	19%	uninformative
<i>Linospadix monostachya</i>	2	9%	1	13%	uninformative
<i>Lobelia trigonocaulis</i>	2	18%	1	6%	uninformative
<i>Lomandra longifolia</i>	2	100%	2	50%	constant
<i>Lophostemon confertus</i>	2	45%	2	31%	uninformative
<i>Maytenus bilocularis</i>	2	9%	1	4%	uninformative
<i>Melicope hayesii</i>	2	9%	1	4%	uninformative
<i>Melicope micrococca</i>	1	18%	1	2%	uninformative
<i>Morinda jasminoides</i>	2	9%	1	37%	uninformative
<i>Myrsine variabilis</i>	1	36%	1	16%	uninformative
<i>Neolitsea dealbata</i>	2	9%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	27%	1	27%	uninformative
<i>Oplismenus imbecillis</i>	2	18%	2	22%	uninformative
<i>Oxalis chnoodes</i>	2	9%	1	0%	uninformative
<i>Ozothamnus diosmifolius</i>	2	9%	1	9%	uninformative
<i>Palmeria scandens</i>	1	9%	1	10%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	9%	1	12%	uninformative
<i>Panicum pygmaeum</i>	2	18%	1	0%	uninformative
<i>Parsonsia purpurascens</i>	1	9%	1	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Parsonsia straminea</i>	2	55%	1	27%	positive
<i>Persoonia media</i>	3	55%	1	6%	positive
<i>Petermannia cirrosa</i>	1	18%	1	5%	uninformative
<i>Phyllanthus similis</i>	1	9%	1	2%	uninformative
<i>Pilidiostigma glabrum</i>	2	45%	1	11%	uninformative
<i>Pittosporum multiflorum</i>	1	9%	1	13%	uninformative
<i>Pittosporum revolutum</i>	1	9%	1	13%	uninformative
<i>Planchonella australis</i>	1	9%	1	5%	uninformative
<i>Poa sieberiana</i>	2	9%	2	5%	uninformative
<i>Podolobium aciculiferum</i>	3	18%	2	0%	uninformative
<i>Polyscias sambucifolia</i>	1	36%	1	16%	uninformative
<i>Poranthera microphylla</i>	1	9%	1	2%	uninformative
<i>Pratia purpurascens</i>	2	18%	1	23%	uninformative
<i>Pseuderanthemum variabile</i>	2	18%	2	27%	uninformative
<i>Psychotria daphnoides</i>	1	9%	0	0%	positive
<i>Pteridium esculentum</i>	1	64%	2	31%	uninformative
<i>Quintinia verdonii</i>	2	18%	1	6%	uninformative
<i>Rhodamnia rubescens</i>	1	18%	1	16%	uninformative
<i>Ripogonum discolor</i>	2	36%	2	10%	uninformative
<i>Ripogonum elseyanum</i>	1	9%	2	8%	uninformative
<i>Ripogonum fawcettianum</i>	3	18%	2	21%	uninformative
<i>Rubus moluccanus</i> var. <i>moluccanus</i>	2	18%	1	2%	uninformative
<i>Rubus rosifolius</i>	2	36%	1	3%	uninformative
<i>Sarcopteryx stipata</i>	2	9%	1	11%	uninformative
<i>Schizomeria ovata</i>	2	27%	1	12%	uninformative
<i>Seringia arborescens</i>	2	18%	1	2%	uninformative
<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	1	9%	1	2%	uninformative
<i>Smilax australis</i>	1	82%	1	43%	uninformative
<i>Smilax glycyphylla</i>	1	45%	1	28%	uninformative
<i>Solanum aviculare</i>	1	9%	1	0%	uninformative
<i>Solanum hapalum</i>	2	9%	1	6%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	9%	1	22%	uninformative
<i>Syncarpia glomulifera</i>	3	18%	3	39%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	2	27%	2	35%	uninformative
<i>Syzygium australe</i>	3	9%	1	6%	uninformative
<i>Syzygium oleosum</i>	1	9%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	2	18%	1	28%	uninformative
<i>Tasmannia insipida</i>	1	9%	1	12%	uninformative
<i>Trimenia moorei</i>	2	9%	1	3%	uninformative
<i>Tristaniopsis collina</i>	2	45%	2	4%	uninformative
<i>Tristaniopsis laurina</i>	1	9%	2	3%	uninformative
<i>Trochocarpa laurina</i>	2	64%	1	36%	positive
<i>Viola banksii</i>	2	9%	1	16%	uninformative
<i>Wilkiea huegeliana</i>	1	36%	1	28%	uninformative
<i>Zieria arborescens</i>	2	9%	1	0%	uninformative
<i>Zieria smithii</i>	2	18%	1	4%	uninformative

PLATEAU AND ESCARPMENT RIM BRUSH BOX - BLACKBUTT WET FOREST

SCIENTIFIC NAME Brush Box (*Lophostemon confertus*) – Blackbutt (*Eucalyptus pilularis*) wet forest to Warm Temperate Rainforest of exposed ridges and slopes of the plateau and escarpment rim

PLANT COMMUNITY TYPE Coachwood – Sassafras – Crabapple tall closed forest of the Dorrigo area in the NSW North Coast Bioregion (NSW1000-1591)

STATEWIDE CLASS Wet Sclerophyll Forests – Northern Escarpment Wet Sclerophyll Forests (Keith 2006)



Description

A tall open wet forest with a variable canopy dominated by Brush Box (*Lophostemon confertus*) and/or Coastal Blackbutt (*Eucalyptus pilularis*). The mid-stratum is rich and diverse and often characterised by warm temperate rainforest species including Coachwood (*Ceratopetalum apetalum*), Black Wattle (*Callicoma serratifolia*), Blackwood (*Acacia melanoxylon*), Blueberry Ash (*Elaeocarpus reticulatus*), Crab-apple (*Schizomeria ovata*), Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*), Rose Myrtle (*Archirhodomyrtus beckleri*), Tree Heath (*Trochocarpa laurina*) and Forest Maple (*Cryptocarya rigida*). Often the sclerophyll canopy is reduced to sparse emergents as this community grades into warm temperate rainforest. Vines include Climbing Guinea Flower (*Hibbertia scandens*) and Anchor Vine (*Palmeria scandens*). A sparse ground cover is present and consists mainly of Gristle Fern (*Blechnum cartilagineum*) and Spiny-headed Mat-rush (*Lomandra longifolia*) with other species such as Smithian Zieria (*Zieria smithii*) and Brush Pepperbush (*Tasmania insipida*).

This community is restricted to the Eastern Dorrigo Plateau.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	5 - 30	30 - 40	<i>Lophostemon confertus</i> , <i>Eucalyptus pilularis</i> , <i>Eucalyptus grandis</i> , <i>Eucalyptus microcorys</i> , <i>Eucalyptus saligna</i> .
Mid stratum	5 - 20	30 - 70	<i>Callicoma serratifolia</i> , <i>Ceratopetalum apetalum</i> , <i>Archirhodomomyrtus beckleri</i> , <i>Litsea reticulata</i> , <i>Pilidiostigma glabrum</i> , <i>Trochocarpa laurina</i> , <i>Persoonia media</i> , <i>Cryptocarya microneura</i> , <i>Cryptocarya rigida</i> , <i>Ripogonum elseyanum</i> , <i>Schizomeria ovata</i> <i>Allocasuarina torulosa</i> .
Lower	.01 - 1	No data	<i>Blechnum cartilagineum</i> , <i>Hibbertia scandens</i> , <i>Lomandra longifolia</i> , <i>Palmeria scandens</i> , <i>Pteris umbrosa</i> , <i>Ripogonum discolor</i> , <i>Tasmannia insipida</i> .

* Data collated from 3 of 7 full floristic sites

Structural and floristic variations

There are several variations in canopy floristics across the distribution of this community. Some areas are characterised by a high cover of Brush Box (*Lophostemon confertus*) with very little influence from other canopy species. This often occurs on knolls or ridges in areas of cool temperate or warm temperate rainforest communities. There are examples of this community with a very high proportion of Brush Box (*L. confertus*) as the canopy cover, particularly around the Bushman's Range area near the upper reaches of Ulong Creek and Wayper Creek and near the Bobo River. Other examples of this community include higher percentage of Blackbutt (*Eucalyptus pilularis*) and this may be co-dominant with Tallowwood (*Eucalyptus microcorys*), Flooded Gum (*Eucalyptus grandis*) and/or Sydney Blue Gum (*Eucalyptus saligna*).

Species richness

Number of plots	7
Total species	130
Average number of species	42 ±8

Conservation status

This community is reserved in Bindarri National Park (510ha), Bindarri State Conservation Area (29ha) and Dorrigo National Park (339ha).

Tenure	Area (ha)
Crown Land	47
Freehold	469
National Park	847
NSW State Forest	767
State Conservation Area	28
TOTAL	2 158

Endangered Ecological community Not generally, although examples of this community which occur below 600m may contain elements of warm temperate rainforest or subtropical rainforest which may be interpreted as *Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions* EEC.



Relationship to other communities

Strongly related to both CH_RF12 (Escarpment Coachwood – Sassafras - Brush Box Warm Temperate Rainforest), CH_RF03 (Plateau and Escarpment Coachwood Sassafras Warm Temperate Rainforest) and CH_WSF06 (Plateau Blue Gum - Tallowwood - Flooded Gum Wet Shrubby Forest). The relative dominance of Blackbutt (*Eucalyptus pilularis*) and Brush Box (*Lophostemon confertus*) in the canopy with a understorey of warm temperate rainforest species is a strong indicator of CH_WSF07. CH_WSF06 is very similar in the understorey species but has a tendency for dominance of Sydney Blue Gum (*Eucalyptus saligna*) Tallowwood (*Eucalyptus microcorys*) and/or Flooded Gum (*Eucalyptus grandis*) in the canopy.

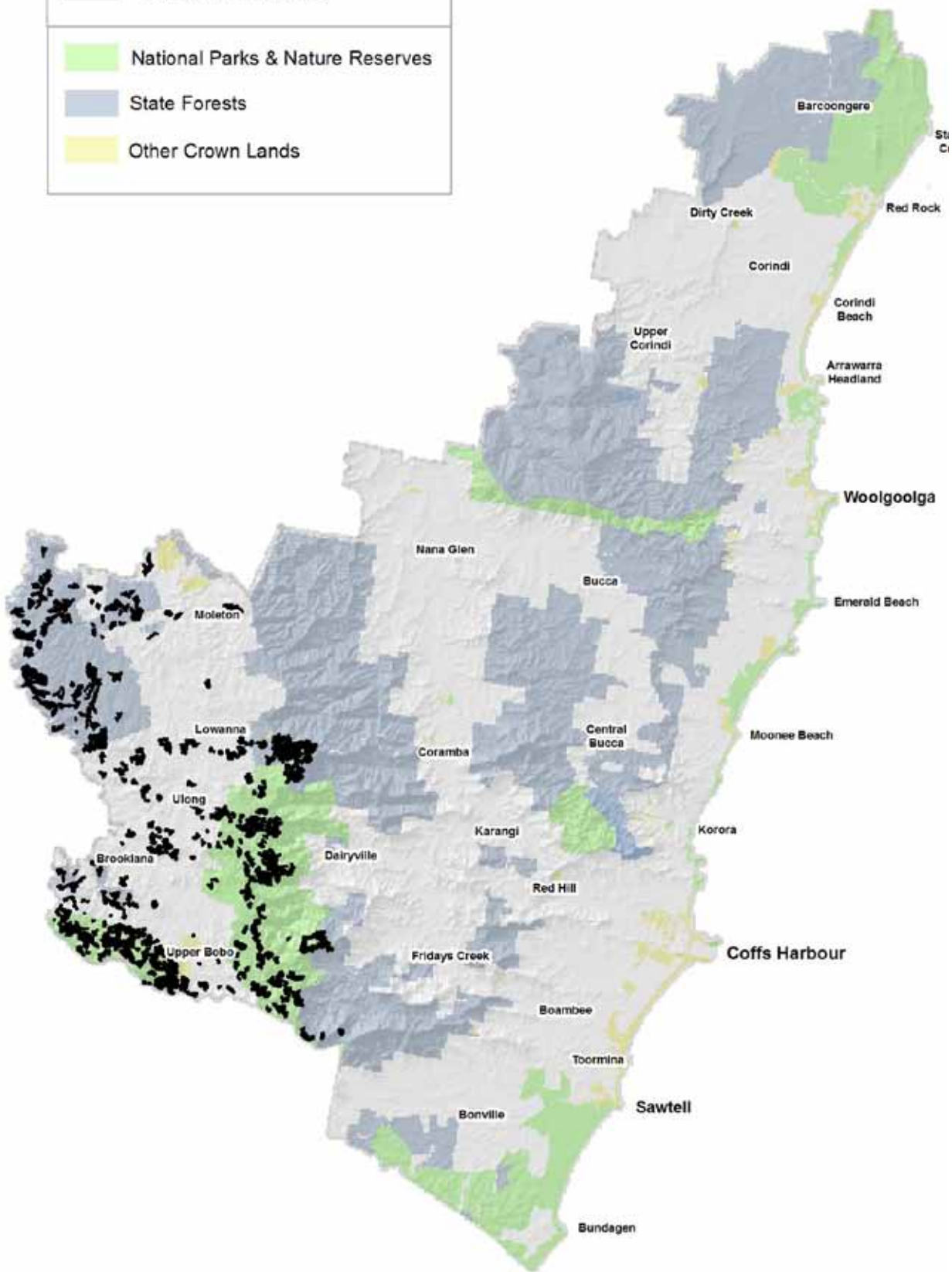
Equivalents

Biometric: Brush Box tall moist forest of the northern ranges of the North Coast (NR144).

Other: N3a - Sydney Blue Gum (Fisher et al. 1996).

Locations

Known from the Upper reaches of Wayper Creek in Bindarri National Park; Lowanna Road, Lowanna; Wild Cattle Creek Road; Coopernook River; Gentle Annie Road, Wild Cattle Creek; Coopernook Creek Road and the upper reaches of Eve Creek.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	4	29%	2	5%	uninformative
<i>Acacia melanoxydon</i>	2	86%	2	18%	positive
<i>Acmena smithii</i>	1	43%	1	26%	uninformative
<i>Acronychia octandra</i>	1	14%	3	1%	uninformative
<i>Acronychia pubescens</i>	2	14%	1	2%	uninformative
<i>Acrotriche aggregata</i>	1	29%	1	1%	uninformative
<i>Allocasuarina torulosa</i>	3	43%	2	36%	uninformative
<i>Alloxylon pinnatum</i>	2	43%	2	0%	uninformative
<i>Alphitonia excelsa</i>	3	29%	1	14%	uninformative
<i>Anopterus macleayanus</i>	2	29%	2	3%	uninformative
<i>Archidendron grandiflorum</i>	1	29%	1	3%	uninformative
<i>Archirhodomertus beckleri</i>	2	86%	2	23%	positive
<i>Archontophoenix cunninghamiana</i>	2	29%	1	32%	uninformative
<i>Arthropteris tenella</i>	1	14%	2	2%	uninformative
<i>Atractocarpus benthamianus</i>	2	14%	2	7%	uninformative
<i>Austrobuxus swainii</i>	4	29%	1	4%	uninformative
<i>Backhousia myrtifolia</i>	1	14%	2	2%	uninformative
<i>Blechnum cartilagineum</i>	2	100%	2	37%	positive
<i>Brachychiton acerifolius</i>	1	14%	1	1%	uninformative
<i>Caldcluvia paniculosa</i>	1	86%	2	11%	uninformative
<i>Callicoma serratifolia</i>	4	100%	2	16%	positive
<i>Callitris macleayana</i>	2	14%	1	1%	uninformative
<i>Calochlaena dubia</i>	4	29%	2	27%	uninformative
<i>Ceratopetalum apetalum</i>	2	86%	3	10%	positive
<i>Cinnamomum oliveri</i>	1	29%	1	6%	uninformative
<i>Cissus hypoglauca</i>	2	43%	1	38%	uninformative
<i>Clematis aristata</i>	1	14%	1	11%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	14%	1	10%	uninformative
<i>Commersonia fraseri</i>	1	14%	1	0%	uninformative
<i>Cordyline petiolaris</i>	1	14%	1	4%	uninformative
<i>Cordyline rubra</i>	1	14%	1	1%	uninformative
<i>Cordyline stricta</i>	2	43%	1	38%	uninformative
<i>Cryptocarya dorrigoensis</i>	2	14%	1	1%	uninformative
<i>Cryptocarya glaucescens</i>	1	57%	2	17%	uninformative
<i>Cryptocarya microneura</i>	2	57%	1	20%	positive
<i>Cryptocarya rigida</i>	2	57%	2	26%	positive
<i>Cyathea australis</i>	2	29%	1	13%	uninformative
<i>Cyathea leichhardtiana</i>	1	71%	1	9%	uninformative
<i>Dendrocnide photinophylla</i>	1	14%	2	1%	uninformative
<i>Denhamia celastroides</i>	1	43%	1	8%	uninformative
<i>Dianella caerulea</i>	1	43%	1	50%	uninformative
<i>Diospyros pentamera</i>	1	14%	2	6%	uninformative
<i>Doryphora sassafras</i>	2	43%	2	7%	uninformative
<i>Drymophila moorei</i>	2	14%	2	2%	uninformative
<i>Duboisia myoporoides</i>	3	14%	1	5%	uninformative
<i>Elaeocarpus reticulatus</i>	3	86%	1	26%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Embelia australiana</i>	1	29%	1	11%	uninformative
<i>Endiandra crassiflora</i>	2	14%	1	2%	uninformative
<i>Endiandra muelleri</i>	1	43%	1	8%	uninformative
<i>Endiandra sieberi</i>	2	29%	1	9%	uninformative
<i>Entolasia stricta</i>	1	14%	2	25%	uninformative
<i>Eucalyptus agglomerata</i>	3	14%	0	0%	positive
<i>Eucalyptus grandis</i>	2	43%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	2	43%	3	34%	uninformative
<i>Eucalyptus pilularis</i>	5	43%	3	27%	uninformative
<i>Eucalyptus saligna</i>	4	14%	3	9%	uninformative
<i>Eupomatia laurina</i>	2	14%	1	15%	uninformative
<i>Eustrephus latifolius</i>	1	29%	1	29%	uninformative
<i>Exocarya scleroides</i>	1	14%	2	2%	uninformative
<i>Gahnia aspera</i>	2	29%	1	14%	uninformative
<i>Gahnia melanocarpa</i>	1	14%	1	1%	uninformative
<i>Geitonoplesium cymosum</i>	1	43%	1	23%	uninformative
<i>Hibbertia dentata</i>	1	14%	1	7%	uninformative
<i>Hibbertia scandens</i>	2	71%	1	31%	positive
<i>Hodgkinsonia ovatiflora</i>	1	14%	1	1%	uninformative
<i>Homalanthus populifolius</i>	2	14%	1	3%	uninformative
<i>Legnephora moorei</i>	2	14%	2	1%	uninformative
<i>Lepidosperma elatius</i>	2	14%	2	1%	uninformative
<i>Lepidosperma laterale</i>	1	14%	1	17%	uninformative
<i>Leucopogon lanceolatus</i>	1	14%	1	19%	uninformative
<i>Litsea australis</i>	1	14%	1	5%	uninformative
<i>Litsea reticulata</i>	2	43%	2	7%	uninformative
<i>Lomandra longifolia</i>	2	43%	2	52%	negative
<i>Lomatia silaifolia</i>	2	14%	1	9%	uninformative
<i>Lophostemon confertus</i>	3	86%	2	31%	positive
<i>Morinda jasminoides</i>	1	43%	1	36%	uninformative
<i>Myrsine howittiana</i>	2	14%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	14%	1	16%	uninformative
<i>Nematolepis squamea</i> subsp. <i>squamea</i>	2	14%	2	2%	uninformative
<i>Neolitsea dealbata</i>	2	29%	1	16%	uninformative
<i>Orites excelsus</i>	1	43%	2	5%	uninformative
<i>Ozothamnus diosmifolius</i>	2	14%	1	9%	uninformative
<i>Palmeria scandens</i>	2	100%	1	8%	positive
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	14%	1	12%	uninformative
<i>Parsonsia purpurascens</i>	1	14%	1	2%	uninformative
<i>Parsonsia straminea</i>	1	43%	1	27%	uninformative
<i>Persoonia media</i>	2	43%	1	6%	uninformative
<i>Petermannia cirrosa</i>	1	14%	1	6%	uninformative
<i>Pilidiostigma glabrum</i>	2	57%	1	11%	positive
<i>Pittosporum multiflorum</i>	1	14%	1	13%	uninformative
<i>Planchonella australis</i>	1	43%	1	4%	uninformative
<i>Plectorrhiza tridentata</i>	1	14%	1	2%	uninformative
<i>Podolobium aciculiferum</i>	2	14%	3	0%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Polyosma cunninghamii</i>	2	14%	2	5%	uninformative
<i>Polyscias elegans</i>	2	14%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	14%	1	16%	uninformative
<i>Pseudoweinmannia lachnocarpa</i>	1	14%	0	0%	positive
<i>Psychotria loniceroides</i>	1	29%	1	14%	uninformative
<i>Pteris umbrosa</i>	3	14%	0	0%	positive
<i>Quintinia sieberi</i>	1	14%	2	2%	uninformative
<i>Quintinia verdonii</i>	2	29%	1	6%	uninformative
<i>Rhodamnia rubescens</i>	2	29%	1	16%	uninformative
<i>Ripogonum album</i>	3	29%	2	6%	uninformative
<i>Ripogonum discolor</i>	2	43%	2	10%	uninformative
<i>Ripogonum elseyanum</i>	2	57%	2	7%	positive
<i>Rubus moluccanus</i> var. <i>trilobus</i>	1	43%	1	3%	uninformative
<i>Rubus moorei</i>	2	14%	1	3%	uninformative
<i>Rubus nebulosus</i>	1	14%	1	5%	uninformative
<i>Rubus rosifolius</i>	2	14%	2	4%	uninformative
<i>Sarcopteryx stipata</i>	2	14%	1	11%	uninformative
<i>Schizomeria ovata</i>	2	86%	1	11%	positive
<i>Sloanea australis</i>	1	14%	3	5%	uninformative
<i>Sloanea woollsii</i>	1	14%	2	6%	uninformative
<i>Smilax australis</i>	2	29%	1	45%	uninformative
<i>Smilax glyciphylla</i>	2	71%	1	28%	positive
<i>Solanum hapalum</i>	1	14%	1	6%	uninformative
<i>Stenocarpus salignus</i>	1	14%	1	4%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	14%	1	22%	uninformative
<i>Syncarpia glomulifera</i>	2	14%	3	39%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	2	86%	2	34%	positive
<i>Syzygium oleosum</i>	2	29%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	43%	1	27%	uninformative
<i>Tasmania insipida</i>	2	43%	1	11%	uninformative
<i>Trema tomentosa</i> var. <i>aspera</i>	1	14%	1	3%	uninformative
<i>Trimenia moorei</i>	1	14%	1	3%	uninformative
<i>Tristaniopsis collina</i>	2	14%	2	5%	uninformative
<i>Triunia youngiana</i>	1	29%	1	5%	uninformative
<i>Trochocarpa laurina</i>	2	71%	1	36%	positive
<i>Wilkiea huegeliana</i>	2	57%	1	28%	positive
<i>Zieria smithii</i>	2	43%	1	3%	uninformative

SOUTHERN FOOTHILLS BLACKBUTT - TURPENTINE - TALLOWWOOD WET FERNY FOREST

CH_WSF08

SCIENTIFIC NAME Blackbutt (*Eucalyptus pilularis*) – Turpentine (*Syncarpia glomulifera*) – Tallowwood (*Eucalyptus microcorys*) – Forest Oak (*Allocasuarina torulosa*) wet ferny forest of the Bongil Bongil and Boambee area

PLANT COMMUNITY TYPE Turpentine – Blackbutt – Forest Oak shrubby open forest of the escarpment ranges of the mid north coast, NSW North Coast Bioregion (NSW1500-924)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A tall to very tall open forest with Blackbutt (*Eucalyptus pilularis*), Tallowwood (*Eucalyptus microcorys*) and Turpentine (*Syncarpia glomulifera*) being the most common canopy trees. Often there is a clear dominance of Coastal Blackbutt (*Eucalyptus pilularis*) in the canopy. There is a mid layer of Forest Oak (*Allocasuarina torulosa*) and Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*). The ground layer is moist with a mix of grasses and ferns including Soft Bracken (*Calochlaena dubia*), Blady Grass (*Imperata cylindrica*), Blue Flax-lily (*Dianella caerulea*), White root (*Pratia purpurascens*), Bracken Fern (*Pteridium esculentum*), Pastel Flower (*Pseuderanthemum variabile*), Bordered Panic (*Entolasia marginata*) and *Ottochloa gracillima*.

The distribution of this community is restricted to the Bongil Bongil and Bonville area, occurring typically on low lying metasediment hills. Common below about 70m elevation.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	8 - 48	35 - 60	<i>Eucalyptus pilularis</i> , <i>Eucalyptus microcorys</i> , <i>Syncarpia glomulifera</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> .
Middle 1	2 - 15	5 - 20	<i>Syncarpia glomulifera</i> , <i>Allocasuarina torulosa</i> , <i>Archirhodomyrtus beckleri</i> , <i>Elaeocarpus reticulatus</i> ,
Middle 2	1 - 8	15 - 45	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Trochocarpa laurina</i> , <i>Cordyline stricta</i> , <i>Leucopogon lanceolatus</i> , <i>Morinda jasminoides</i> , <i>Breynia oblongifolia</i> .
Lower	0.1 - 1	10 - 50	<i>Imperata cylindrica</i> , <i>Pteridium esculentum</i> , <i>Calochlaena dubia</i> , <i>Entolasia marginata</i> , <i>Themeda australis</i> , <i>Oplismenus imbecillis</i> , <i>Ottochloa gracillima</i> , <i>Hibbertia aspera</i> , <i>Desmodium brachypodum</i> , <i>Pseuderanthemum variabile</i> , <i>Lomandra longifolia</i> .

* Data collated from 20 of 22 full floristic sites

Exotics *Andropogon virginicus*, *Bidens pilosa*, *Cinnamomum camphora*, *Lantana camara*, *Paspalum mandiocanum*, *Passiflora edulis*

Species richness

Number of plots	22
Total species	
Average number of species	45 ±8.6

Conservation status

This community is reserved in Bongil Bongil National Park (881ha)

Tenure	Area (ha)
Freehold	227
National Park	883
NSW State Forest	182
TOTAL	1 292

Relationship to other communities

This is a wetter variant of CH_DOF01 (Coast and Escarpment Blackbutt Dry Forest). CH_WSF08 can transition to CH_DOF01 with drier environments as Soft Bracken (*Calochlaena dubia*) is replaced by Bracken Fern (*Pteridium esculentum*) and Kangaroo Grass (*Themeda australis*). CH_WSF08 is closely associated with CH_WSF09 (Northern Escarpment Blackbutt - Apple Wet Ferny Forest) and is replaced by CH_WSF09 north of the Bongil Bongil / Bonville area. The absence of Smooth-barked Apple (*Angophora costata*) as a sub-dominant or dominant canopy species is a key indicator of CH_WSF08.

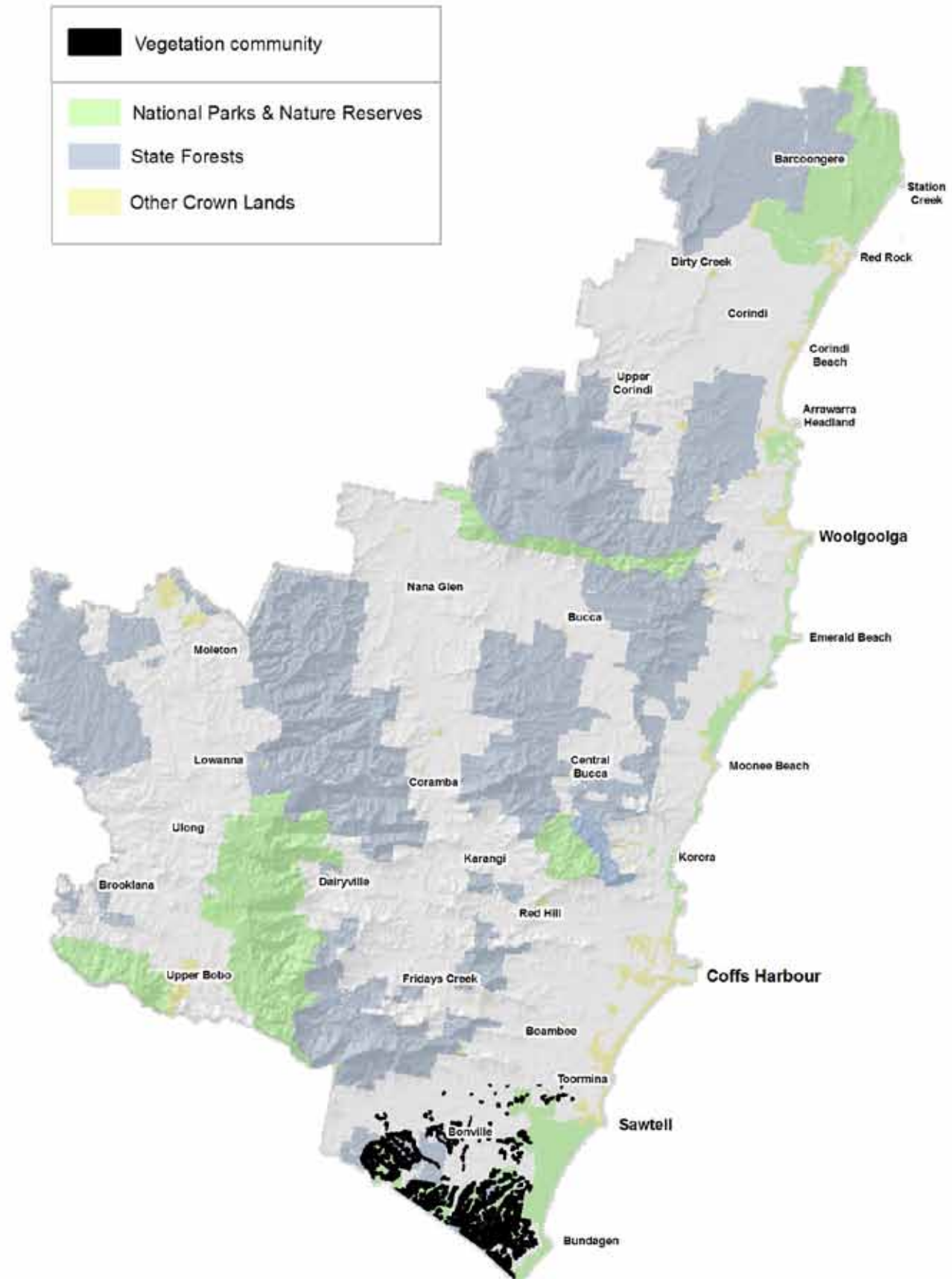
Equivalentents

BioBiometric: Blackbutt - Tallowwood moist ferny open forest of the coastal ranges of the North Coast (NR120).

Other: Bongil Bongil Community 21 – Blackbutt – Turpentine – Tallowwood Grassy Ferny Dry Open Forest (Cameron et al. 2011).

Locations

Known at Bongil Bongil National Park and Pine Creek State Forest.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia complanata</i>	1	5%	1	1%	uninformative
<i>Acacia fimbriata</i>	1	14%	1	5%	uninformative
<i>Acacia floribunda</i>	1	5%	1	0%	uninformative
<i>Acacia irrorata</i>	1	14%	1	8%	uninformative
<i>Acacia maidenii</i>	1	41%	1	13%	uninformative
<i>Acacia melanoxylon</i>	1	9%	2	19%	uninformative
<i>Acacia myrtifolia</i>	1	5%	1	2%	uninformative
<i>Acmena smithii</i>	1	32%	1	26%	uninformative
<i>Adiantum aethiopicum</i>	2	14%	1	2%	uninformative
<i>Adiantum atroviride</i>	1	5%	1	0%	uninformative
<i>Adiantum hispidulum</i>	1	5%	2	9%	uninformative
<i>Allocasuarina littoralis</i>	3	5%	3	10%	uninformative
<i>Allocasuarina torulosa</i>	2	77%	2	34%	positive
<i>Alphitonia excelsa</i>	1	36%	1	13%	uninformative
<i>Alpinia caerulea</i>	1	23%	1	17%	uninformative
<i>Angophora costata</i>	1	14%	2	14%	uninformative
<i>Angophora woodsiana</i>	1	5%	1	1%	uninformative
<i>Archidendron grandiflorum</i>	2	9%	1	3%	uninformative
<i>Archirhodomyrtus beckleri</i>	1	27%	2	23%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	27%	1	32%	uninformative
<i>Aristida vagans</i>	2	9%	2	2%	uninformative
<i>Asplenium australasicum</i>	1	5%	1	9%	uninformative
<i>Astrotricha latifolia</i>	1	5%	1	2%	uninformative
<i>Austrosteenisia blackii</i> var. <i>blackii</i>	1	5%	1	2%	uninformative
<i>Austrostipa pubescens</i>	3	5%	1	1%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	5%	1	8%	uninformative
<i>Benthamina alyxifolia</i>	1	5%	0	0%	positive
<i>Billardiera scandens</i>	1	23%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	1	59%	2	37%	uninformative
<i>Brachychiton acerifolius</i>	1	5%	1	1%	uninformative
<i>Breynia oblongifolia</i>	1	64%	1	28%	uninformative
<i>Callicoma serratifolia</i>	1	9%	2	18%	uninformative
<i>Callistemon salignus</i>	1	14%	3	13%	uninformative
<i>Calochlaena dubia</i>	3	82%	2	24%	positive
<i>Carex longibrachiata</i>	2	5%	2	0%	uninformative
<i>Cayratia clematidea</i>	1	14%	1	7%	uninformative
<i>Celastrus subspicata</i>	1	5%	1	4%	uninformative
<i>Cephalalaria cephalobotrys</i>	1	14%	1	5%	uninformative
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	1	5%	1	3%	uninformative
<i>Cissus antarctica</i>	1	23%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	77%	1	36%	uninformative
<i>Cissus sterculiifolia</i>	1	5%	1	6%	uninformative
<i>Clematis aristata</i>	2	41%	1	9%	uninformative
<i>Clematis glycinoides</i>	1	5%	1	6%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	36%	1	9%	uninformative
<i>Commelina cyanea</i>	1	5%	1	5%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Cordyline petiolaris</i>	1	5%	1	4%	uninformative
<i>Cordyline stricta</i>	1	50%	1	38%	uninformative
<i>Corymbia intermedia</i>	2	32%	2	20%	uninformative
<i>Corymbia variegata</i>	1	5%	3	6%	uninformative
<i>Cryptocarya rigida</i>	1	23%	2	27%	uninformative
<i>Cryptostylis erecta</i>	1	5%	2	1%	uninformative
<i>Cupaniopsis anacardioides</i>	1	18%	1	11%	uninformative
<i>Curculigo ensifolia</i> var. <i>ensifolia</i>	1	5%	0	0%	positive
<i>Cyathea australis</i>	1	5%	1	14%	uninformative
<i>Cyclophyllum longipetalum</i>	1	5%	1	6%	uninformative
<i>Cymbidium madidum</i>	1	5%	1	4%	uninformative
<i>Cymbopogon refractus</i>	1	18%	2	5%	uninformative
<i>Dampiera stricta</i>	1	9%	2	7%	uninformative
<i>Daviesia ulicifolia</i>	2	5%	2	0%	uninformative
<i>Daviesia umbellulata</i>	2	5%	1	2%	uninformative
<i>Desmodium brachypodum</i>	2	50%	1	4%	positive
<i>Desmodium gunnii</i>	1	5%	1	4%	uninformative
<i>Desmodium rhytidophyllum</i>	1	14%	1	7%	uninformative
<i>Desmodium varians</i>	1	45%	1	4%	uninformative
<i>Dianella caerulea</i>	1	73%	1	49%	uninformative
<i>Dianella revoluta</i>	2	5%	1	0%	uninformative
<i>Dichelachne micrantha</i>	1	5%	1	1%	uninformative
<i>Dichondra repens</i>	2	5%	1	5%	uninformative
<i>Digitaria parviflora</i>	3	5%	1	4%	uninformative
<i>Dioscorea transversa</i>	1	50%	1	27%	uninformative
<i>Dipodium punctatum</i>	1	5%	0	0%	positive
<i>Dipodium variegatum</i>	1	18%	1	1%	uninformative
<i>Dodonaea triquetra</i>	1	23%	2	9%	uninformative
<i>Doodia aspera</i>	1	18%	2	15%	uninformative
<i>Duboisia myoporoides</i>	1	14%	1	4%	uninformative
<i>Echinopogon ovatus</i>	2	5%	0	0%	positive
<i>Echinostephia aculeata</i>	1	14%	1	3%	uninformative
<i>Elaeocarpus obovatus</i>	1	5%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	2	64%	1	26%	positive
<i>Endiandra sieberi</i>	1	9%	1	10%	uninformative
<i>Entolasia marginata</i>	2	50%	1	7%	positive
<i>Entolasia stricta</i>	2	32%	2	24%	uninformative
<i>Eragrostis leptostachya</i>	1	5%	1	0%	uninformative
<i>Eucalyptus acmenoides</i>	3	14%	2	8%	uninformative
<i>Eucalyptus carnea</i>	2	9%	3	10%	uninformative
<i>Eucalyptus eugenioides</i>	1	5%	1	1%	uninformative
<i>Eucalyptus fusiformis</i>	1	5%	3	1%	uninformative
<i>Eucalyptus grandis</i>	1	5%	3	18%	uninformative
<i>Eucalyptus microcorys</i>	2	73%	3	33%	positive
<i>Eucalyptus pilularis</i>	3	95%	3	23%	positive
<i>Eucalyptus propinqua</i>	2	23%	3	13%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	1	18%	3	10%	uninformative
<i>Eucalyptus siderophloia</i>	5	9%	3	11%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Eucalyptus tindaliae</i>	3	5%	3	0%	uninformative
<i>Eupomatia laurina</i>	2	5%	1	15%	uninformative
<i>Eustrephus latifolius</i>	1	59%	1	28%	uninformative
<i>Ficus coronata</i>	2	9%	1	13%	uninformative
<i>Gahnia aspera</i>	1	23%	1	14%	uninformative
<i>Gahnia clarkei</i>	1	18%	2	14%	uninformative
<i>Geitonoplesium cymosum</i>	1	41%	1	22%	uninformative
<i>Geranium solanderi</i>	1	9%	1	1%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	3	14%	1	13%	uninformative
<i>Glycine clandestina</i>	1	45%	1	11%	uninformative
<i>Glycine microphylla</i>	1	5%	1	3%	uninformative
<i>Glycine tabacina</i>	1	5%	1	1%	uninformative
<i>Gompholobium latifolium</i>	1	18%	1	2%	uninformative
<i>Gonocarpus tetragynus</i>	1	5%	1	4%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	5%	1	4%	uninformative
<i>Goodenia heterophylla</i>	1	5%	1	0%	uninformative
<i>Goodenia rotundifolia</i>	2	9%	1	4%	uninformative
<i>Guioa semiglauca</i>	1	27%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	23%	1	19%	uninformative
<i>Hardenbergia violacea</i>	1	32%	1	7%	uninformative
<i>Hibbertia aspera</i>	2	23%	1	10%	uninformative
<i>Hibbertia dentata</i>	1	32%	1	6%	uninformative
<i>Hibbertia linearis</i>	2	5%	1	0%	uninformative
<i>Hibbertia obtusifolia</i>	1	5%	1	1%	uninformative
<i>Hibbertia scandens</i>	1	77%	1	29%	uninformative
<i>Hibbertia vestita</i>	1	18%	1	11%	uninformative
<i>Hovea acutifolia</i>	1	5%	2	1%	uninformative
<i>Hybanthus enneaspermus</i>	1	5%	1	3%	uninformative
<i>Hybanthus monopetalus</i>	2	5%	1	0%	uninformative
<i>Hybanthus stellarioides</i>	1	27%	1	3%	uninformative
<i>Hydrocotyle peduncularis</i>	1	27%	1	5%	uninformative
<i>Hypericum gramineum</i>	1	5%	1	0%	uninformative
<i>Hypolepis muelleri</i>	2	5%	1	3%	uninformative
<i>Hypoxis hygrometrica</i>	1	5%	1	0%	uninformative
<i>Imperata cylindrica</i>	3	82%	2	29%	positive
<i>Indigofera australis</i>	1	9%	2	4%	uninformative
<i>Jacksonia scoparia</i>	1	5%	1	2%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	14%	1	11%	uninformative
<i>Kennedia rubicunda</i>	1	23%	1	7%	uninformative
<i>Lagenophora stipitata</i>	1	5%	0	0%	positive
<i>Lepidosperma laterale</i>	1	41%	1	16%	uninformative
<i>Leptospermum polygalifolium</i>	1	9%	1	12%	uninformative
<i>Leucopogon juniperinus</i>	1	5%	1	3%	uninformative
<i>Leucopogon lanceolatus</i>	1	50%	1	18%	uninformative
<i>Linospadix monostachya</i>	1	9%	2	13%	uninformative
<i>Livistona australis</i>	1	5%	1	4%	uninformative
<i>Lobelia trigonocaulis</i>	1	23%	1	6%	uninformative
<i>Logania pusilla</i>	1	5%	1	0%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	1	5%	1	4%	uninformative
<i>Lomandra filiformis</i>	1	32%	1	11%	uninformative
<i>Lomandra hystrix</i>	3	9%	1	2%	uninformative
<i>Lomandra longifolia</i>	1	82%	2	50%	uninformative
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	1	14%	1	4%	uninformative
<i>Lomatia silaifolia</i>	1	36%	1	8%	uninformative
<i>Lophostemon confertus</i>	1	23%	2	32%	uninformative
<i>Lophostemon suaveolens</i>	1	9%	2	9%	uninformative
<i>Macrozamia fawcettii</i>	1	5%	1	2%	uninformative
<i>Marsdenia rostrata</i>	1	14%	1	8%	uninformative
<i>Maytenus silvestris</i>	1	5%	1	2%	uninformative
<i>Melaleuca quinquenervia</i>	1	9%	2	13%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	1	5%	2	4%	uninformative
<i>Monotoca scoparia</i>	1	9%	1	2%	uninformative
<i>Morinda jasminoides</i>	2	59%	1	35%	positive
<i>Myrsine howittiana</i>	1	5%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	5%	1	17%	uninformative
<i>Notelaea longifolia</i>	1	36%	1	26%	uninformative
<i>Notelaea ovata</i>	1	5%	1	3%	uninformative
<i>Opercularia diphylla</i>	1	5%	0	0%	positive
<i>Oplismenus aemulus</i>	2	18%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	3	50%	2	20%	positive
<i>Ottochloa gracillima</i>	3	45%	2	8%	uninformative
<i>Oxalis chnoodes</i>	1	5%	2	0%	uninformative
<i>Oxalis exilis</i>	1	14%	1	2%	uninformative
<i>Ozothamnus diosmifolius</i>	1	23%	1	8%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	18%	1	11%	uninformative
<i>Panicum simile</i>	1	23%	1	4%	uninformative
<i>Parsonia straminea</i>	1	55%	1	26%	uninformative
<i>Paspalidium distans</i>	2	9%	1	1%	uninformative
<i>Paspalidium gracile</i>	1	5%	0	0%	positive
<i>Patersonia glabrata</i>	1	14%	2	5%	uninformative
<i>Patersonia sericea</i>	1	5%	2	4%	uninformative
<i>Persoonia conjuncta</i>	1	9%	2	1%	uninformative
<i>Persoonia stradbrokeensis</i>	1	50%	1	17%	uninformative
<i>Phyllanthus hirtellus</i>	2	5%	1	3%	uninformative
<i>Phyllanthus similis</i>	1	14%	1	2%	uninformative
<i>Pilidiostigma glabrum</i>	1	9%	1	12%	uninformative
<i>Pimelea linifolia</i>	2	5%	1	10%	uninformative
<i>Pittosporum undulatum</i>	1	18%	1	10%	uninformative
<i>Platynerium bifurcatum</i>	1	14%	1	16%	uninformative
<i>Platynerium superbum</i>	1	5%	1	5%	uninformative
<i>Plectranthus parviflorus</i>	1	5%	1	2%	uninformative
<i>Poa sieberiana</i>	2	9%	2	4%	uninformative
<i>Polymeria calycina</i>	1	5%	1	4%	uninformative
<i>Polyscias elegans</i>	1	9%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	32%	1	15%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Pomaderris intermedia</i>	1	5%	0	0%	positive
<i>Pomax umbellata</i>	1	18%	1	5%	uninformative
<i>Poranthera microphylla</i>	1	5%	1	2%	uninformative
<i>Pratia purpurascens</i>	1	86%	1	20%	uninformative
<i>Pseuderanthemum variabile</i>	2	68%	2	25%	positive
<i>Pteridium esculentum</i>	2	86%	1	29%	positive
<i>Pterostylis nutans</i>	1	5%	0	0%	positive
<i>Pultenaea retusa</i>	2	14%	1	6%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	5%	1	5%	uninformative
<i>Rhodamnia rubescens</i>	1	14%	1	16%	uninformative
<i>Ripogonum album</i>	2	5%	2	7%	uninformative
<i>Ripogonum brevifolium</i>	1	5%	1	1%	uninformative
<i>Rubus moluccanus</i> var. <i>trilobus</i>	1	5%	1	4%	uninformative
<i>Rubus parvifolius</i>	1	5%	1	4%	uninformative
<i>Rubus rosifolius</i>	1	9%	2	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	14%	1	9%	uninformative
<i>Sarcopteryx stipata</i>	1	5%	1	12%	uninformative
<i>Schizaea dichotoma</i>	1	5%	1	1%	uninformative
<i>Seringia arborescens</i>	1	5%	1	2%	uninformative
<i>Sloanea australis</i>	1	5%	3	5%	uninformative
<i>Smilax australis</i>	1	64%	1	43%	uninformative
<i>Smilax glycyphylla</i>	1	55%	1	27%	uninformative
<i>Solanum hapalum</i>	1	5%	1	6%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	45%	1	20%	uninformative
<i>Stylidium graminifolium</i>	1	5%	0	0%	positive
<i>Syncarpia glomulifera</i>	3	82%	3	37%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	3	55%	2	34%	positive
<i>Syzygium luehmannii</i>	1	5%	1	5%	uninformative
<i>Syzygium oleosum</i>	2	5%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	32%	1	27%	uninformative
<i>Themeda australis</i>	2	68%	3	22%	positive
<i>Thysanotus tuberosus</i> subsp. <i>tuberosus</i>	1	5%	1	1%	uninformative
<i>Todea barbara</i>	1	5%	1	1%	uninformative
<i>Trema tomentosa</i> var. <i>aspera</i>	1	5%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	1	18%	1	9%	uninformative
<i>Trochocarpa laurina</i>	1	59%	1	36%	uninformative
<i>Vernonia cinerea</i>	1	68%	1	8%	uninformative
<i>Viola banksii</i>	1	32%	1	15%	uninformative
<i>Viola betonicifolia</i>	2	9%	2	1%	uninformative
<i>Viola hederacea</i>	3	5%	2	2%	uninformative
<i>Westringia amabilis</i>	3	5%	0	0%	positive
<i>Wikstroemia indica</i>	1	5%	1	1%	uninformative
<i>Wilkiea huegeliana</i>	1	14%	1	29%	uninformative
<i>Xanthorrhoea latifolia</i> subsp. <i>latifolia</i>	2	5%	1	1%	uninformative
<i>Xanthorrhoea macronema</i>	1	18%	1	5%	uninformative
<i>Zieria smithii</i>	1	9%	1	4%	uninformative

NORTHERN ESCARPMENT BLACKBUTT - APPLE WET FERNY FOREST CH_WSF09

SCIENTIFIC NAME Blackbutt (*Eucalyptus pilularis*) – Smooth-barked Apple (*Angophora costata*) – Rose Myrtle (*Archirhodomyrtus beckleri*) ferny forest of escarpment and hinterland metasedimentary hills

PLANT COMMUNITY TYPE Turpentine – Blackbutt – Forest Oak shrubby open forest of the escarpment ranges of the mid north coast, NSW North Coast Bioregion (NSW1500-924)

STATEWIDE CLASS North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A medium to tall open forest typically dominated by Blackbutt (*Eucalyptus pilularis*) in the canopy. A number other canopy species may be present and at times locally abundant. These commonly include Smooth-barked Apple (*Angophora costata*) and Turpentine (*Syncarpia glomulifera*). Less common species include Tallowwood (*E. microcorys*), Red Mahogany (*E. resinifera* subsp. *hemilampra*) and White Mahogany (*E. acmenoides*). There is a mid layer of predominantly Forest Oak (*Allocasuarina torulosa*) and Rose Myrtle (*Archirhodomyrtus beckleri*). The ground layer is moist with a mix of grasses and ferns. The main species are Soft Bracken (*Calochlaena dubia*), Spiny-headed Mat-rush (*Lomandra longifolia*), Blue Flax-lily (*Dianella caerulea*), Bracken Fern (*Pteridium esculentum*), Creeping Beard Grass (*Oplismenus imbecillis*) and Gristle Fern (*Blechnum cartilagineum*).

This community is widespread throughout the study area except for the Bongil Bongil/ Bonville area where it is replaced by CH_WSF08 (Southern Foothills Blackbutt - Turpentine - Tallowwood Wet Ferny Forest). The distribution ranges from Wild Cattle Creek State Forest in the west to the coastal foothills in the east (from Sawtell through to Sandy Beach). More isolated occurrences further north include around Station Creek (in Yuraygir National Park) and at Red Ridge along the Coast Range. Most common below about 500m elevation.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	15 - 40	40 - 80	<i>Eucalyptus pilularis</i> , <i>Angophora costata</i> , <i>Eucalyptus microcorys</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> , <i>Eucalyptus acmenoides</i> , <i>Eucalyptus carnea</i> , <i>Eucalyptus propinqua</i> , <i>Syncarpia glomulifera</i> .
Middle	2 - 20	10 - 40	<i>Allocasuarina torulosa</i> , <i>Archirhodomyrtus beckleri</i> , <i>Trochocarpa laurina</i> , <i>Breynia oblongifolia</i> , <i>Cryptocarya rigida</i> , <i>Psychotria loniceroides</i> , <i>Elaeocarpus reticulatus</i> , <i>Persoonia stradbrokeensis</i> , <i>Polyscias sambucifolia</i> .
Lower	0.1 – 1.5	5 - 35	<i>Pteridium esculentum</i> , <i>Calochlaena dubia</i> , <i>Oplismenus imbecillis</i> , <i>Entolasia stricta</i> , <i>Imperata cylindrica</i> , <i>Lomandra longifolia</i> , <i>Dianella caerulea</i> , <i>Pseuderanthemum variabile</i> , <i>Blechnum cartilagineum</i> , <i>Eustrephus latifolius</i> , <i>Themeda australis</i> .

* Data collated from 12 of 15 full floristic sites

Structural and floristic variations

The understorey of this community can be quite varied due to the level of disturbance that has occurred in these forests on State Forest estate and private land. At times the understorey can be moist and shrubby with herbs and some grasses. In other locations the understorey can be moister creating a more diverse understorey.

Exotics *Ageratina adenophora*, *Cinnamomum camphora*, *Lantana camara*, *Passiflora edulis*, *Senna pendula* var. *glabrata*

Species richness

Number of plots	15
Total species	200
Average number of species	47 ±6.5

Conservation status

This community is reserved in Bindarri National Park (475ha), Bindarri State Conservation Area (7ha), Dorrigo National Park (4ha), Korora Nature Reserve (3ha), Sherwood Nature Reserve (152ha), Ulidarra National Park (46ha), Conglomerate SF - Madman's Creek Flora Reserve (9ha) and Orara East SF - Bruxner Park Flora Reserve (95ha).

Tenure	Area (ha)
Crown Land	35
Freehold	2 063
National Park	532
Nature Reserve	155
NSW State Forest	4 808
NSW State Forest Flora Reserve	115
State Conservation Area	7
TOTAL	7 716

Threatened and Rare plants: *Marsdenia longiloba*

Relationship to other communities

Related to CH_WSF02 (Hinterland Blackbutt - Bangalow - Turpentine Wet Shrubby Tall Forest) and at times will transition to CH_WSF02 with increasing fertility. Indicators of this transition are decreasing frequency of Smooth-barked Apple (*Angophora costata*) and increasing frequency of Bangalow Palm (*Archontophoenix cunninghamiana*). CH_WSF09 can also transition to CH_RF11 (Escarpment and Lowland Bangalow – Carabeen - Black Booyong Palm Gully Rainforest) with increasing wetness and less exposure or alternatively may transition to CH_DOF01 (Coast and Escarpment Blackbutt Dry Forest) or CH_DOF05 (Foothills Grey Gum – Ironbark - Mahogany Dry Forest) as moisture decreases and exposure increases. CH_WSF09 is closely associated with CH_WSF08 (Southern Foothills Blackbutt - Turpentine - Tallowwood Wet Ferny Forest) and is replaced by this community in the Bongil Bongil / Bonville area. The presence of Smooth-barked Apple (*Angophora costata*) as a sub-dominant or dominant canopy species is a strong indicator for CH_WSF09.

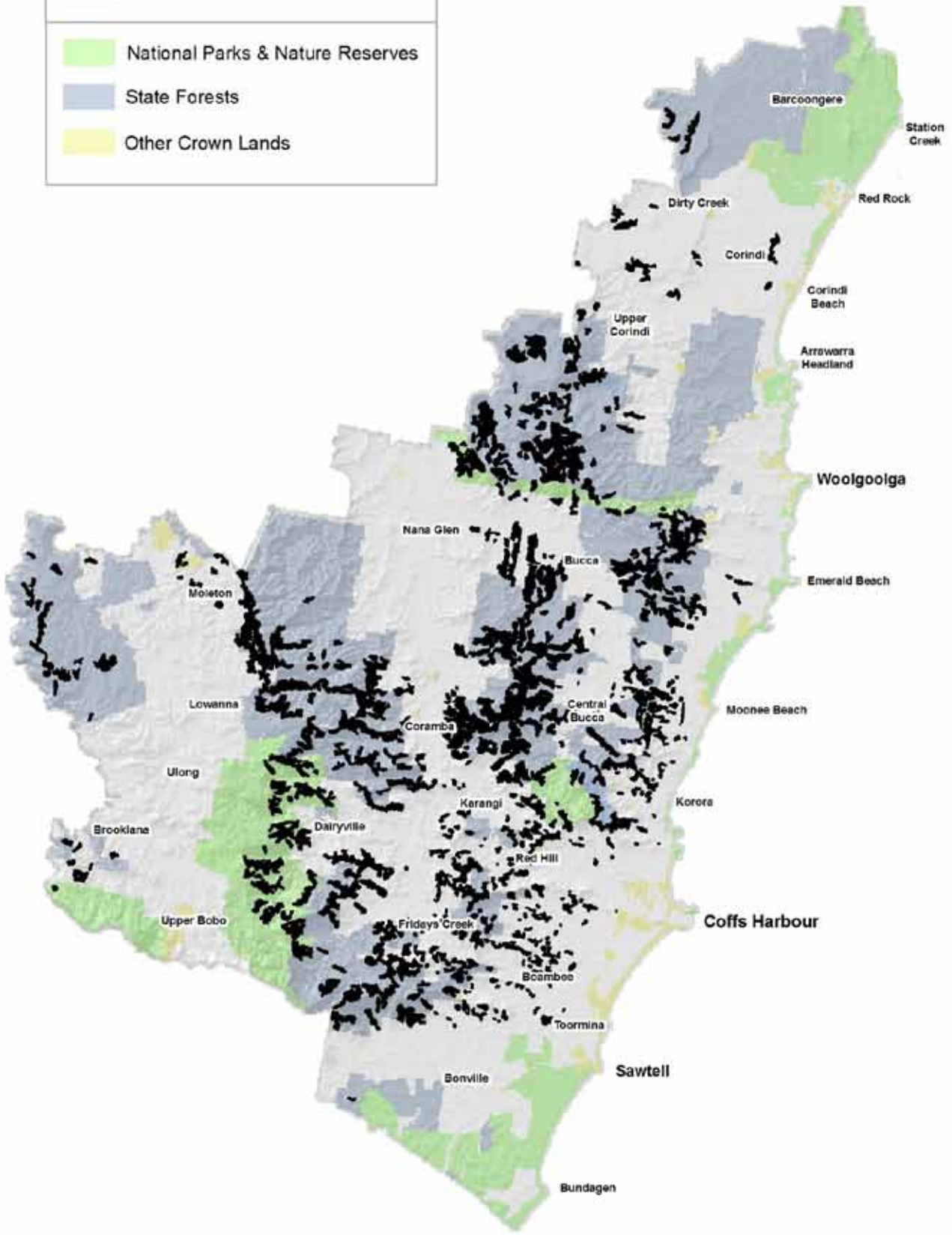
Equivalents

Biometric: Blackbutt - Tallowwood moist ferny open forest of the coastal ranges of the North Coast (NR120).

Other: N7 – Moist Blackbutt (Fisher et al. 1996).

Locations

Known examples include Anderson's Road in Nana Creek State Forest, Plum Pudding Road Conglomerate State Forest, Jesse Simpson Road on the Coast Range (Wedding Bells State Forest), Mount Coramba and Big Boambee.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	2	47%	2	4%	uninformative
<i>Acacia fimbriata</i>	2	13%	1	5%	uninformative
<i>Acacia irrorata</i>	1	13%	1	8%	uninformative
<i>Acacia maidenii</i>	1	33%	1	13%	uninformative
<i>Acacia melanoxylon</i>	2	7%	2	19%	uninformative
<i>Acacia oshanesii</i>	3	7%	2	1%	uninformative
<i>Acacia terminalis</i>	2	7%	1	2%	uninformative
<i>Acmena smithii</i>	1	20%	1	27%	uninformative
<i>Acronychia oblongifolia</i>	1	7%	1	4%	uninformative
<i>Adiantum hispidulum</i>	1	20%	2	8%	uninformative
<i>Allocasuarina littoralis</i>	3	7%	3	9%	uninformative
<i>Allocasuarina torulosa</i>	3	87%	2	34%	positive
<i>Alphitonia excelsa</i>	1	27%	1	14%	uninformative
<i>Alpinia caerulea</i>	1	27%	1	17%	uninformative
<i>Amyema pendulum</i>	1	7%	0	0%	positive
<i>Amylotheca dictyophleba</i>	1	7%	0	0%	positive
<i>Angophora costata</i>	3	80%	2	11%	positive
<i>Angophora floribunda</i>	1	7%	2	1%	uninformative
<i>Archirhodomyrtus beckleri</i>	2	67%	2	22%	positive
<i>Archontophoenix cunninghamiana</i>	1	53%	1	31%	uninformative
<i>Aristida vagans</i>	2	7%	2	2%	uninformative
<i>Asterolasia correifolia</i>	1	7%	1	1%	uninformative
<i>Astrotricha latifolia</i>	1	20%	1	2%	uninformative
<i>Austrobuxus swainii</i>	1	27%	1	4%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	7%	1	8%	uninformative
<i>Billardiera scandens</i>	1	20%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	2	40%	2	38%	uninformative
<i>Breynia oblongifolia</i>	1	80%	1	28%	uninformative
<i>Caladenia carnea</i>	1	7%	1	1%	uninformative
<i>Calanthe triplicata</i>	1	7%	1	3%	uninformative
<i>Caldcluvia paniculosa</i>	4	13%	2	12%	uninformative
<i>Calochlaena dubia</i>	2	67%	2	25%	positive
<i>Cassinia subtropica</i>	2	7%	0	0%	positive
<i>Cayratia clematidea</i>	1	20%	1	7%	uninformative
<i>Celastrus subspicata</i>	1	13%	1	4%	uninformative
<i>Centella asiatica</i>	2	7%	1	3%	uninformative
<i>Cephalalaria cephalobotrys</i>	1	7%	1	5%	uninformative
<i>Ceratopetalum apetalum</i>	1	7%	3	11%	uninformative
<i>Cissus antarctica</i>	2	7%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	80%	1	36%	uninformative
<i>Claoxylon australe</i>	1	13%	1	6%	uninformative
<i>Clematis aristata</i>	1	47%	1	10%	uninformative
<i>Clematis glycinoides</i>	1	27%	1	5%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	7%	1	10%	uninformative
<i>Cordyline stricta</i>	1	40%	1	38%	uninformative
<i>Coronidium scorpioides</i>	1	7%	0	0%	positive
<i>Corymbia intermedia</i>	1	13%	2	21%	uninformative
<i>Cryptocarya glaucescens</i>	1	7%	2	18%	uninformative
<i>Cryptocarya microneura</i>	1	33%	1	20%	uninformative
<i>Cryptocarya rigida</i>	1	67%	2	26%	uninformative
<i>Cuttsia viburnea</i>	1	7%	2	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Cyathea australis</i>	1	60%	1	12%	uninformative
<i>Cymbidium suave</i>	1	7%	1	3%	uninformative
<i>Cymbopogon refractus</i>	1	7%	2	6%	uninformative
<i>Dampiera stricta</i>	2	13%	2	7%	uninformative
<i>Daviesia umbellulata</i>	2	7%	1	2%	uninformative
<i>Dendrobium kingianum</i>	2	7%	4	0%	uninformative
<i>Desmodium brachypodum</i>	1	13%	1	6%	uninformative
<i>Desmodium gunnii</i>	1	20%	1	4%	uninformative
<i>Desmodium rhytidophyllum</i>	1	13%	1	7%	uninformative
<i>Desmodium varians</i>	1	13%	1	6%	uninformative
<i>Dianella caerulea</i>	1	87%	1	49%	uninformative
<i>Digitaria parviflora</i>	1	7%	1	4%	uninformative
<i>Dioscorea transversa</i>	1	20%	1	28%	uninformative
<i>Dodonaea triquetra</i>	1	7%	1	9%	uninformative
<i>Doodia aspera</i>	1	7%	2	16%	uninformative
<i>Echinopogon caespitosus</i>	2	13%	1	2%	uninformative
<i>Echinostephia aculeata</i>	1	13%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	60%	1	26%	uninformative
<i>Embelia australiana</i>	1	7%	1	11%	uninformative
<i>Endiandra discolor</i>	1	13%	1	5%	uninformative
<i>Endiandra sieberi</i>	1	27%	1	9%	uninformative
<i>Entolasia stricta</i>	2	80%	2	23%	positive
<i>Eucalyptus acmenoides</i>	4	20%	2	8%	uninformative
<i>Eucalyptus carnea</i>	1	20%	3	10%	uninformative
<i>Eucalyptus microcorys</i>	3	47%	3	34%	uninformative
<i>Eucalyptus pilularis</i>	4	87%	3	25%	positive
<i>Eucalyptus planchoniana</i>	2	7%	4	4%	uninformative
<i>Eucalyptus propinqua</i>	3	13%	3	14%	uninformative
<i>Eucalyptus pyrocarpa</i>	3	7%	3	2%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	3	33%	2	10%	uninformative
<i>Eucalyptus siderophloia</i>	3	13%	3	11%	uninformative
<i>Eupomatia bennettii</i>	1	7%	1	2%	uninformative
<i>Eupomatia laurina</i>	1	7%	1	15%	uninformative
<i>Eustrephus latifolius</i>	1	67%	1	28%	uninformative
<i>Exocarpos strictus</i>	1	7%	1	1%	uninformative
<i>Gahnia aspera</i>	1	7%	1	14%	uninformative
<i>Gahnia melanocarpa</i>	1	7%	1	1%	uninformative
<i>Gahnia sieberiana</i>	1	20%	2	6%	uninformative
<i>Geitonoplesium cymosum</i>	1	53%	1	22%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	27%	1	13%	uninformative
<i>Glycine clandestina</i>	2	20%	1	12%	uninformative
<i>Glycine microphylla</i>	1	20%	1	2%	uninformative
<i>Gompholobium latifolium</i>	2	7%	1	3%	uninformative
<i>Gompholobium virgatum</i>	2	7%	0	0%	positive
<i>Gonocarpus teucroides</i>	1	7%	1	1%	uninformative
<i>Goodenia fordiana</i>	1	13%	1	0%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	2	20%	1	3%	uninformative
<i>Goodenia rotundifolia</i>	1	13%	1	4%	uninformative
<i>Guioa semiglauca</i>	1	20%	1	28%	uninformative
<i>Gymnostachys anceps</i>	2	13%	1	19%	uninformative
<i>Hardenbergia violacea</i>	1	33%	1	7%	uninformative
<i>Hibbertia aspera</i>	1	33%	1	9%	uninformative
<i>Hibbertia dentata</i>	1	27%	1	6%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Hibbertia scandens</i>	1	60%	1	31%	uninformative
<i>Hibbertia vestita</i>	2	20%	1	11%	uninformative
<i>Homalanthus populifolius</i>	1	20%	1	2%	uninformative
<i>Hybanthus stellarioides</i>	2	7%	1	4%	uninformative
<i>Hymenosporum flavum</i>	1	7%	1	2%	uninformative
<i>Imperata cylindrica</i>	2	73%	2	30%	positive
<i>Indigofera australis</i>	1	7%	2	4%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	13%	1	11%	uninformative
<i>Kennedia rubicunda</i>	2	13%	1	7%	uninformative
<i>Lastreopsis decomposita</i>	2	13%	2	6%	uninformative
<i>Lepidosperma laterale</i>	1	20%	1	17%	uninformative
<i>Lepidozamia peroffskyana</i>	1	7%	1	2%	uninformative
<i>Leptospermum polygalifolium</i>	1	27%	1	12%	uninformative
<i>Leptospermum trinervium</i>	4	7%	3	3%	uninformative
<i>Leucopogon lanceolatus</i>	1	47%	1	19%	uninformative
<i>Lindsaea linearis</i>	1	13%	1	3%	uninformative
<i>Lindsaea microphylla</i>	2	13%	1	1%	uninformative
<i>Linospadix monostachya</i>	1	7%	2	13%	uninformative
<i>Lobelia trigonocaulis</i>	2	13%	1	6%	uninformative
<i>Lomandra filiformis</i>	1	40%	1	11%	uninformative
<i>Lomandra longifolia</i>	1	87%	2	50%	negative
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	1	13%	1	5%	uninformative
<i>Lomatia silaifolia</i>	1	33%	1	8%	uninformative
<i>Lophostemon confertus</i>	1	33%	2	31%	uninformative
<i>Marsdenia longiloba</i>	1	7%	1	0%	uninformative
<i>Maytenus bilocularis</i>	2	13%	1	4%	uninformative
<i>Maytenus silvestris</i>	2	7%	1	2%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	2	7%	1	4%	uninformative
<i>Morinda jasminoides</i>	1	60%	1	36%	uninformative
<i>Muellerina celastroides</i>	1	7%	1	0%	uninformative
<i>Myrsine variabilis</i>	1	20%	1	16%	uninformative
<i>Neolitsea dealbata</i>	1	7%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	40%	1	26%	uninformative
<i>Oplismenus aemulus</i>	2	13%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	2	53%	2	21%	positive
<i>Oxalis perennans</i>	1	7%	1	1%	uninformative
<i>Ozothamnus diosmifolius</i>	1	27%	1	8%	uninformative
<i>Ozothamnus obovatus</i>	1	7%	1	0%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	47%	1	11%	uninformative
<i>Parsonsia purpurascens</i>	1	7%	1	2%	uninformative
<i>Parsonsia straminea</i>	1	20%	1	28%	uninformative
<i>Passiflora herbertiana</i> subsp. <i>herbertiana</i>	1	13%	1	1%	uninformative
<i>Patersonia glabrata</i>	2	20%	2	5%	uninformative
<i>Patersonia sericea</i>	2	13%	2	4%	uninformative
<i>Persoonia levis</i>	1	7%	2	2%	uninformative
<i>Persoonia media</i>	2	20%	1	7%	uninformative
<i>Persoonia stradbrokeensis</i>	1	40%	1	18%	uninformative
<i>Petermannia cirrosa</i>	1	7%	1	6%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Phyllanthus gunnii</i>	2	13%	2	1%	uninformative
<i>Phyllanthus similis</i>	2	7%	1	2%	uninformative
<i>Pimelea latifolia</i>	1	7%	1	1%	uninformative
<i>Pittosporum multiflorum</i>	1	7%	1	13%	uninformative
<i>Pittosporum revolutum</i>	1	13%	1	13%	uninformative
<i>Pittosporum undulatum</i>	1	13%	1	10%	uninformative
<i>Platyserium bifurcatum</i>	1	7%	1	16%	uninformative
<i>Poa sieberiana</i>	3	27%	2	4%	uninformative
<i>Polymeria calycina</i>	1	7%	1	4%	uninformative
<i>Polyscias elegans</i>	1	13%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	80%	1	14%	uninformative
<i>Pomax umbellata</i>	2	7%	1	6%	uninformative
<i>Poranthera microphylla</i>	1	7%	1	2%	uninformative
<i>Pratia purpurascens</i>	1	27%	1	23%	uninformative
<i>Prostanthera incisa</i>	1	7%	0	0%	positive
<i>Pseuderanthemum variabile</i>	1	53%	2	26%	uninformative
<i>Psychotria loniceroides</i>	1	53%	1	13%	uninformative
<i>Pteridium esculentum</i>	2	87%	2	30%	positive
<i>Pultenaea retusa</i>	2	7%	1	6%	uninformative
<i>Rhodamnia rubescens</i>	1	20%	1	16%	uninformative
<i>Rhodomyrtus psidioides</i>	1	7%	1	4%	uninformative
<i>Rubus moluccanus</i> var. <i>trilobus</i>	2	13%	1	4%	uninformative
<i>Rubus parvifolius</i>	1	20%	1	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	7%	1	9%	uninformative
<i>Sarcopteryx stipata</i>	1	7%	1	11%	uninformative
<i>Schizomeria ovata</i>	1	7%	1	12%	uninformative
<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	1	7%	1	2%	uninformative
<i>Smilax australis</i>	1	67%	1	44%	uninformative
<i>Smilax glycyphylla</i>	1	33%	1	28%	uninformative
<i>Solanum hapalum</i>	1	40%	1	5%	uninformative
<i>Stenocarpus salignus</i>	1	7%	1	4%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	53%	1	20%	uninformative
<i>Sticherus flabellatus</i> var. <i>flabellatus</i>	1	7%	0	0%	positive
<i>Syncarpia glomulifera</i>	2	73%	3	38%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	60%	2	34%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	20%	1	28%	uninformative
<i>Themeda australis</i>	1	53%	3	23%	uninformative
<i>Thysanotus tuberosus</i> subsp. <i>tuberosus</i>	2	7%	1	1%	uninformative
<i>Trema tomentosa</i> var. <i>aspera</i>	1	13%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	2	7%	1	10%	uninformative
<i>Trochocarpa laurina</i>	1	73%	1	36%	uninformative
<i>Tylophora paniculata</i>	1	7%	1	2%	uninformative
<i>Vernonia cinerea</i>	1	13%	1	11%	uninformative
<i>Viola banksii</i>	2	13%	1	16%	uninformative
<i>Wilkiea huegeliana</i>	1	7%	1	29%	uninformative
<i>Xanthorrhoea macronema</i>	1	20%	1	5%	uninformative
<i>Xanthorrhoea malacophylla</i>	3	7%	2	1%	uninformative
<i>Zieria smithii</i>	2	7%	1	4%	uninformative

HINTERLAND AND ESCARPMENT TALLOWWOOD - BLACKBUTT - BLUE GUM WET FERNY FOREST

CH_WSF10

SCIENTIFIC NAME Hinterland and escarpment Tallowwood (*Eucalyptus microcorys*) – Blackbutt (*Eucalyptus pilularis*) – Sydney Blue Gum (*Eucalyptus saligna*) wet ferny forest

PLANT COMMUNITY TYPE Tallowwood – Blackbutt moist shrubby tall open forest of the hinterland ranges of the mid north coast, NSW North Coast Bioregion and South Eastern Queensland Bioregion (NSW1500-923)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A tall moist open forest with a mix of canopy species. Coastal Blackbutt (*Eucalyptus pilularis*), Tallowwood (*Eucalyptus microcorys*), Sydney Blue Gum (*Eucalyptus saligna*) and Turpentine (*Syncarpia glomulifera*) are the main canopy species with others such as Brush Box (*Lophostemon confertus*), Flooded Gum (*Eucalyptus grandis*) and Small-fruited Grey Gum (*Eucalyptus propinqua*) occurring less often. A moderately dense mid stratum of Forest Oak (*Allocasuarina torulosa*), Jackwood (*Cryptocarya glaucescens*) and Rose Myrtle (*Archirhodomyrtus beckleri*) is usually present. A moist ground layer is dominated by Gristle Fern (*Blechnum cartilagineum*), Soft Bracken (*Calochlaena dubia*), Spiny-headed Mat-rush (*Lomandra longifolia*) and Slender Palm Lily (*Cordyline stricta*).

Widespread in the study area on soils of metasediment and sedimentary origin, commonly below about 650m elevation.



Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	15 - 30	35 - 50	<i>Eucalyptus microcorys</i> , <i>Eucalyptus pilularis</i> , <i>Eucalyptus saligna</i> , <i>Syncarpia glomulifera</i> .
Middle	5 - 15	20 - 60	<i>Smilax australis</i> , <i>Cordyline stricta</i> , <i>Syncarpia glomulifera</i> , <i>Allocasuarina torulosa</i> , <i>Archontophoenix cunninghamiana</i> , <i>Cryptocarya glaucescens</i> , <i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Archirhodomyrtus beckleri</i> , <i>Dioscorea transversa</i> .
Lower	0.01 - .08	20 - 60	<i>Blechnum cartilagineum</i> , <i>Calochlaena dubia</i> , <i>Lomandra longifolia</i> , <i>Entolasia marginata</i> , <i>Oplismenus aemulus</i> , <i>Pseuderanthemum variabile</i> , <i>Clematis aristata</i> .

* Data collated from 8 of 9 full floristic sites

Structural and floristic variations

The understorey of this community can vary from very wet shrubby to moist shrubby. The canopy dominance is also variable across the distribution of this community. At some sites there is a high dominance of Coastal Blackbutt (*Eucalyptus pilularis*) with Tallowwood (*Eucalyptus microcorys*) and Blue Gum (*Eucalyptus saligna*) as associate species. In other locations Coastal Blackbutt (*E. pilularis*) and Tallowwood (*E. microcorys*) can be co-dominant with Sydney Blue Gum (*E. saligna*) as an associate species.

Exotics *Cinnamomum camphora*, *Lantana camara*, *Lepidium perfoliatum*, *Passiflora subpeltata*

Species richness

Number of plots	9
Total species	116
Average number of species	31 ±10

Conservation status

This community is reserved in Bindarri National Park (228ha), Bongil Bongil National Park (2ha), Dorrigo National Park (38ha), Bruxner Park Flora Reserve (10ha), Sherwood Nature Reserve (76ha) and Ulidarra National Park (3ha).

Tenure	Area (ha)
Crown Land	11
Freehold	1 806
National Park	273
Nature Reserve	70
NSW State Forest	2 856
NSW State Forest Flora Reserve	19
TOTAL	5 035

Relationship to other communities:

CH_WSF10 often occurs upslope of CH_WSF02 (Hinterland Blackbutt - Bangalow Turpentine - Wet Shrubby Forest) and CH_WSF03 (Foothills and Escarpment Blue Gum – Tallowwood - Turpentine Wet Shrubby Forest). CH_WSF10 is distinguished from CH_WSF03 by a higher relative abundance of Coastal Blackbutt (*E. pilularis*) in CH_WSF03 and lower abundance of Sydney Blue Gum (*E. saligna*). CH_WSF10 is distinguished from CH_WSF02 because it has a more diverse mix of sclerophyll species in the canopy. CH_WSF10 can grade into CH_WSF09 (Northern Escarpment Blackbutt - Apple Wet Ferny Forest) as the understorey becomes drier and the as Sydney Blue Gum becomes sparse or absent from the site.

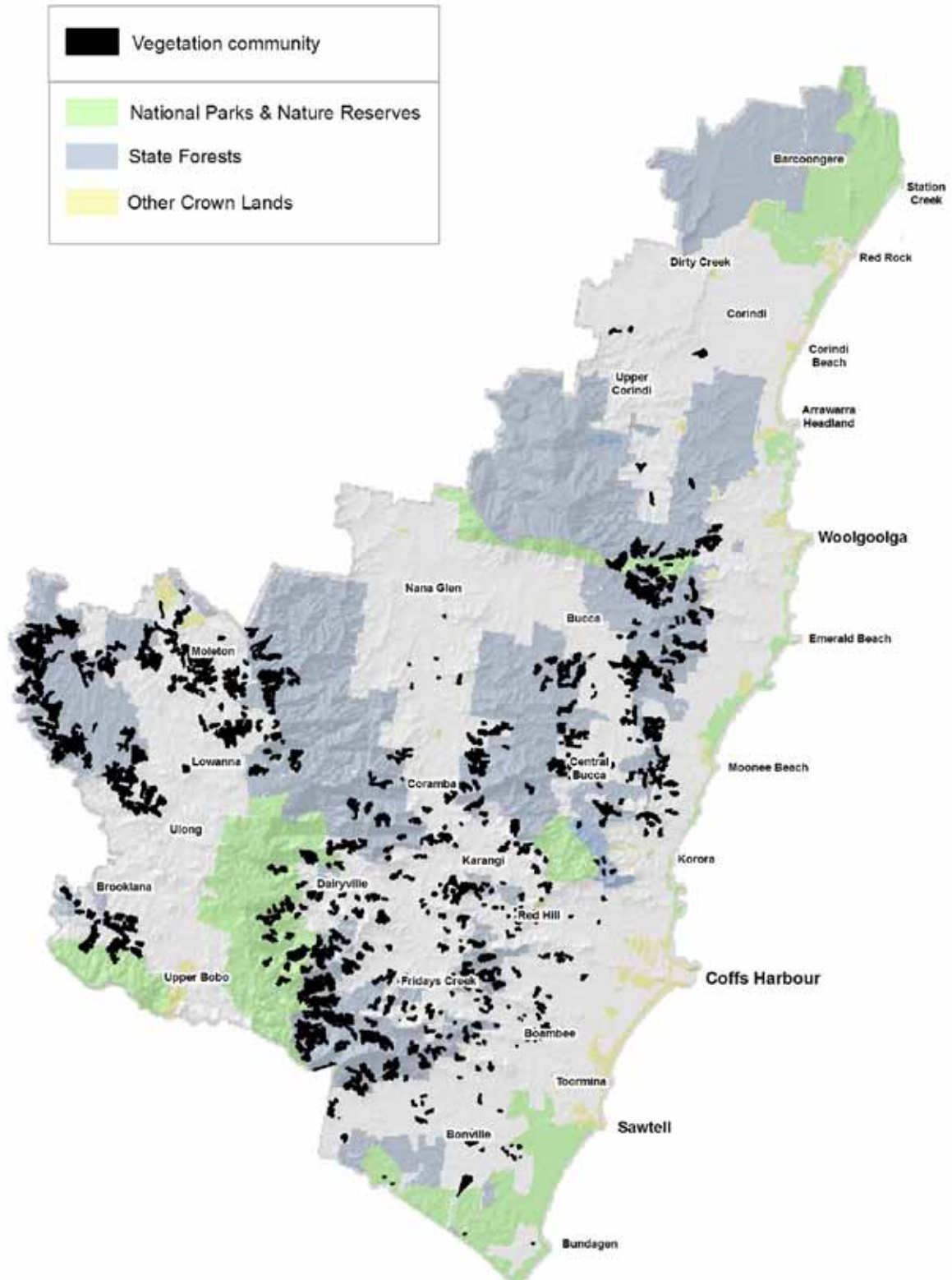
Equivalents

Biometric: Blackbutt - Tallowwood moist ferny open forest of the coastal ranges of the North Coast (NR120).

Other: (N7) Moist Blackbutt (Fisher et al. 1996)

Locations


Known examples include Timmsvale Road in Wild Cattle Creek State Forest, Wedding Bell Creek Road in Sherwood Nature Reserve and Upper Reaches of Orara River in Orara West State Forest.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia irrorata</i>	3	11%	1	8%	uninformative
<i>Acacia maidenii</i>	3	11%	1	14%	uninformative
<i>Acacia melanoxylon</i>	2	33%	2	18%	uninformative
<i>Acmena smithii</i>	1	11%	1	27%	uninformative
<i>Allocasuarina torulosa</i>	2	100%	2	34%	positive
<i>Alphitonia excelsa</i>	1	11%	1	14%	uninformative
<i>Alpinia caerulea</i>	2	33%	1	17%	uninformative
<i>Angophora costata</i>	1	33%	2	13%	uninformative
<i>Archirhodomyrtus beckleri</i>	3	67%	2	23%	positive
<i>Archontophoenix cunninghamiana</i>	2	44%	1	32%	uninformative
<i>Billardiera scandens</i>	1	11%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	3	89%	2	37%	positive
<i>Breynia oblongifolia</i>	1	44%	1	29%	uninformative
<i>Calamus muelleri</i>	1	11%	2	14%	uninformative
<i>Caldcluvia paniculosa</i>	1	11%	2	12%	uninformative
<i>Callistemon salignus</i>	3	11%	3	13%	uninformative
<i>Calochlaena dubia</i>	2	89%	2	25%	positive
<i>Centella asiatica</i>	1	11%	1	3%	uninformative
<i>Cissus antarctica</i>	2	22%	1	19%	uninformative
<i>Cissus hypoglauca</i>	2	67%	1	37%	positive
<i>Clematis aristata</i>	1	33%	1	10%	uninformative
<i>Clerodendrum tomentosum</i>	1	33%	1	5%	uninformative
<i>Cordyline stricta</i>	2	67%	1	38%	positive
<i>Corymbia gummifera</i>	1	11%	2	8%	uninformative
<i>Corymbia intermedia</i>	2	44%	2	20%	uninformative
<i>Cryptocarya glaucescens</i>	3	67%	2	16%	positive
<i>Cryptocarya rigida</i>	1	11%	2	27%	uninformative
<i>Cuttsia viburnea</i>	1	11%	2	2%	uninformative
<i>Cyathea australis</i>	1	11%	1	13%	uninformative
<i>Cyathea leichhardtiana</i>	3	11%	1	10%	uninformative
<i>Cymbidium suave</i>	2	11%	1	3%	uninformative
<i>Cyperus disjunctus</i>	3	11%	1	0%	uninformative
<i>Dianella caerulea</i>	1	67%	1	50%	uninformative
<i>Dichondra repens</i>	1	11%	1	5%	uninformative
<i>Dioscorea transversa</i>	2	67%	1	27%	positive
<i>Diospyros fasciculosa</i>	1	11%	2	1%	uninformative
<i>Duboisia myoporoides</i>	2	11%	1	5%	uninformative
<i>Elaeocarpus reticulatus</i>	2	22%	1	27%	uninformative
<i>Endiandra sieberi</i>	3	11%	1	10%	uninformative
<i>Entolasia marginata</i>	2	44%	1	8%	uninformative
<i>Entolasia stricta</i>	2	22%	2	25%	uninformative
<i>Eucalyptus grandis</i>	3	22%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	3	89%	3	33%	positive
<i>Eucalyptus pilularis</i>	2	78%	3	26%	positive
<i>Eucalyptus propinqua</i>	5	11%	3	14%	uninformative
<i>Eucalyptus saligna</i>	2	67%	3	8%	positive
<i>Eupomatia bennettii</i>	1	11%	1	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Eupomatia laurina</i>	3	11%	1	15%	uninformative
<i>Eustrephus latifolius</i>	2	33%	1	29%	uninformative
<i>Ficus coronata</i>	1	56%	1	12%	uninformative
<i>Ficus watkinsiana</i>	1	11%	2	4%	uninformative
<i>Gahnia aspera</i>	2	11%	1	14%	uninformative
<i>Gahnia clarkei</i>	2	11%	2	14%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	3	11%	1	13%	uninformative
<i>Glycine clandestina</i>	1	11%	1	12%	uninformative
<i>Guioa semiglauca</i>	1	22%	1	28%	uninformative
<i>Hibbertia aspera</i>	1	11%	1	10%	uninformative
<i>Hibbertia dentata</i>	3	11%	1	7%	uninformative
<i>Hibbertia scandens</i>	2	33%	1	32%	uninformative
<i>Hydrocotyle peduncularis</i>	1	11%	1	6%	uninformative
<i>Imperata cylindrica</i>	3	22%	2	32%	uninformative
<i>Indigofera australis</i>	2	11%	2	4%	uninformative
<i>Kennedia rubicunda</i>	1	11%	1	8%	uninformative
<i>Lobelia trigonocaulis</i>	2	11%	1	6%	uninformative
<i>Lomandra longifolia</i>	2	78%	2	51%	constant
<i>Lomatia silaifolia</i>	1	22%	1	9%	uninformative
<i>Lophostemon confertus</i>	3	33%	2	31%	uninformative
<i>Maclura cochinchinensis</i>	1	11%	1	7%	uninformative
<i>Melaleuca alternifolia</i>	2	11%	2	1%	uninformative
<i>Mischocarpus pyriformis</i>	1	11%	2	4%	uninformative
<i>Morinda jasminoides</i>	2	11%	1	37%	uninformative
<i>Neolitsea dealbata</i>	1	11%	1	16%	uninformative
<i>Oplismenus aemulus</i>	2	22%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	2	11%	2	22%	uninformative
<i>Oxalis exilis</i>	1	11%	1	2%	uninformative
<i>Ozothamnus diosmifolius</i>	1	11%	1	9%	uninformative
<i>Parsonsia lanceolata</i>	1	11%	0	0%	positive
<i>Pellaea falcata</i>	1	11%	3	1%	uninformative
<i>Persoonia media</i>	1	22%	2	7%	uninformative
<i>Persoonia stradbrokeensis</i>	1	11%	1	18%	uninformative
<i>Phebalium squamulosum</i>	1	11%	3	0%	uninformative
<i>Phyllanthus gunnii</i>	1	11%	2	1%	uninformative
<i>Pilidiostigma glabrum</i>	3	11%	1	12%	uninformative
<i>Pittosporum undulatum</i>	2	22%	1	10%	uninformative
<i>Polyscias elegans</i>	2	11%	1	4%	uninformative
<i>Polyscias murrayi</i>	1	11%	2	0%	uninformative
<i>Polyscias sambucifolia</i>	2	33%	1	16%	uninformative
<i>Pratia purpurascens</i>	1	22%	1	23%	uninformative
<i>Pseuderanthemum variabile</i>	2	44%	2	27%	uninformative
<i>Psychotria loniceroides</i>	1	22%	1	14%	uninformative
<i>Pteridium esculentum</i>	1	67%	2	31%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	11%	1	5%	uninformative
<i>Rhodamnia rubescens</i>	3	44%	1	15%	uninformative
<i>Rhodomyrtus psidioides</i>	1	11%	1	4%	uninformative
<i>Ripogonum elseyanum</i>	1	11%	2	8%	uninformative
<i>Ripogonum fawcettianum</i>	1	22%	2	21%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Rubus moluccanus</i> var. <i>trilobus</i>	2	22%	1	4%	uninformative
<i>Rubus moorei</i>	2	11%	1	3%	uninformative
<i>Rubus nebulosus</i>	1	22%	1	5%	uninformative
<i>Rubus rosifolius</i>	2	33%	2	3%	uninformative
<i>Sarcopetalum harveyanum</i>	1	11%	1	9%	uninformative
<i>Schizomeria ovata</i>	1	22%	1	12%	uninformative
<i>Seringia arborescens</i>	1	11%	1	2%	uninformative
<i>Smilax australis</i>	1	78%	1	44%	uninformative
<i>Smilax glycyphylla</i>	3	11%	1	29%	uninformative
<i>Solanum hapalum</i>	1	11%	1	6%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	78%	1	20%	uninformative
<i>Syncarpia glomulifera</i>	3	78%	2	38%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	2	67%	2	34%	positive
<i>Tabernaemontana pandacaqui</i>	3	22%	1	28%	uninformative
<i>Tripladenia cunninghamii</i>	1	22%	1	10%	uninformative
<i>Trochocarpa laurina</i>	1	22%	1	37%	uninformative
<i>Tylophora paniculata</i>	3	11%	1	2%	uninformative
<i>Veronica plebeia</i>	1	11%	1	1%	uninformative
<i>Wilkiea huegeliana</i>	1	22%	1	28%	uninformative
<i>Xanthorrhoea johnsonii</i>	2	11%	2	1%	uninformative

FOOTHILLS SPOTTED GUM - MAHOGANY - GREY GUM WET SHRUBBY FOREST

CH_WSF11

SCIENTIFIC NAME Spotted Gum (*Corymbia variegata*) – Thick-leaved Mahogany (*Eucalyptus carnea*) – Small-fruited Grey Gum (*Eucalyptus propinqua*) wet shrubby forest on metasediments and conglomerate of the Bagawa Range and Madman's Creek hills

PLANT COMMUNITY TYPE Tallowwood – Small-fruited Grey Gum – Forest Oak dry open forest, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW1000-1071)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A moist open forest with a variable canopy characterised by a co-dominance or dominance of Spotted Gum (*Corymbia variegata*), Thick-leaved Mahogany (*Eucalyptus carnea*), Small-fruited Grey Gum (*Eucalyptus propinqua*) and Grey Ironbark (*Eucalyptus siderophloia*). Associates such as Steel Box (*Eucalyptus rummeryi*) and Brush Box (*Lophostemon confertus*) may be present. A mid stratum of Forest Oak (*Allocasuarina torulosa*) is often present. Rainforest shrubs are often present including Brown Myrtle (*Choricarpia leptopetala*), Muttonwood (*Myrsine variabilis*) and *Astrotricha latifolia*. The ground layer is comprised of mainly of Pastel Flower (*Pseuderanthemum variabile*) and Palm Lily (*Cordyline congesta*).

Found on sheltered aspects on intermediate and lower slopes on moderately fertile soils. Commonly occurring on sediments and metasediments of the Nana Creek, Madman's Creek, Lower Bucca and Newfoundland area. Common below about 500m elevation.



Floristic summary

Layer	Height	Cover	Dominant Species
Tallest	15 – 25	25 - 30	<i>Corymbia variegata</i> , <i>Eucalyptus siderophloia</i> , <i>Eucalyptus carnea</i> , <i>Eucalyptus propinqua</i> .
Middle	3 - 10	10 - 20	<i>Myrsine variabilis</i> , <i>Choricarpia leptopetala</i> , <i>Allocasuarina torulosa</i> , <i>Astrotricha latifolia</i> .
Lower	0.01 - 1	5 - 10	<i>Pseuderanthemum variabile</i> , <i>Dianella caerulea</i> , <i>Oplismenus aemulus</i> , <i>Vernonia cinerea</i> , <i>Desmodium rhytidophyllum</i> , <i>Desmodium varians</i> .

* Data collated from 2 of 2 full floristic sites

Exotics

Cinnamomum camphora, *Lantana camara*, *Panicum schinzii*

Species richness

Number of plots	2
Total species	75
Average number of species	45 ±17

Conservation status

This community is reserved in Sherwood Nature Reserve (8ha) and Conglomerate SF – Madman’s Creek flora Reserve (10ha)

Tenure	Area (ha)
Freehold	548
National Park	4
Nature Reserve	8
NSW State Forest	2 061
NSW State Forest Flora Reserve	10
TOTAL	2 631

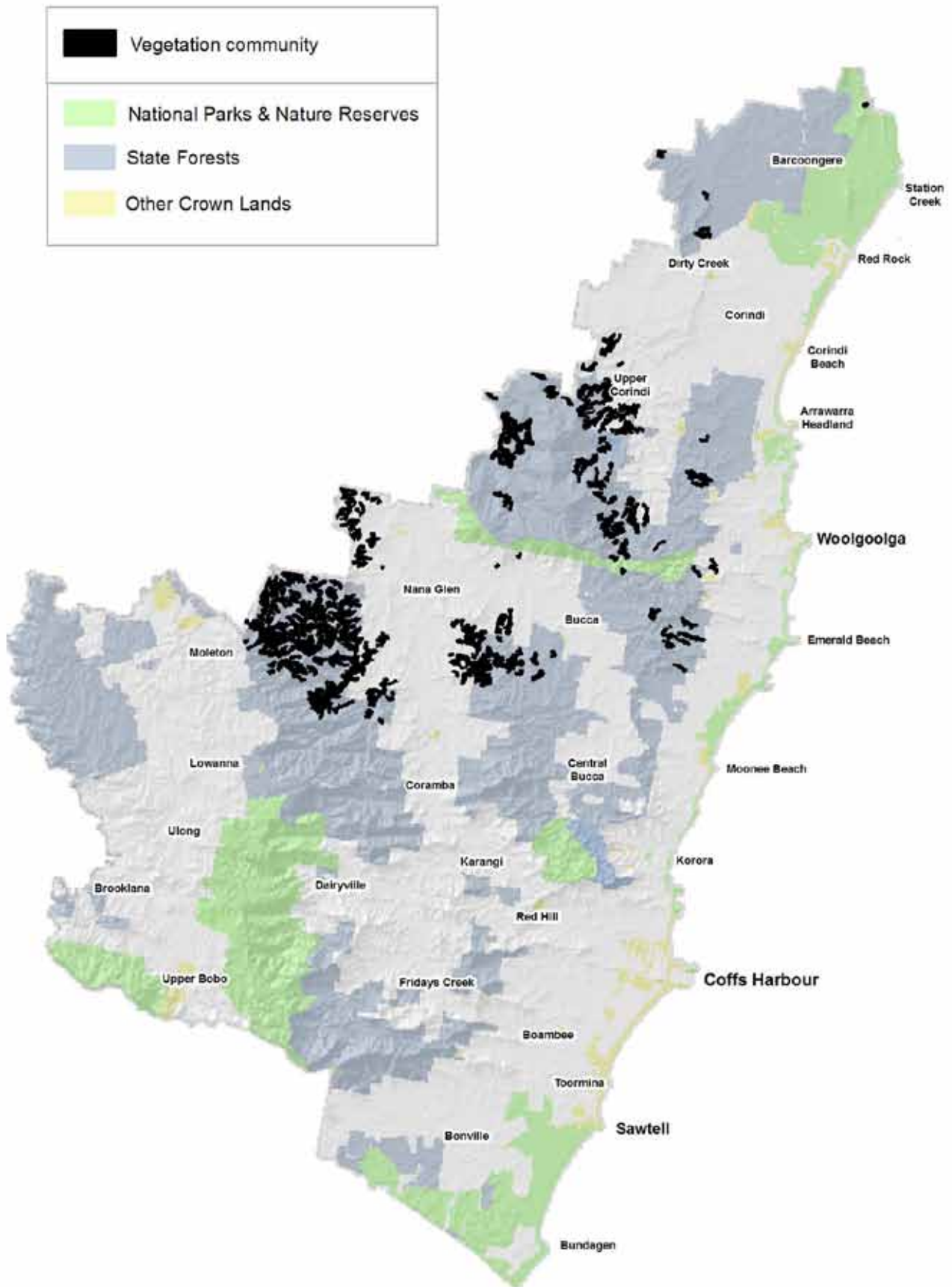
Relationship to other communities

Related to CH_DOF10 (Foothills Spotted Gum – Mahogany - Grey Gum - Ironbark Dry Forest) which occurs with increasing dryness. CH_WSF11 is distinguished from CH_DOF10 by a characteristically moist herb/shrubby understorey. Also related to CH_WSF17 (Foothills Turpentine – Grey Gum - Ironbark Moist Shrubby Forest) which has less frequency of Spotted Gum (*Corymbia variegata*). CH_WSF11 can be distinguished by the higher abundance (typically dominant or sub-dominant) of Spotted Gum (*Corymbia variegata*) over a moist understorey similar to that in CH_WSF17.

The mapped occurrence of the map unit WSF11 has been shown to include elements of the Wet Sclerophyll communities CH_WSF17 (Foothills Turpentine - Grey Gum - Ironbark Moist Shrubby Forest) and CH_WSF03 (Foothills and Escarpment Blue Gum - Tallowwood -Turpentine Wet Shrubby Forest) as the dominance of Spotted Gum decreases. Additionally, as this community grades into dry sclerophyll forest, elements of CH_DOF05 (Foothills Grey Gum-Ironbark - Mahogany Dry Forest) and CH_DOF10 (Foothills Spotted Gum - Mahogany - Grey Gum - Ironbark Dry Forest) will be present.

Equivalents

Biometric: Grey Gum - Spotted Gum open forest of the southern Clarence lowlands of the North Coast (NR174).



Locations

Known examples include Red White and Blue Road in Bagawa State Forest; Kings Creek in Lower Bucca State Forest and Murphy's Road in conglomerate SF.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia fimbriata</i>	1	50%	1	5%	uninformative
<i>Acacia irrorata</i>	3	100%	1	7%	positive
<i>Acacia maidenii</i>	2	100%	1	13%	positive
<i>Ajuga australis</i>	1	50%	1	0%	uninformative
<i>Allocasuarina torulosa</i>	2	50%	2	36%	positive
<i>Angophora costata</i>	3	50%	2	13%	positive
<i>Aristida vagans</i>	1	50%	2	2%	uninformative
<i>Astrotricha latifolia</i>	2	50%	1	2%	positive
<i>Brachychiton populneus</i> subsp. <i>populneus</i>	1	50%	2	0%	uninformative
<i>Breynia oblongifolia</i>	2	50%	1	29%	positive
<i>Brunoniella australis</i>	2	50%	1	3%	positive
<i>Cayratia clematidea</i>	1	50%	1	7%	uninformative
<i>Cenchrus caliculatus</i>	1	50%	1	1%	uninformative
<i>Choricarpia leptopetala</i>	2	50%	4	2%	positive
<i>Cissus antarctica</i>	1	50%	1	19%	uninformative
<i>Corymbia variegata</i>	3	100%	3	6%	positive
<i>Cymbidium suave</i>	1	50%	1	3%	uninformative
<i>Cymbopogon refractus</i>	2	50%	2	6%	positive
<i>Desmodium brachypodium</i>	1	100%	1	6%	uninformative
<i>Desmodium rhytidophyllum</i>	2	100%	1	7%	positive
<i>Desmodium varians</i>	2	100%	1	6%	positive
<i>Dianella caerulea</i>	2	100%	1	50%	positive
<i>Dichondra repens</i>	1	50%	1	5%	uninformative
<i>Dioscorea transversa</i>	1	50%	1	28%	uninformative
<i>Entolasia stricta</i>	1	100%	2	24%	uninformative
<i>Eucalyptus carnea</i>	3	100%	2	10%	positive
<i>Eucalyptus propinqua</i>	3	50%	3	13%	positive
<i>Eucalyptus pyrocarpa</i>	3	50%	3	2%	positive
<i>Eucalyptus rummeryi</i>	1	50%	3	1%	uninformative
<i>Eucalyptus siderophloia</i>	2	50%	3	10%	positive
<i>Euroschinus falcatus</i>	1	50%	1	4%	uninformative
<i>Geitonoplesium cymosum</i>	1	50%	1	23%	uninformative
<i>Geranium solanderi</i>	1	50%	1	1%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	50%	1	13%	uninformative
<i>Glycine clandestina</i>	1	50%	1	12%	uninformative
<i>Glycine microphylla</i>	1	50%	1	3%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	50%	1	3%	uninformative
<i>Guioa semiglauca</i>	1	50%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	50%	1	19%	uninformative
<i>Hardenbergia violacea</i>	1	50%	1	8%	uninformative
<i>Hibbertia aspera</i>	1	50%	1	10%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Hibbertia scandens</i>	1	100%	1	31%	uninformative
<i>Hibiscus heterophyllus</i> subsp. <i>heterophyllus</i>	1	50%	2	1%	uninformative
<i>Hovea acutifolia</i>	2	50%	1	1%	positive
<i>Hybanthus stellarioides</i>	1	100%	1	4%	uninformative
<i>Imperata cylindrica</i>	2	100%	2	31%	positive
<i>Indigofera australis</i>	1	50%	2	4%	uninformative
<i>Jacksonia scoparia</i>	1	50%	1	2%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	50%	1	11%	uninformative
<i>Leucopogon juniperinus</i>	2	50%	1	3%	positive
<i>Lomandra filiformis</i>	2	50%	1	12%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Marsdenia lloydii</i>	2	50%	1	1%	positive
<i>Myrsine variabilis</i>	2	50%	1	16%	positive
<i>Oplismenus aemulus</i>	2	100%	2	12%	positive
<i>Oxalis chnoodes</i>	1	50%	2	0%	uninformative
<i>Ozothamnus diosmifolius</i>	1	50%	1	9%	uninformative
<i>Passiflora aurantia</i> var. <i>aurantia</i>	1	50%	1	0%	uninformative
<i>Persoonia conjuncta</i>	1	100%	2	1%	uninformative
<i>Pimelea latifolia</i>	1	50%	1	1%	uninformative
<i>Plectranthus parviflorus</i>	1	50%	1	2%	uninformative
<i>Poa sieberiana</i>	3	50%	2	4%	positive
<i>Pratia purpurascens</i>	1	50%	1	23%	uninformative
<i>Pseuderanthemum variabile</i>	2	50%	2	27%	positive
<i>Psychotria loniceroides</i>	1	50%	1	14%	uninformative
<i>Pteridium esculentum</i>	1	50%	2	32%	uninformative
<i>Pteris tremula</i>	1	50%	2	0%	uninformative
<i>Rhodamnia rubescens</i>	1	50%	1	16%	uninformative
<i>Santalum obtusifolium</i>	1	50%	1	0%	uninformative
<i>Smilax australis</i>	1	50%	1	44%	uninformative
<i>Solanum hapalum</i>	2	50%	1	6%	positive
<i>Solanum stelligerum</i>	1	50%	1	1%	uninformative
<i>Syncarpia glomulifera</i>	3	50%	2	39%	positive
<i>Themeda australis</i>	1	50%	3	24%	uninformative
<i>Vernonia cinerea</i>	2	50%	1	10%	positive
<i>Xanthorrhoea malacophylla</i>	2	100%	3	1%	positive

BRUSH BOX - CORKWOOD OPEN FOREST ON SAND

CH_WSF12

SCIENTIFIC NAME Brush Box (*Lophostemon confertus*) – Corkwood (*Endiandra sieberi*) open forest on sand

STATEWIDE CLASS North Coast Wet Sclerophyll Forest (Keith 2006)

PLANT COMMUNITY TYPE Pink Bloodwood – Brush Box open forest on coastal dunes and sandplains of the South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-467)



Description

A tall open wet sclerophyll forest dominated by Brush Box (*Lophostemon confertus*), Corkwood (*Endiandra sieberi*) and occasionally associated with Smooth-barked Apple (*Angophora costata*) occurring on Holocene and Pleistocene sand dunes. There are large Coast Banksias (*Banksia integrifolia* subsp. *integrifolia*) and Old Man Banksias (*Banksia serrata*) present in the mid layer. The understorey is dominated by Spiny-headed Mat-rush (*Lomandra longifolia*) and Bracken Fern (*Pteridium esculentum*).

This community occurs north from Moonee Beach Nature Reserve to Yuraygir National Park on dunes within about a kilometre of the coast. Along the Corindi - Red Rock road this community is restricted to a large Pleistocene Dune Ridge that rise to over 20 metres in height.

Floristic summary

Layer	Height	Cover	Dominant Species
Tallest	12-20	35	<i>Lophostemon confertus</i> , <i>Endiandra sieberi</i> .
Middle	3-6	20	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i> , <i>Banksia serrata</i> , <i>Acacia melanoxylon</i> , <i>Lophostemon confertus</i> , <i>Syzygium australe</i> , <i>Endiandra sieberi</i> .
Lower	0- 1.5	40	<i>Lomandra longifolia</i> , <i>Pteridium esculentum</i> .

* Data collated from 1 of 1 full floristic sites

Exotics *Asparagus aethiopicus*, *Lantana camara*

Species richness

Number of plots	1
Total native species	42
Average number of species	42

Conservation status

This community is reserved in Moonee Beach Nature Reserve (1 ha) and Yuraygir National Park (1 ha).

Tenure	Area (ha)
Crown Land	3
Freehold	5
National Park	2
Nature Reserve	1
TOTAL	10

Relationship to other communities

This community adjoins and is related to CH_D0F09 (Coast Sand Blackbutt – Bloodwood – Apple Forest). CH_WSF12 is however, very distinct from CH_D0F09 and is distinguished by the canopy dominance of Brush Box (*Lophostemon confertus*) and the high frequency of Hard Corkwood (*Endiandra sieberi*) and Old Man Banksia (*Banksia serrata*).

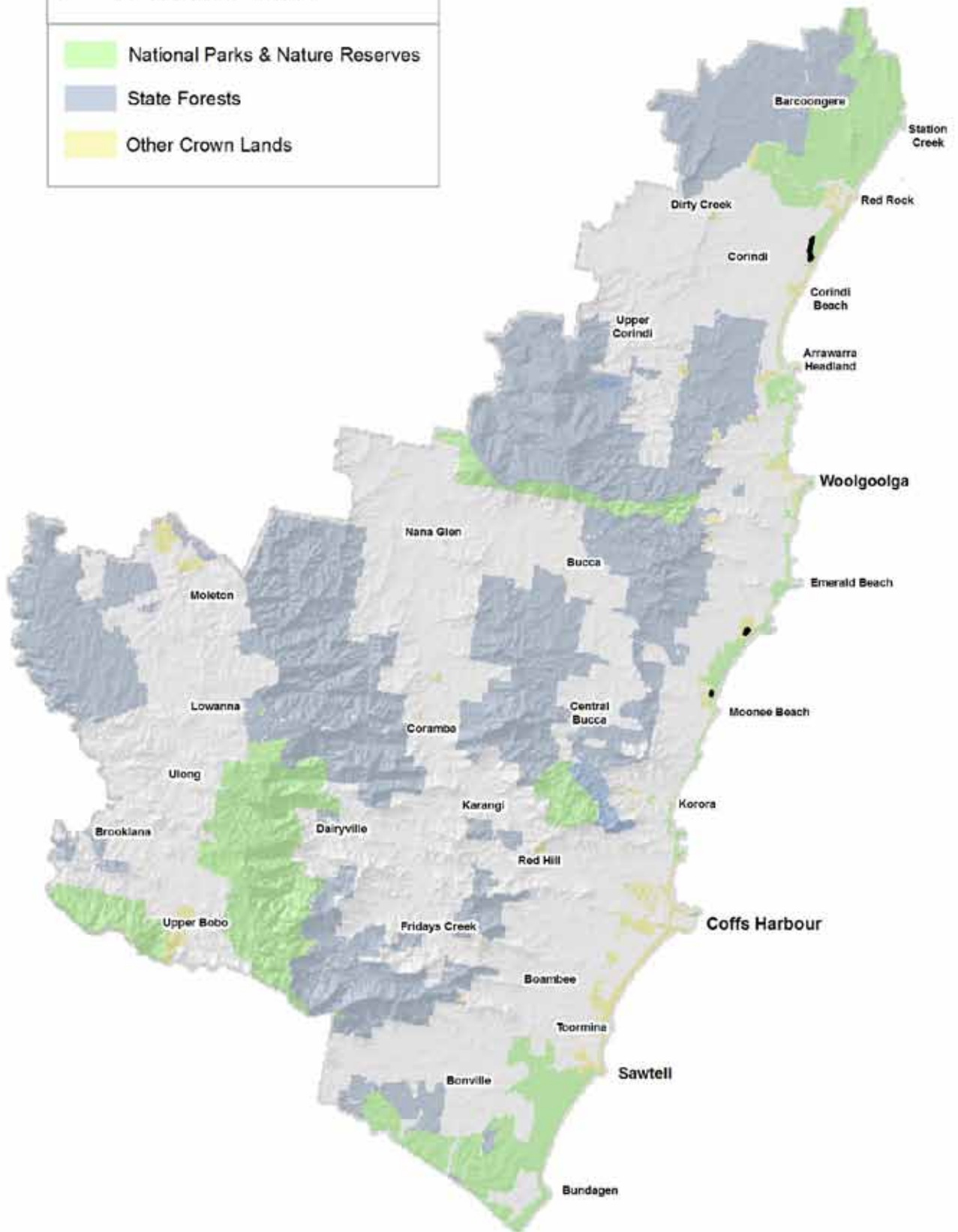
Equivalents

Biometric: No equivalent

Other: 3002 *Lophostemon confertus* wet sclerophyll Forest (Griffith and Wilson, 2007).

Locations

The occurrences at Moonee Beach are located on lower lying floodplain and backbarrier sands. There are also mapped occurrences in Yuraygir National Park and Bundjalung National Park (Griffith, 1983).



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	1	100%	2	18%	uninformative
<i>Acmena smithii</i>	1	100%	1	26%	uninformative
<i>Angophora costata</i>	2	100%	2	13%	positive
<i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i>	1	100%	2	3%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	100%	1	8%	uninformative
<i>Banksia serrata</i>	3	100%	2	1%	positive
<i>Breynia oblongifolia</i>	1	100%	1	29%	uninformative
<i>Cissus hypoglauca</i>	1	100%	1	38%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	100%	1	10%	uninformative
<i>Cymbidium suave</i>	1	100%	1	3%	uninformative
<i>Desmodium brachypodum</i>	1	100%	1	6%	uninformative
<i>Desmodium varians</i>	1	100%	1	6%	uninformative
<i>Dianella caerulea</i>	1	100%	1	50%	uninformative
<i>Dipodium variegatum</i>	1	100%	1	2%	uninformative
<i>Elaeocarpus reticulatus</i>	1	100%	1	27%	uninformative
<i>Endiandra sieberi</i>	3	100%	1	9%	positive
<i>Eupomatia laurina</i>	1	100%	1	14%	uninformative
<i>Eustrephus latifolius</i>	1	100%	1	29%	uninformative
<i>Gahnia clarkei</i>	1	100%	2	14%	uninformative
<i>Glycine clandestina</i>	1	100%	1	12%	uninformative
<i>Hibbertia scandens</i>	1	100%	1	31%	uninformative
<i>Imperata cylindrica</i>	1	100%	2	32%	uninformative
<i>Leucopogon lanceolatus</i>	1	100%	1	19%	uninformative
<i>Leucopogon margarodes</i>	1	100%	1	3%	uninformative
<i>Lomandra longifolia</i>	3	100%	2	51%	constant
<i>Lophostemon confertus</i>	3	100%	2	31%	positive
<i>Microlaena stipoides</i> var. <i>stipoides</i>	1	100%	2	3%	uninformative
<i>Myrsine variabilis</i>	1	100%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	100%	1	27%	uninformative
<i>Oplismenus imbecillis</i>	1	100%	2	22%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	100%	1	12%	uninformative
<i>Persoonia stradbrokeensis</i>	1	100%	1	18%	uninformative
<i>Polyscias sambucifolia</i>	1	100%	1	16%	uninformative
<i>Pratia purpurascens</i>	1	100%	1	23%	uninformative
<i>Pteridium esculentum</i>	2	100%	2	32%	positive
<i>Sarcopetalum harveyanum</i>	1	100%	1	9%	uninformative
<i>Smilax australis</i>	1	100%	1	44%	uninformative
<i>Smilax glycyphylla</i>	1	100%	1	28%	uninformative
<i>Syzygium australe</i>	2	100%	1	6%	positive
<i>Tripladenia cunninghamii</i>	1	100%	1	10%	uninformative
<i>Viola banksii</i>	1	100%	1	16%	uninformative
<i>Xanthorrhoea macronema</i>	1	100%	1	6%	uninformative

DUNN'S WHITE GUM WET FOREST

CH_WSF13

SCIENTIFIC NAME Dunn's White Gum (*Eucalyptus dunnii*) tall wet forest of creeklines and lower slopes of the Moleton and Little Nymboida hills

PLANT COMMUNITY TYPE Dunn's White Gum tall wet forest on basalt-derived or enriched soils on hinterland ranges, NSW North Coast Bioregion and South Eastern Queensland Bioregion (NSW700-406)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A medium to tall open moist forest with a canopy usually dominated by Dunn's White Gum (*Eucalyptus dunnii*) and Sydney Blue Gum (*Eucalyptus saligna*). Tallowwood (*Eucalyptus microcorys*) and Turpentine (*Syncarpia glomulifera*) are common associates. The mid stratum is often dense and characterised by Forest Oak (*Allocasuarina torulosa*), Green Wattle (*Acacia irrorata*), Murrogon (*Cryptocarya microneura*) and Water Gum (*Tristaniopsis laurina*). The ground layer consists mainly of tussock grasses (*Poa* spp.), Gristle Fern (*Blechnum cartilagineum*) and Prickly Rasp Fern (*Doodia aspera*).

This community is distributed on lower slopes and often along creek lines in areas of metasedimentary geology in the hills and ranges of the eastern Dorrigo plateau between Brooklana and Mole Creek

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	No data	No data	<i>Eucalyptus dunnii</i> , <i>Eucalyptus microcorys</i> , <i>Eucalyptus saligna</i> .
Middle	No data	No data	<i>Acacia binervata</i> , <i>Acacia irrorata</i> , <i>Allocasuarina torulosa</i> , <i>Callistemon salignus</i> , <i>Cryptocarya glaucescens</i> , <i>Cryptocarya microneura</i> , <i>Polyscias sambucifolia</i> , <i>Syncarpia glomulifera</i> , <i>Myrsine variabilis</i> .
Lower	No data	No data	<i>Calochlaena dubia</i> , <i>Poa</i> spp. <i>Lomandra longifolia</i> , <i>Doodia aspera</i> , <i>Lepidosperma laterale</i> , <i>Pteridium esculentum</i> .

* Data collated from 1 rapid survey site and 1 full floristic site.

Structural and floristic variations

No structural variants of this community have been recorded, however few examples have been surveyed and sites are typically disturbed or partially cleared. Further investigation of the nature of this community is required.

Species richness

Number of plots	1
Total species	20
Average number of species	20

Conservation status

This community is not known to be reserved in the Coffs Harbour City Council area.

Tenure	Area (ha)
Crown Land	5
Freehold	81
NSW State Forest	42
TOTAL	128

Endangered Ecological Community: *White Gum Moist Forest in the NSW North Coast Bioregion* EEC

Threatened and Rare plants: *Eucalyptus dunnii*

Relationship to other communities

Related to, and transitions to CH_WSF06 (Plateau Blue Gum - Tallowwood - Flooded Gum Wet Shrubby Forest) where Dunn's White Gum (*Eucalyptus dunnii*) is replaced by Sydney Blue Gum (*Eucalyptus saligna*). Remote interpretation of this community is problematic as field survey is required to determine the presence of Dunn's White Gum. Therefore, mapped occurrences of CH_WSF13 without field survey confirmation would be recommended for further validation. Further, it is likely that some areas mapped as CH_WSF06 without field survey may contain elements of CH_WSF13. Further field investigation and refinement to the mapped distribution of this community is required.

Equivalentents

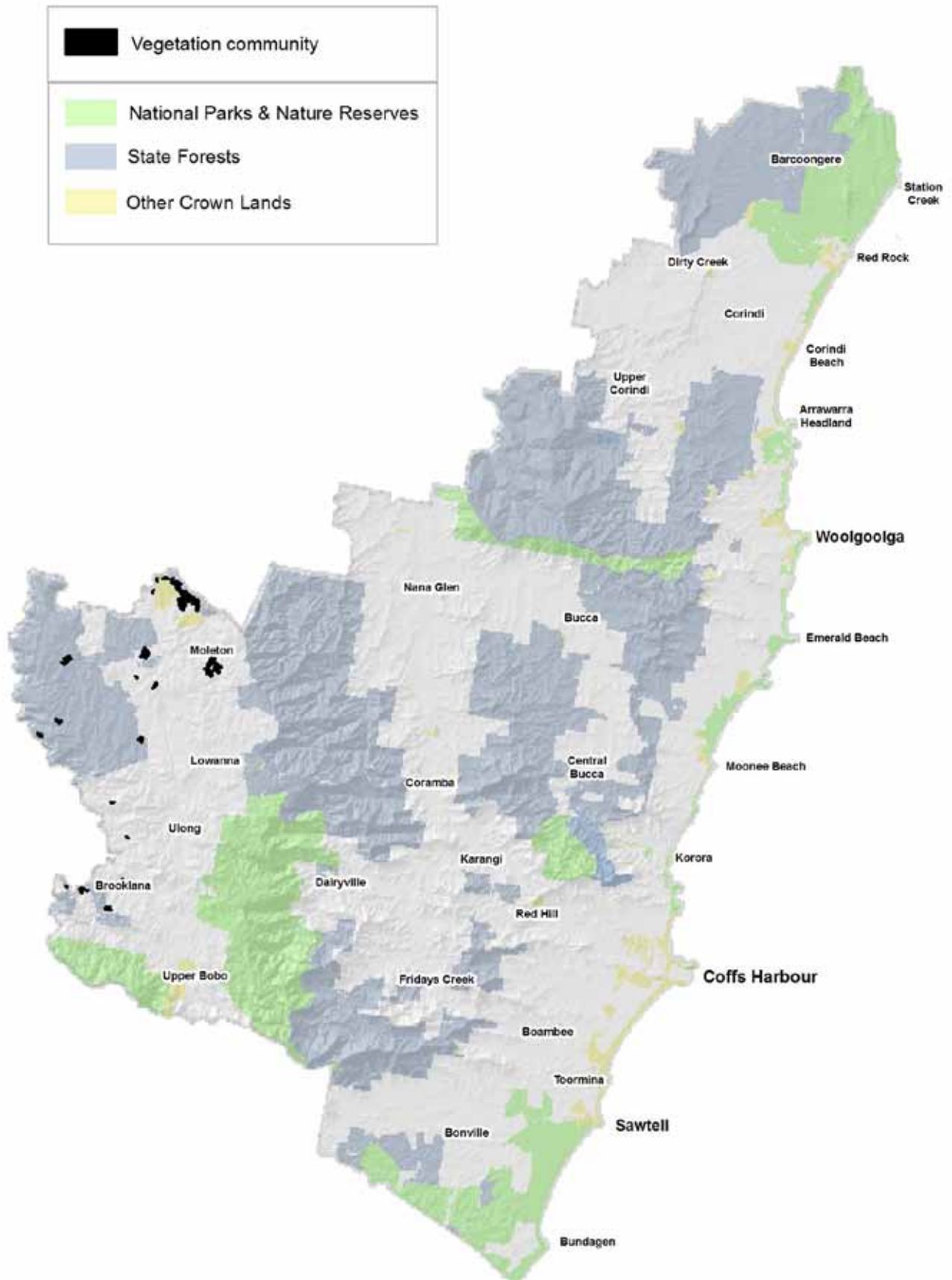
Biometric: Dunn's White Gum tall open forest of the ranges of the northern North Coast (NR156).

Other: N73 - Dunn's White Gum (Fisher et al. 1996).



Locations

Known examples include Upper Bobo River; Wild Cattle Creek State Forest; Cradle Creek Road, Bushman's Range; Mole Creek and Kangaroo River State Forest.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	2	100%	2	5%	positive
<i>Acacia irrorata</i>	3	100%	1	8%	positive
<i>Allocasuarina torulosa</i>	3	100%	2	35%	positive
<i>Blechnum cartilagineum</i>	2	100%	2	38%	positive
<i>Callistemon salignus</i>	4	100%	3	12%	positive
<i>Calochlaena dubia</i>	2	100%	2	27%	positive
<i>Cryptocarya glaucescens</i>	2	100%	2	17%	positive
<i>Cryptocarya microneura</i>	3	100%	1	20%	positive
<i>Doodia aspera</i>	2	100%	2	15%	positive
<i>Eucalyptus dunnii</i>	3	100%	0	0%	positive
<i>Eucalyptus microcorys</i>	2	100%	3	34%	positive
<i>Eucalyptus saligna</i>	3	100%	3	9%	positive
<i>Lepidosperma laterale</i>	2	100%	1	17%	positive
<i>Lomandra longifolia</i>	2	100%	2	51%	constant
<i>Myrsine variabilis</i>	2	100%	1	16%	positive
<i>Polyscias sambucifolia</i>	2	100%	1	16%	positive
<i>Pomaderris aspera</i>	2	100%	2	1%	positive
<i>Pteridium esculentum</i>	2	100%	2	32%	positive
<i>Syncarpia glomulifera</i>	3	100%	2	39%	positive
<i>Trochocarpa laurina</i>	1	100%	1	37%	uninformative

COASTAL HEADLAND RED GUM FOREST

CH_WSF14

SCIENTIFIC NAME Forest Red Gum (*Eucalyptus tereticornis*) wet open forest to woodland on metasedimentary headlands and coastal hills

PLANT COMMUNITY TYPE Forest Red Gum – Pink Bloodwood – Grey Ironbark open forest to woodland on metasediment headlands, NSW North Coast Bioregion (NSW1000-1075)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forests (Keith 2006)



Description

Forest Red Gum (*Eucalyptus tereticornis*) usually dominates the canopy. Other trees sometimes locally abundant include Grey Ironbark (*Eucalyptus siderophloia*), Swamp Oak (*Casuarina glauca*) and Brush Box (*Lophostemon confertus*). This community is usually found on metasedimentary hill slopes and riparian areas on sheltered aspects near coastal areas. The mid layer comprises shrubs and small trees such as Sweet Pittosporum (*Pittosporum undulatum*), Tuckeroo (*Cupaniopsis anacardioides*) and the climbers Anchor Vine (*Palmeria scandens*) and Lawyer Vine (*Smilax australis*). Basket Grass (*Oplismenus aemulus*), Native Violet (*Viola banksii*) and Saw Sedge (*Gahnia aspera*) are common ground layer species.

The community occurs around metasedimentary headlands south from Sapphire Beach to Bongil Bongil, usually within about a kilometre from the coast.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	No data	No data	<i>Eucalyptus tereticornis</i> , <i>Lophostemon confertus</i> , <i>Eucalyptus siderophloia</i> .
Middle	No data	No data	<i>Pittosporum undulatum</i> , <i>Cupaniopsis anacardioides</i> , <i>Palmeria scandens</i> , <i>Smilax australis</i> .
Lower	No data	No data	<i>Oplismenus aemulus</i> , <i>Viola banksii</i> , <i>Gahnia aspera</i> .

* Data based on 1 floristic site and field observation

Structural and floristic variations

Many of the remaining examples of this community are highly modified and weed infested.

Exotics *Asparagus aethiopicus*, *Bidens pilosa*, *Chrysanthemoides monilifera* subsp. *rotundata*, *Ipomoea cairica*, *Lantana camara*

Conservation status

This community is reserved in Coffs Coast Regional Park (3ha).

Tenure	Area (ha)
Crown Land	18
Freehold	18
Regional Park	3
TOTAL	39

Relationship to other communities

Related to and shares some affinities with CH_RF08 (Headland Brush Box Littoral Rainforest). CH_WSF14 is distinguished from CH_RF08 by dominance of Forest Red Gum (*Eucalyptus tereticornis*) in the canopy, and potentially Grey Ironbark (*E. siderophloia*) and Brush Box (*Lophostemon confertus*) being locally abundant.

Equivalents

Biometric: no equivalent

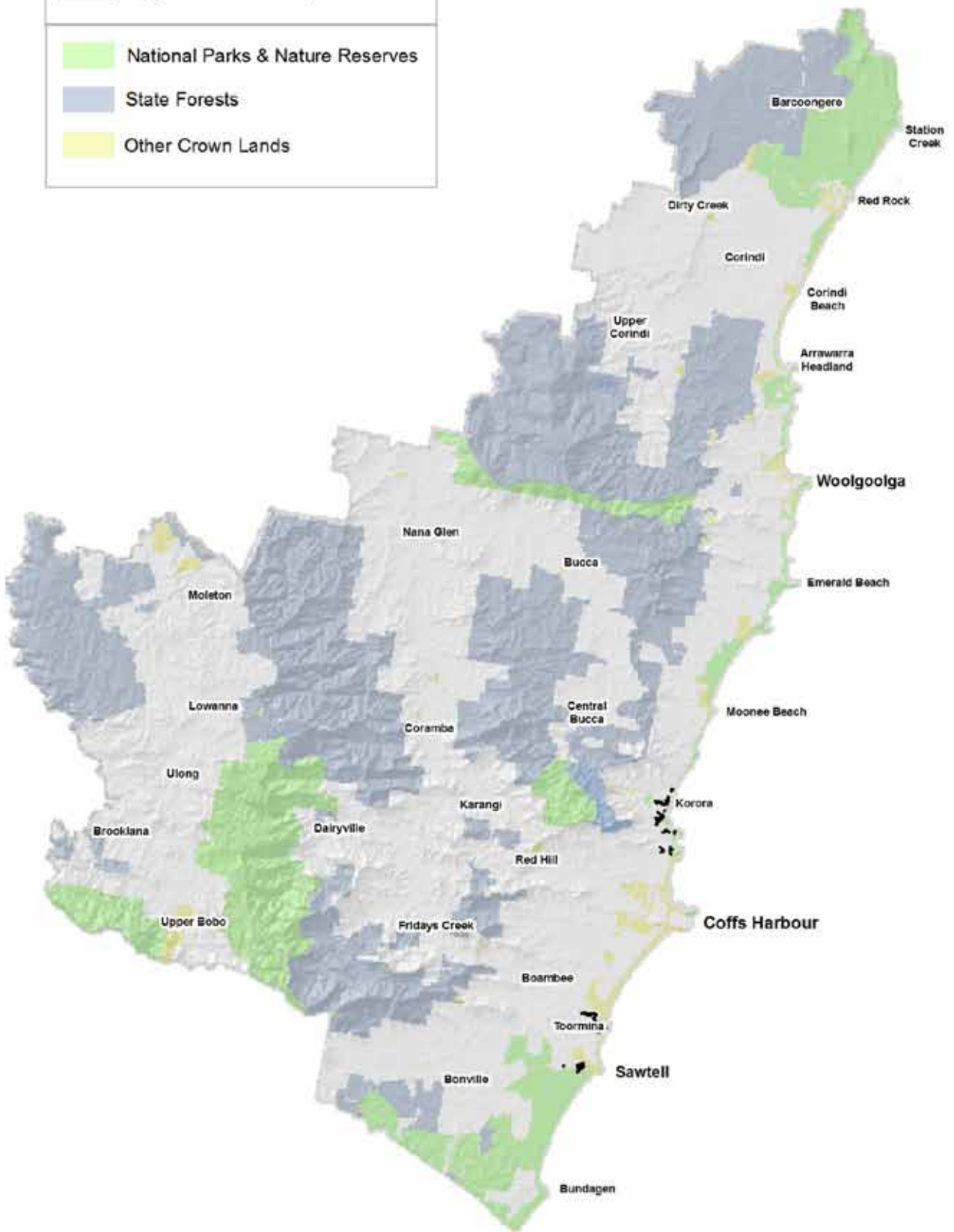
Other: N1a – Coastal forest Red Gum (Fisher et al. 1996)

Locations

Known examples include Bluff Trail, Bongil Bongil National Park; Dolmans Point, Sawtell; Boambee Reserve; Macauley's Headland; Diggers Headland; Korora and Opal Cove.



	Vegetation community
	National Parks & Nature Reserves
	State Forests
	Other Crown Lands



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longissima</i>	2	100%	1	1%	positive
<i>Acacia maidenii</i>	2	100%	1	14%	positive
<i>Acmena smithii</i>	1	100%	1	26%	uninformative
<i>Alectryon coriaceus</i>	2	100%	2	3%	positive
<i>Casuarina glauca</i>	2	100%	3	7%	positive
<i>Cissus antarctica</i>	2	100%	1	19%	positive
<i>Cordyline petiolaris</i>	2	100%	1	4%	positive
<i>Cordyline stricta</i>	2	100%	1	38%	positive
<i>Crinum pedunculatum</i>	1	100%	1	4%	uninformative
<i>Cryptocarya glaucescens</i>	1	100%	2	17%	uninformative
<i>Cryptocarya triplinervis</i>	2	100%	1	4%	positive
<i>Cupaniopsis anacardioides</i>	2	100%	1	11%	positive
<i>Dianella caerulea</i>	3	100%	1	50%	positive
<i>Doodia aspera</i>	3	100%	2	15%	positive
<i>Drypetes deplanchei</i>	2	100%	1	4%	positive
<i>Elaeodendron australe</i> var. <i>australe</i>	1	100%	1	3%	uninformative
<i>Entolasia marginata</i>	1	100%	1	9%	uninformative
<i>Eucalyptus crebra</i>	2	100%	2	0%	positive
<i>Eucalyptus siderophloia</i>	5	100%	3	10%	positive
<i>Eupomatia laurina</i>	1	100%	1	14%	uninformative
<i>Eustrephus latifolius</i>	2	100%	1	29%	positive
<i>Guioa semiglauca</i>	1	100%	1	28%	uninformative
<i>Hibbertia scandens</i>	1	100%	1	31%	uninformative
<i>Indigofera australis</i>	1	100%	2	4%	uninformative
<i>Kennedia rubicunda</i>	1	100%	1	7%	uninformative
<i>Lomandra longifolia</i>	2	100%	2	51%	constant
<i>Lophostemon confertus</i>	4	100%	2	31%	positive
<i>Myrsine variabilis</i>	2	100%	1	16%	positive
<i>Notelaea longifolia</i>	3	100%	1	27%	positive
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	100%	1	12%	uninformative
<i>Pittosporum revolutum</i>	2	100%	1	13%	positive
<i>Pittosporum undulatum</i>	3	100%	1	10%	positive
<i>Psychotria loniceroides</i>	2	100%	1	14%	positive
<i>Rhodamnia rubescens</i>	2	100%	1	16%	positive
<i>Scolopia braunii</i>	2	100%	1	6%	positive
<i>Smilax australis</i>	2	100%	1	44%	positive
<i>Smilax glycyphylla</i>	2	100%	1	28%	positive
<i>Stephania japonica</i> var. <i>discolor</i>	2	100%	1	21%	positive
<i>Syncarpia glomulifera</i>	1	100%	3	39%	uninformative
<i>Trema tomentosa</i> var. <i>aspera</i>	1	100%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	1	100%	1	10%	uninformative
<i>Tristaniopsis laurina</i>	1	100%	2	3%	uninformative
<i>Wilkiea huegeliana</i>	1	100%	1	28%	uninformative

FOOTHILLS STEEL BOX - BROWN MYRTLE WET FOREST

CH_WSF15

SCIENTIFIC NAME Steel Box (*Eucalyptus rummeryi*) – Grey Gum (*Eucalyptus propinqua*) – Brown Myrtle (*Choricarpia leptopetala*) wet forest of the Bagawa Range and Madman's Creek

PLANT COMMUNITY TYPE Small-fruited Grey Gum – Steel Box tall open forest with dense Brown Myrtle mid-storey on coastal foothills between Coffs Harbour and Grafton, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW1000-1700)

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A tall to very tall open forest with the overstorey dominated by Small-fruited Grey Gum (*Eucalyptus propinqua*) and Steel Box (*E. rummeryi*) with Turpentine (*Syncarpia glomulifera*), Tallowwood (*E. microcorys*) and/or Spotted Gum (*Corymbia variegata*). There is a very dense mid layer of small trees and shrubs with Brown Myrtle (*Choricarpia leptopetala*) clearly dominant. Other frequently occurring species include *Acacia oshanesii*, Native Rosella (*Hibiscus heterophyllus* subsp. *heterophyllus*), *Asterolasia correifolia*, Red Ash (*Alphitonia excelsa*) and Coast Canthium (*Cyclophyllum longipetalum*). The prominent vines include Water Vine (*Cissus antarctica*), Lawyer Vine (*Smilax australis*) and Sweet Morinda (*Morinda jasminoides*). The ground layer is very sparse with Rough Saw-sedge (*Gahnia aspera*), Variable Sword-sedge (*Lepidosperma laterale*), Pastel Flower (*Pseuderanthemum variabile*) and *Ottochloa gracillima* the only frequently occurring species. This community occurs in sheltered mid to lower slopes and creeklines in hilly terrain north-west of Coffs Harbour in the Madman's Creek area on shallow soils derived from sedimentary substrates, often high in quartz.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	20- 40	60	<i>Eucalyptus propinqua</i> , <i>Eucalyptus rummeryi</i> , <i>Syncarpia glomulifera</i> , <i>Eucalyptus microcorys</i> , <i>Corymbia variegata</i> .
Middle	2 - 22	70	<i>Choricarpia leptopetala</i> , <i>Acacia oshanesii</i> , <i>Hibiscus heterophyllus</i> subsp. <i>heterophyllus</i> , <i>Asterolasia correifolia</i> , <i>Alphitonia excelsa</i> , <i>Cyclophyllum longipetalum</i> , <i>Alyxia ruscifolia</i> , <i>Cissus antarctica</i> .
Ground	0 -1	5	<i>Gahnia aspera</i> , <i>Lepidosperma laterale</i> , <i>Pseuderanthemum variabile</i> , <i>Ottochloa gracillima</i> .

* Data collated from 3 of 4 full floristic sites

Exotics *Lantana camara*

Species richness

Number of plots	4
Total species	130
Average number of species	45 ±36.1

Conservation status

This community is reserved in Conglomerate SF - Madman's Creek Flora Reserve (29ha).

Tenure	Area (ha)
Freehold	199
NSW State Forest	329
NSW State Forest Flora Reserve	29
TOTAL	557

Endangered Ecological Communities: May contain elements of Lowland Rainforest (*Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions* EEC).

Relationship to other communities

Related to CH_RF05 (Foothills Brown Myrtle Dry Rainforest) and also CH_WSF11 (Foothills Spotted Gum - Mahogany - Grey Gum Wet Shrubby Forest). CH_WSF15 is replaced by CH_RF05 on lower slopes and gullies where Steel Box and other overstorey species are not present. CH_WSF11 occurs in similar habitats and landscapes and due to the difficulty in interpretation of these two communities, field validation of mapped occurrences is recommended.

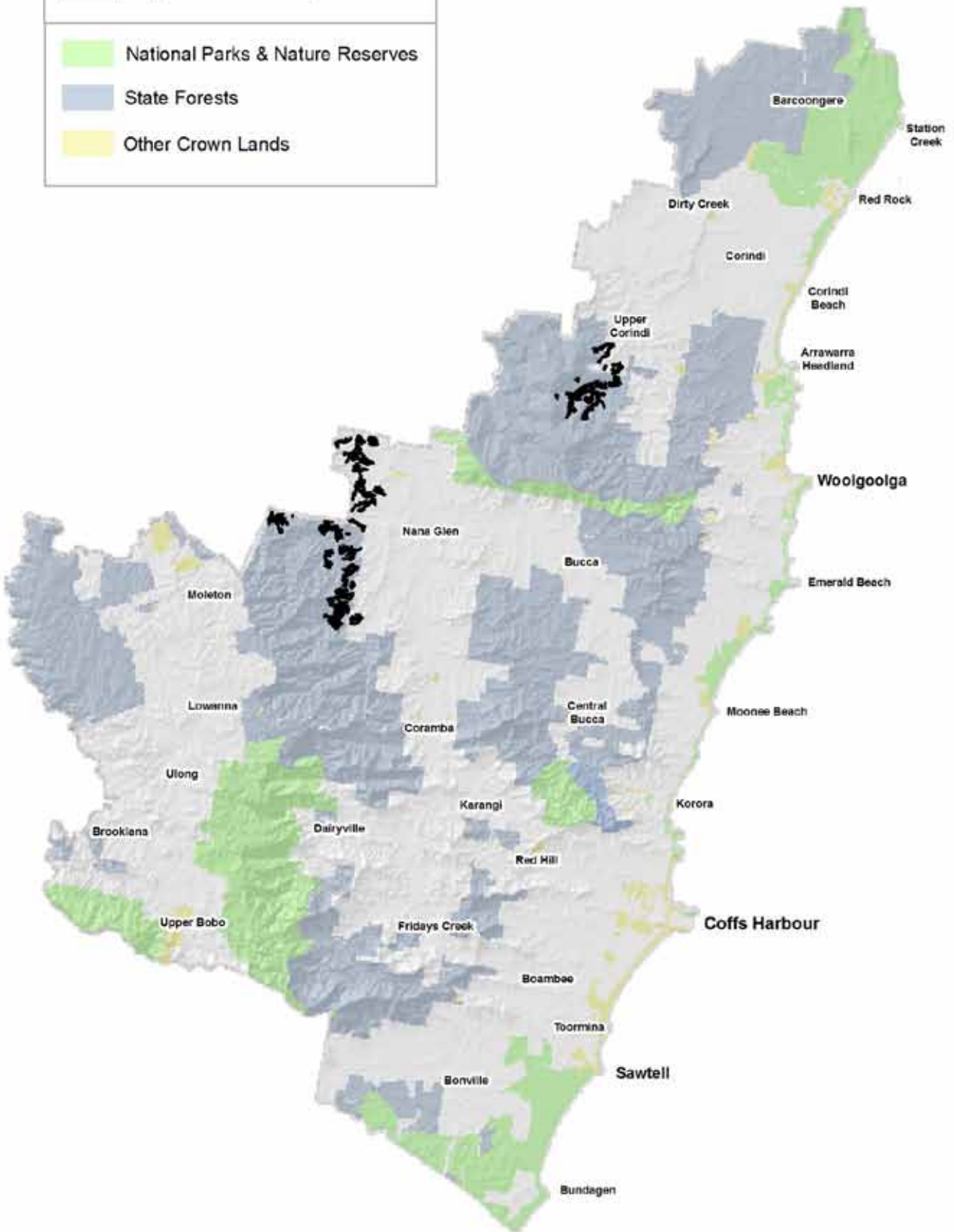
Equivalents

Biometric: Steel Box shrubby open forest of the ranges of the northern North Coast. (NR226) - Shatterwood - Giant Stinging Tree - Yellow Tulipwood dry rainforest of the North Coast (NR251)

Other: Floyd Suballiance 27 (Floyd, 1990)

Locations

Madman's Creek, Conglomerate State Forest; Tallawudjah Creek, near Glenreagh; Red White and Blue Creek, Bagawa State Forest; Coldwater Creek, Bagawa State Forest; Bagawa Creek.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia fimbriata</i>	2	25%	1	5%	uninformative
<i>Acacia maidenii</i>	1	25%	1	14%	uninformative
<i>Acacia oshanesii</i>	1	75%	3	1%	uninformative
<i>Acronychia oblongifolia</i>	1	25%	1	4%	uninformative
<i>Acronychia wilcoxiana</i>	1	25%	0	0%	positive
<i>Adiantum hispidulum</i>	2	25%	1	8%	uninformative
<i>Alchornea ilicifolia</i>	2	25%	1	0%	uninformative
<i>Alphitonia excelsa</i>	2	50%	1	14%	positive
<i>Alpinia caerulea</i>	1	25%	1	18%	uninformative
<i>Alstonia constricta</i>	2	25%	0	0%	positive
<i>Alyxia ruscifolia</i>	2	50%	1	0%	positive
<i>Aphananthe philippinensis</i>	1	25%	1	1%	uninformative
<i>Araucaria cunninghamii</i>	3	25%	1	6%	uninformative
<i>Asterolasia correifolia</i>	1	50%	1	1%	uninformative
<i>Astrotricha latifolia</i>	1	25%	1	2%	uninformative
<i>Backhousia myrtifolia</i>	2	25%	1	2%	uninformative
<i>Baloghia inophylla</i>	3	25%	2	2%	uninformative
<i>Brachychiton populneus</i> subsp. <i>populneus</i>	2	25%	1	0%	uninformative
<i>Breynia oblongifolia</i>	2	25%	1	29%	uninformative
<i>Bridelia exaltata</i>	2	25%	0	0%	positive
<i>Callistemon salignus</i>	1	25%	3	12%	uninformative
<i>Capparis arborea</i>	2	25%	1	1%	uninformative
<i>Cayratia clematidea</i>	1	25%	1	8%	uninformative
<i>Centratherum punctatum</i> subsp. <i>australianum</i>	1	25%	1	0%	uninformative
<i>Choricarpia leptopetala</i>	5	100%	2	2%	positive
<i>Cinnamomum virens</i>	1	25%	1	1%	uninformative
<i>Cissus antarctica</i>	2	75%	1	18%	positive
<i>Cissus hypoglauca</i>	2	25%	1	38%	uninformative
<i>Claoxylon australe</i>	1	25%	1	6%	uninformative
<i>Cleistanthus cunninghamii</i>	1	25%	1	1%	uninformative
<i>Clematicissus opaca</i>	1	25%	1	0%	uninformative
<i>Clematis glycinoides</i>	1	25%	1	6%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	25%	1	10%	uninformative
<i>Cordyline petiolaris</i>	3	25%	1	4%	uninformative
<i>Cordyline stricta</i>	2	25%	1	38%	uninformative
<i>Corymbia variegata</i>	2	75%	3	5%	positive
<i>Croton verreauxii</i>	1	25%	1	3%	uninformative
<i>Cryptocarya microneura</i>	2	50%	1	20%	positive
<i>Cupaniopsis parvifolia</i>	2	25%	0	0%	positive
<i>Cyclophyllum longipetalum</i>	3	50%	1	5%	positive
<i>Cymbidium madidum</i>	1	25%	1	4%	uninformative
<i>Decaspermum humile</i>	2	25%	4	0%	uninformative
<i>Dendrobium aemulum</i>	2	25%	2	1%	uninformative
<i>Dendrobium gracilicaule</i>	2	25%	1	1%	uninformative
<i>Dendrobium tetragonum</i>	1	25%	1	2%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Dendrocnide photinophylla</i>	2	25%	2	1%	uninformative
<i>Denhamia celastroides</i>	2	50%	1	8%	positive
<i>Desmodium nemorosum</i>	1	25%	1	0%	uninformative
<i>Dianella caerulea</i>	1	50%	1	50%	uninformative
<i>Dioscorea transversa</i>	1	50%	1	28%	uninformative
<i>Diospyros pentamera</i>	2	50%	2	6%	positive
<i>Diploglottis cunninghamii</i>	1	25%	1	4%	uninformative
<i>Doodia aspera</i>	3	50%	2	15%	positive
<i>Drypetes deplanchei</i>	3	25%	1	4%	uninformative
<i>Dysoxylum mollissimum</i> subsp. <i>molle</i>	2	25%	2	2%	uninformative
<i>Elaeodendron australe</i> var. <i>australe</i>	1	25%	1	3%	uninformative
<i>Elattostachys nervosa</i>	3	25%	1	3%	uninformative
<i>Embelia australiana</i>	2	50%	1	11%	positive
<i>Entolasia stricta</i>	1	25%	2	25%	uninformative
<i>Eucalyptus grandis</i>	2	25%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	1	50%	3	34%	uninformative
<i>Eucalyptus propinqua</i>	3	100%	3	13%	positive
<i>Eucalyptus rummeryi</i>	3	100%	3	1%	positive
<i>Eustrephus latifolius</i>	1	25%	1	29%	uninformative
<i>Flagellaria indica</i>	1	25%	1	4%	uninformative
<i>Flindersia schottiana</i>	2	25%	1	0%	uninformative
<i>Gahnia aspera</i>	2	75%	1	14%	positive
<i>Geijera salicifolia</i>	1	25%	0	0%	positive
<i>Geitonoplesium cymosum</i>	1	50%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	2	25%	1	13%	uninformative
<i>Gmelina leichhardtii</i>	1	25%	1	3%	uninformative
<i>Gossia bidwillii</i>	3	25%	3	0%	uninformative
<i>Guioa semiglauca</i>	2	25%	1	28%	uninformative
<i>Hedraianthera porphyropetala</i>	1	25%	0	0%	positive
<i>Hibiscus heterophyllus</i> subsp. <i>heterophyllus</i>	2	75%	1	0%	positive
<i>Hodgkinsonia ovatiflora</i>	1	25%	1	1%	uninformative
<i>Imperata cylindrica</i>	1	25%	2	32%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	50%	1	11%	uninformative
<i>Lastreopsis decomposita</i>	1	25%	2	6%	uninformative
<i>Legnephora moorei</i>	1	25%	2	1%	uninformative
<i>Lepidosperma laterale</i>	2	50%	1	17%	positive
<i>Litsea reticulata</i>	1	25%	2	7%	uninformative
<i>Logania albiflora</i>	1	25%	0	0%	positive
<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	2	25%	1	3%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Lophostemon confertus</i>	3	50%	2	31%	positive
<i>Maclura cochinchinensis</i>	1	25%	1	7%	uninformative
<i>Mallotus philippensis</i>	1	25%	2	1%	uninformative
<i>Marsdenia pleiadenia</i>	1	25%	0	0%	positive
<i>Maytenus bilocularis</i>	2	25%	1	4%	uninformative
<i>Mischocarpus pyriformis</i>	2	25%	2	4%	uninformative
<i>Morinda jasminoides</i>	2	75%	1	36%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Myrsine variabilis</i>	1	50%	1	16%	uninformative
<i>Neolitsea dealbata</i>	2	25%	1	16%	uninformative
<i>Notelaea longifolia</i>	2	25%	1	27%	uninformative
<i>Olea paniculata</i>	1	25%	2	0%	uninformative
<i>Oplismenus aemulus</i>	2	25%	2	12%	uninformative
<i>Ottochloa gracillima</i>	2	50%	2	9%	positive
<i>Oxalis perennans</i>	1	25%	1	1%	uninformative
<i>Ozothamnus diosmifolius</i>	2	25%	1	9%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	25%	1	12%	uninformative
<i>Parsonsia induplicata</i>	1	25%	1	0%	uninformative
<i>Parsonsia straminea</i>	1	25%	1	28%	uninformative
<i>Pellaea falcata</i>	4	25%	1	1%	uninformative
<i>Pellaea paradoxa</i>	2	25%	1	1%	uninformative
<i>Petalostigma trilocolare</i>	1	25%	1	0%	uninformative
<i>Pittosporum multiflorum</i>	2	50%	1	12%	positive
<i>Planchonella australis</i>	2	25%	1	5%	uninformative
<i>Plectorrhiza tridentata</i>	1	25%	1	2%	uninformative
<i>Polyscias elegans</i>	1	50%	1	4%	uninformative
<i>Pseuderanthemum variabile</i>	2	50%	2	27%	positive
<i>Psychotria loniceroides</i>	2	50%	1	14%	positive
<i>Pteris tremula</i>	1	25%	2	0%	uninformative
<i>Pyrrosia rupestris</i>	2	25%	2	3%	uninformative
<i>Rhinerrhiza divitiflora</i>	1	25%	2	0%	uninformative
<i>Rhodamnia rubescens</i>	3	50%	1	16%	positive
<i>Rubus moorei</i>	1	25%	2	3%	uninformative
<i>Santalum obtusifolium</i>	1	25%	1	0%	uninformative
<i>Scolopia braunii</i>	2	25%	1	6%	uninformative
<i>Seringia arborescens</i>	1	25%	1	2%	uninformative
<i>Smilax australis</i>	1	75%	1	44%	uninformative
<i>Solanum stelligerum</i>	1	25%	1	1%	uninformative
<i>Syncarpia glomulifera</i>	1	75%	3	38%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	50%	1	27%	uninformative
<i>Tetrastigma nitens</i>	2	50%	1	2%	positive
<i>Trema tomentosa</i> var. <i>aspera</i>	2	25%	1	3%	uninformative
<i>Trochocarpa laurina</i>	2	50%	1	37%	positive
<i>Trophis scandens</i> subsp. <i>scandens</i>	2	25%	1	3%	uninformative
<i>Velleia paradoxa</i>	2	25%	0	0%	positive
<i>Wilkiea huegeliana</i>	2	50%	1	28%	positive

ESCARPMENT WHITE MAHOGANY WET SHRUBBY FOREST

CH_WSF16

SCIENTIFIC NAME White Mahogany (*Eucalyptus acmenoides*) moist shrubby forest of steep sheltered slopes of the Little Nymboida River valley

PLANT COMMUNITY TYPE

No known equivalency

STATEWIDE CLASS Wet Sclerophyll Forests – North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A moist open forest dominated by a variable mix of White Mahogany (*Eucalyptus acmenoides*), Blue-leaved Stringybark (*E. agglomerata*), Tallowwood (*E. microcorys*) and Turpentine (*Syncarpia glomulifera*). A moderately dense mid stratum of Forest Oak (*Allocasuarina torulosa*), Tree Heath (*Trochocarpa laurina*), Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*), Blueberry Ash (*Elaeocarpus reticulatus*) and Muttonwood (*Myrsine variabilis*) is present. The ground layer is moderately sparse and is comprised mainly of Spiny-headed Mat-rush (*Lomandra longifolia*), Molucca Bramble (*Rubus moluccanus*), Pastel Flower (*Pseuderanthemum variabile*) and Soft Bracken (*Calochlaena dubia*).

This community is mainly restricted to the metasediment slopes of Wild Cattle Creek State Forest near the junction of Little Nymboida River and Bobo River. Generally this community occurs above 300m and below 500m elevation.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	25-35m	20-45	<i>Eucalyptus acmenoides</i> , <i>E. agglomerata</i> , <i>E. microcorys</i> , <i>Syncarpia glomulifera</i> .
Mid	5-15	60-80	<i>Allocasuarina torulosa</i> , <i>Trochocarpa laurina</i> , <i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Elaeocarpus reticulatus</i> , <i>Myrsine variabilis</i> .
Lower	0.2-3	5-20	<i>Lomandra longifolia</i> , <i>Rubus moluccanus</i> , <i>Pseuderanthemum variabile</i> , <i>Calochlaena dubia</i> .

* No structural data available, information estimated from site survey.

Structural and floristic variations

A large majority of the occurrences of this community occur with almost complete dominance of White Mahogany (*Eucalyptus acmenoides*) or Thick-leaved White Mahogany (*Eucalyptus carnea*) as the only canopy species. In a few sites, there are associates that include Blue-leaved Stringybark (*Eucalyptus agglomerata*), Tallowwood (*Eucalyptus microcorys*) and Turpentine (*Syncarpia glomulifera*). In other locations this community grades into and mosaics with CH_WSF06 (Plateau Blue Gum – Tallowwood – Flooded Gum Wet Shrubby Forest) where the ecotone is difficult to identify from remote sensing. In these cases a dual code has been attributed.

Species richness

Number of plots	Map unit only, no full floristic sites
Total species	Unknown
Average number of species	Unknown

Conservation status

This community is not reserved in the Coffs Harbour City Council area.

Tenure	Area (ha)
Freehold	6
NSW State Forest	155
TOTAL	161

Relationship to other communities

This map unit is a drier variant of CH_DOF11 (Northern Escarpment Mahogany Grassy Dry Forest). DOF11 occurs on comparatively steeper slopes, generally with a north-west aspect and is of a sparser canopy and understorey cover. Generally, CH_WSF16 transitions to CH_WSF06 (Plateau Blue Gum - Tallowwood - Flooded Gum Wet Shrubby Forest) with increasing proportion of Sydney Blue Gum (*Eucalyptus saligna*). This community also transitions to CH_WSF09 (with increasing proportion of Coastal Blackbutt (*Eucalyptus pilularis*)).

Equivalentents

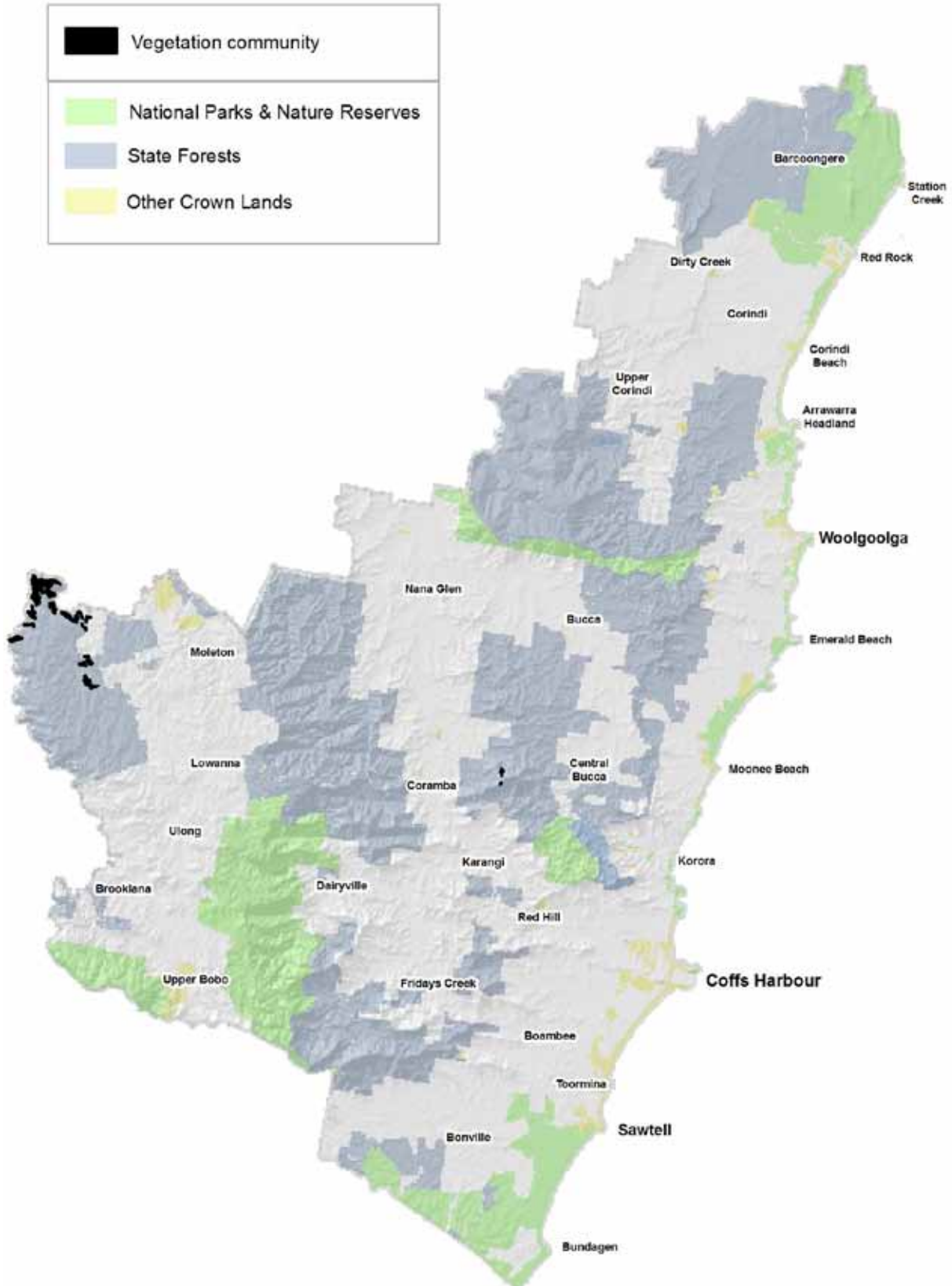
Biometric: Tallowwood - Turpentine moist open forest of the ranges of the Nymboida area of the North Coast (NR266)

Locations

An isolated coastal occurrence has been surveyed and mapped on the south-eastern slope of Mt. Coramba. Known examples include Wild Cattle Creeks State Forest and Mt. Coramba only.

Diagnostic species

No analysis information available for this map unit. Rapid survey data only.



FOOTHILLS TURPENTINE - GREY GUM - IRONBARK MOIST SHRUBBY FOREST

CH_WSF17

SCIENTIFIC NAME Turpentine (*Syncarpia glomulifera*) – Tallowwood (*Eucalyptus microcorys*) – Small-fruited Grey Gum (*Eucalyptus propinqua*) – Grey Ironbark (*Eucalyptus siderophloia*) – White Mahogany (*Eucalyptus acmenoides*) moist shrubby forest on hinterland metasedimentary foothills

PLANT COMMUNITY TYPE Tallowwood – Small-fruited Grey Gum – Forest Oak dry open forest, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW1000-1071)

STATEWIDE CLASS North Coast Wet Sclerophyll Forest (Keith 2006)



Description

A tall moist open forest with a diverse and variable canopy. The more common canopy species are Small-fruited Grey Gum (*Eucalyptus propinqua*), Tallowwood (*Eucalyptus microcorys*), Turpentine (*Syncarpia glomulifera*), Grey Ironbark (*Eucalyptus siderophloia*), White Mahogany (*Eucalyptus acmenoides*) and Brush Box (*Lophostemon confertus*). Other occasionally common canopy species are Pink Bloodwood (*Corymbia intermedia*) and Spotted Gum (*Corymbia variegata*). There is usually a small tree/shrub layer of Forest Oak (*Allocasuarina torulosa*), Mock Olive (*Notelaea longifolia*) and Tree Heath (*Trochocarpa laurina*) present. The ground layer is moist and consists of Rasp fern (*Doodia aspera*), Spiny-headed Mat-rush (*Lomandra longifolia*), Wiry Panic (*Entolasia stricta*), Blady Grass (*Imperata cylindrica*), Pastel Flower (*Pseuderanthemum variabile*) and Settler's Flax (*Gymnostachys anceps*). Many of the occurrences of this community have been subjected to considerable disturbance. Weeds such as Lantana (*Lantana camara*) and Broadleaf Paspalum (*Paspalum mandiocanum*) are often abundant.

This community occurs on the moister sheltered and intermediate mid and lower slopes on fine grained sediments of the Coast Range. Common north of Karangi and below about 300m elevation.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	5-40	40-75	<i>Syncarpia glomulifera</i> , <i>Eucalyptus microcorys</i> , <i>Eucalyptus propinqua</i> , <i>Eucalyptus siderophloia</i> , <i>Eucalyptus acmenoides</i> , <i>Lophostemon confertus</i> .
Middle Layer 1	10-20	15-55	<i>Allocasuarina torulosa</i> , <i>Acacia oshanessi</i> , <i>Notelaea longifolia</i> , <i>Callistemon salignus</i> , <i>Trochocarpa laurina</i> , <i>Breynia oblongifolia</i> , <i>Cryptocarya rigida</i> , <i>Guioa semiglauca</i> , <i>Synoum glandulosum</i> subsp. <i>glandulosum</i> , <i>Tabernaemontana pandacaqui</i> .
Lower	0-1.5	5-45	<i>Doodia aspera</i> , <i>Entolasia stricta</i> , <i>Gymnostachys anceps</i> , <i>Lomandra longifolia</i> , <i>Dianella caerulea</i> , <i>Pseuderanthemum variabile</i> .

* Data collated from 12 of 13 full floristic sites

Structural and floristic variations

Considerable variation in the canopy species has been observed in this community. Although the main canopy species are usually present, often other species are locally abundant. In other situations, only 2 or 3 canopy species may be present. At some sites there is a high proportion of Small-fruited Grey Gum (*Eucalyptus propinqua*) and at other sites there are higher proportions of Grey Ironbark (*Eucalyptus siderophloia*), Turpentine (*Syncarpia glomulifera*), Thick-leaved White Mahogany (*Eucalyptus carnea*) or White Mahogany (*Eucalyptus acmenoides*).

Exotics *Cinnamomum camphora*, *Lantana camara*, *Ligustrum sinense*, *Oxalis radicata*, *Passiflora edulis*, *Paspalum dilatatum*

Species richness

Number of plots	13
Total species	200
Average number of species	45 ±12

Conservation status

This community is reserved in Sherwood Nature Reserve (37ha) and Madman's Creek Flora Reserve (4ha).

Tenure	Area (ha)
Crown Land	24
Freehold	1 691
Nature Reserve	35
NSW State Forest	1 299
NSW State Forest Flora Reserve	4
TOTAL	3 053

Threatened and Rare plants: *Boronia umbellata*

Relationship to other communities

Related to CH_DOF05 (Foothills Grey Gum - Ironbark - Mahogany Dry Forest) which is a drier variant of CH_WSF17. CH_WSF17 occupies more sheltered to intermediate aspects on lower slopes and is distinguished from CH_DOF05 by the high cover of Turpentine (*Syncarpia glomulifera*) and the presence of moist vegetation species in the mid and lower strata such as Rasp Fern (*Doodia aspera*), Wet Bracken (*Calochlaena dubia*) and Guioa (*Guioa semiglauca*). CH_WSF17 often occurs adjacent to CH_DOF01 (Coast and Escarpment Blackbutt Dry Forest), CH_DOF05 and CH_DOF06 (Lowlands Swamp Box - Paperbark - Red Gum Dry Forest). In comparison to these drier communities, the lower layer of CH_WSF17 contains a higher cover abundance of wet shrubby species such as

Tree Heath (*Trochocarpa laurina*), Forest Maple (*Cryptocarya rigida*), Scentless Rosewood (*Synoum glandulosum* subsp. *glandulosum*) and Banana Bush (*Tabernaemontana pandacaqui*).

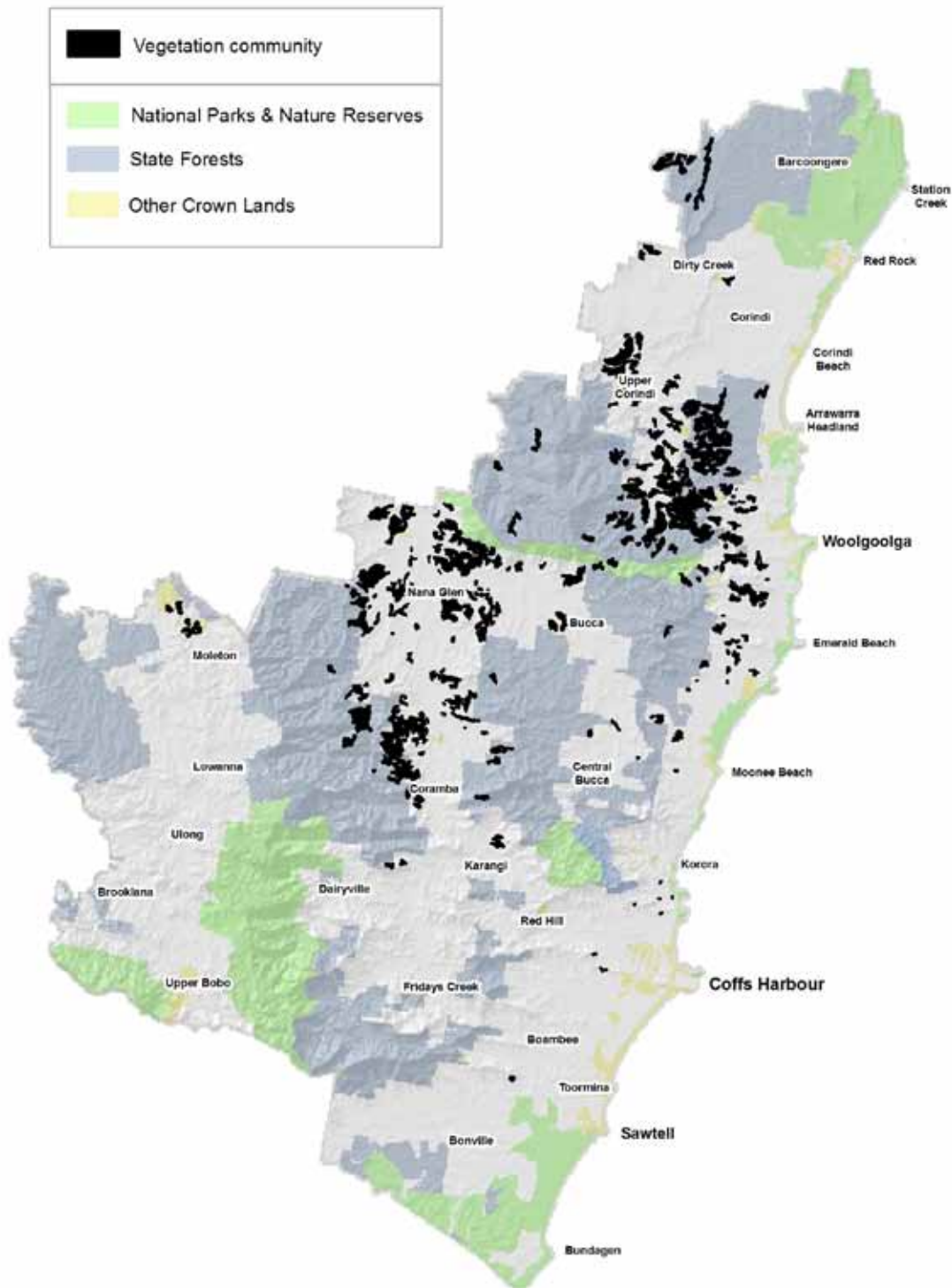
Equivalentents

Biometric: Tallowwood - Small-fruited Grey Gum dry grassy open forest of the foothills of North Coast (NR263)

Other: N67b- Dry Grey Ironbark/Grey Gum (Fisher et al. 1996); FE 36 Dry Grassy Tallowwood-Grey Gum (NPWS 1999)

Locations

Known examples include Arrawarra Road in Wedding Bells State Forest, Double Crossing Creek west of Sandy Beach, Nana Creek State Forest north west of Coramba and near Cowan’s Creek adjacent to Sherwood NR.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	3	23%	2	5%	uninformative
<i>Acacia fimbriata</i>	1	15%	1	5%	uninformative
<i>Acacia irrorata</i>	3	15%	1	8%	uninformative
<i>Acacia longissima</i>	1	8%	1	1%	uninformative
<i>Acacia maidenii</i>	1	46%	1	13%	uninformative
<i>Acacia melanoxylon</i>	1	23%	2	18%	uninformative
<i>Acacia oshanesii</i>	4	15%	1	1%	uninformative
<i>Acmena smithii</i>	1	8%	1	27%	uninformative
<i>Acronychia oblongifolia</i>	1	8%	1	4%	uninformative
<i>Adiantum aethiopicum</i>	2	8%	1	2%	uninformative
<i>Adiantum hispidulum</i>	2	15%	2	8%	uninformative
<i>Adiantum silvaticum</i>	1	8%	2	5%	uninformative
<i>Ajuga australis</i>	1	8%	1	0%	uninformative
<i>Allocasuarina torulosa</i>	2	92%	2	34%	positive
<i>Alphitonia excelsa</i>	1	23%	1	14%	uninformative
<i>Alpinia caerulea</i>	2	8%	1	18%	uninformative
<i>Alyxia ruscifolia</i>	1	8%	1	1%	uninformative
<i>Angophora costata</i>	3	15%	2	14%	uninformative
<i>Angophora floribunda</i>	1	8%	2	1%	uninformative
<i>Angophora paludosa</i>	2	8%	0	0%	positive
<i>Aphananthe philippinensis</i>	1	8%	1	1%	uninformative
<i>Archidendron grandiflorum</i>	1	8%	1	4%	uninformative
<i>Archirhodomyrtus beckeri</i>	2	15%	2	24%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	38%	1	32%	uninformative
<i>Asplenium attenuatum</i> var. <i>attenuatum</i>	1	8%	2	0%	uninformative
<i>Asplenium australasicum</i>	1	8%	1	9%	uninformative
<i>Astrotricha latifolia</i>	2	31%	1	2%	uninformative
<i>Backhousia myrtifolia</i>	5	8%	1	2%	uninformative
<i>Baloghia inophylla</i>	1	8%	2	2%	uninformative
<i>Billardiera scandens</i>	1	15%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	1	38%	2	38%	uninformative
<i>Boronia umbellata</i>	1	8%	1	0%	uninformative
<i>Brachychiton acerifolius</i>	1	8%	1	1%	uninformative
<i>Breynia oblongifolia</i>	1	77%	1	28%	uninformative
<i>Caladenia carnea</i>	2	8%	1	1%	uninformative
<i>Callistemon salignus</i>	4	15%	3	13%	uninformative
<i>Calochlaena dubia</i>	4	15%	2	27%	uninformative
<i>Cassytha glabella</i> f. <i>glabella</i>	2	8%	1	5%	uninformative
<i>Cayratia clematidea</i>	1	23%	1	7%	uninformative
<i>Celastrus australis</i>	1	15%	0	0%	positive
<i>Celastrus subspicata</i>	1	8%	1	4%	uninformative
<i>Cenchrus caliculatus</i>	1	8%	1	1%	uninformative
<i>Centratherum punctatum</i> subsp. <i>australianum</i>	1	8%	1	0%	uninformative
<i>Christella dentata</i>	1	8%	1	1%	uninformative
<i>Cissus antarctica</i>	1	62%	1	18%	uninformative
<i>Cissus hypoglauca</i>	1	46%	1	38%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Clematis aristata</i>	1	54%	1	10%	uninformative
<i>Clematis glycinoides</i>	1	31%	1	5%	uninformative
<i>Clerodendrum tomentosum</i>	1	8%	1	5%	uninformative
<i>Cordyline stricta</i>	1	38%	1	38%	uninformative
<i>Corymbia gummifera</i>	2	8%	2	9%	uninformative
<i>Corymbia intermedia</i>	1	54%	2	20%	uninformative
<i>Corymbia variegata</i>	4	15%	3	6%	uninformative
<i>Cryptocarya microneura</i>	1	15%	1	20%	uninformative
<i>Cryptocarya obovata</i>	1	8%	1	3%	uninformative
<i>Cryptocarya rigida</i>	1	54%	2	26%	uninformative
<i>Cupaniopsis anacardioides</i>	1	8%	1	11%	uninformative
<i>Cyathea australis</i>	1	8%	1	13%	uninformative
<i>Cyclophyllum longipetalum</i>	1	8%	1	5%	uninformative
<i>Cymbopogon refractus</i>	2	15%	2	6%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	1	8%	1	4%	uninformative
<i>Denhamia celastroides</i>	1	15%	1	8%	uninformative
<i>Derris involuta</i>	1	15%	1	1%	uninformative
<i>Desmodium brachypodum</i>	1	8%	1	6%	uninformative
<i>Desmodium gunnii</i>	1	31%	1	4%	uninformative
<i>Desmodium varians</i>	2	15%	1	6%	uninformative
<i>Dianella caerulea</i>	1	85%	1	49%	uninformative
<i>Dichondra repens</i>	1	31%	1	4%	uninformative
<i>Digitaria parviflora</i>	1	8%	1	4%	uninformative
<i>Dioscorea transversa</i>	1	46%	1	27%	uninformative
<i>Dodonaea triquetra</i>	3	15%	1	9%	uninformative
<i>Doodia aspera</i>	2	77%	2	14%	positive
<i>Drypetes deplanchei</i>	1	8%	1	4%	uninformative
<i>Echinopogon caespitosus</i>	1	8%	1	2%	uninformative
<i>Elaeocarpus obovatus</i>	1	8%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	8%	1	28%	uninformative
<i>Elattostachys nervosa</i>	1	8%	1	3%	uninformative
<i>Embelia australiana</i>	1	8%	1	11%	uninformative
<i>Emmenosperma alphonitioides</i>	1	8%	2	0%	uninformative
<i>Endiandra sieberi</i>	1	8%	1	10%	uninformative
<i>Entolasia stricta</i>	2	54%	2	24%	positive
<i>Eucalyptus acmenoides</i>	1	54%	2	7%	uninformative
<i>Eucalyptus carnea</i>	3	8%	2	10%	uninformative
<i>Eucalyptus crebra</i>	2	8%	2	0%	uninformative
<i>Eucalyptus fibrosa</i>	1	8%	2	1%	uninformative
<i>Eucalyptus grandis</i>	3	15%	3	18%	uninformative
<i>Eucalyptus microcorys</i>	3	85%	3	33%	positive
<i>Eucalyptus pilularis</i>	5	8%	3	27%	uninformative
<i>Eucalyptus propinqua</i>	3	85%	3	12%	positive
<i>Eucalyptus siderophloia</i>	3	62%	3	9%	positive
<i>Eupomatia laurina</i>	2	15%	1	14%	uninformative
<i>Euroschinus falcatus</i>	2	15%	1	4%	uninformative
<i>Eustrephus latifolius</i>	1	38%	1	29%	uninformative
<i>Ficus coronata</i>	2	8%	1	13%	uninformative
<i>Gahnia aspera</i>	1	23%	1	14%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Gahnia sieberiana</i>	2	8%	2	6%	uninformative
<i>Geitonoplesium cymosum</i>	1	54%	1	22%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	8%	1	13%	uninformative
<i>Glycine clandestina</i>	2	8%	1	13%	uninformative
<i>Glycine tabacina</i>	1	8%	1	1%	uninformative
<i>Gmelina leichhardtii</i>	1	8%	1	3%	uninformative
<i>Goodenia rotundifolia</i>	1	8%	1	4%	uninformative
<i>Guioa semiglauca</i>	1	69%	1	27%	uninformative
<i>Gymnostachys anceps</i>	1	62%	1	18%	uninformative
<i>Hardenbergia violacea</i>	2	23%	1	8%	uninformative
<i>Hibbertia aspera</i>	1	8%	1	10%	uninformative
<i>Hibbertia dentata</i>	2	15%	1	7%	uninformative
<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>	1	8%	1	0%	uninformative
<i>Hibbertia scandens</i>	1	31%	1	32%	uninformative
<i>Homalanthus populifolius</i>	1	8%	1	3%	uninformative
<i>Imperata cylindrica</i>	1	92%	2	30%	uninformative
<i>Indigofera australis</i>	2	15%	1	4%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	23%	1	11%	uninformative
<i>Kennedia rubicunda</i>	1	31%	1	7%	uninformative
<i>Lastreopsis decomposita</i>	1	8%	2	6%	uninformative
<i>Lepidosperma laterale</i>	1	46%	1	16%	uninformative
<i>Leptospermum polygalifolium</i>	1	15%	1	12%	uninformative
<i>Leucopogon juniperinus</i>	1	23%	1	2%	uninformative
<i>Leucopogon lanceolatus</i>	1	23%	1	19%	uninformative
<i>Lindsaea microphylla</i>	1	8%	1	2%	uninformative
<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	1	38%	1	3%	uninformative
<i>Lomandra filiformis</i>	2	15%	1	12%	uninformative
<i>Lomandra longifolia</i>	2	100%	2	50%	constant
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	1	8%	1	5%	uninformative
<i>Lophostemon confertus</i>	1	54%	2	31%	uninformative
<i>Lophostemon suaveolens</i>	2	8%	2	9%	uninformative
<i>Marsdenia liisae</i>	1	8%	1	0%	uninformative
<i>Marsdenia lloydii</i>	1	23%	2	1%	uninformative
<i>Maytenus bilocularis</i>	1	38%	1	3%	uninformative
<i>Maytenus silvestris</i>	1	23%	1	2%	uninformative
<i>Melicope micrococca</i>	1	8%	1	2%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	2	8%	1	4%	uninformative
<i>Monotoca scoparia</i>	2	8%	1	3%	uninformative
<i>Morinda jasminoides</i>	1	46%	1	36%	uninformative
<i>Myrsine howittiana</i>	1	8%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	31%	1	16%	uninformative
<i>Neolitsea dealbata</i>	2	8%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	85%	1	25%	uninformative
<i>Olea paniculata</i>	1	8%	2	0%	uninformative
<i>Oplismenus aemulus</i>	2	15%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	1	38%	2	21%	uninformative
<i>Ottochloa gracillima</i>	3	15%	2	10%	uninformative
<i>Oxalis radicata</i>	1	15%	2	0%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Ozothamnus diosmifolius</i>	1	31%	1	8%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	46%	1	11%	uninformative
<i>Parsonsia brownii</i>	1	8%	0	0%	positive
<i>Parsonsia rotata</i>	1	8%	0	0%	positive
<i>Parsonsia straminea</i>	1	23%	1	28%	uninformative
<i>Paspalum orbiculare</i>	2	8%	2	0%	uninformative
<i>Passiflora herbertiana</i> subsp. <i>herbertiana</i>	1	8%	1	1%	uninformative
<i>Pellaea paradoxa</i>	1	8%	1	1%	uninformative
<i>Persoonia conjuncta</i>	2	8%	1	2%	uninformative
<i>Persoonia lanceolata</i>	1	8%	0	0%	positive
<i>Persoonia levis</i>	2	8%	1	2%	uninformative
<i>Persoonia media</i>	1	8%	2	7%	uninformative
<i>Persoonia stradbrokeensis</i>	1	8%	1	19%	uninformative
<i>Phyllanthus gunnii</i>	2	8%	1	1%	uninformative
<i>Phyllanthus similis</i>	1	15%	1	2%	uninformative
<i>Pimelea latifolia</i>	1	15%	1	1%	uninformative
<i>Pittosporum multiflorum</i>	1	31%	1	12%	uninformative
<i>Pittosporum revolutum</i>	1	8%	1	13%	uninformative
<i>Pittosporum undulatum</i>	3	15%	1	10%	uninformative
<i>Platyterium bifurcatum</i>	1	23%	1	16%	uninformative
<i>Plectranthus parviflorus</i>	1	8%	1	2%	uninformative
<i>Poa sieberiana</i>	2	31%	2	4%	uninformative
<i>Polyscias elegans</i>	1	8%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	62%	1	15%	uninformative
<i>Pratia purpurascens</i>	1	31%	1	23%	uninformative
<i>Pseuderanthemum variabile</i>	1	54%	2	26%	uninformative
<i>Psychotria loniceroides</i>	1	23%	1	14%	uninformative
<i>Pteridium esculentum</i>	2	23%	2	32%	uninformative
<i>Pultenaea villosa</i>	2	8%	2	6%	uninformative
<i>Rhodamnia rubescens</i>	2	46%	1	15%	uninformative
<i>Rhodomyrtus psidioides</i>	1	15%	1	4%	uninformative
<i>Ripogonum discolor</i>	1	8%	2	11%	uninformative
<i>Ripogonum fawcettianum</i>	1	23%	2	21%	uninformative
<i>Rubus moluccanus</i> var. <i>trilobus</i>	1	15%	1	4%	uninformative
<i>Rubus parvifolius</i>	2	8%	1	4%	uninformative
<i>Rubus rosifolius</i>	2	8%	2	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	8%	1	9%	uninformative
<i>Scolopia braunii</i>	1	8%	1	6%	uninformative
<i>Seringia arborescens</i>	1	8%	1	2%	uninformative
<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	2	8%	1	2%	uninformative
<i>Smilax australis</i>	1	77%	1	43%	uninformative
<i>Smilax glycyphylla</i>	1	15%	1	29%	uninformative
<i>Solanum hapalum</i>	1	23%	1	5%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	23%	1	21%	uninformative
<i>Syncarpia glomulifera</i>	3	92%	3	37%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	31%	2	35%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	54%	1	27%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Tetrastigma nitens</i>	1	8%	1	3%	uninformative
<i>Themeda australis</i>	3	38%	3	23%	uninformative
<i>Tripladenia cunninghamii</i>	1	31%	1	9%	uninformative
<i>Trochocarpa laurina</i>	2	77%	1	36%	positive
<i>Tylophora paniculata</i>	1	8%	1	2%	uninformative
<i>Vernonia cinerea</i>	1	8%	1	11%	uninformative
<i>Viola banksii</i>	1	8%	1	16%	uninformative
<i>Wilkiea huegeliana</i>	1	15%	1	29%	uninformative
<i>Xanthorrhoea johnsonii</i>	2	8%	2	1%	uninformative
<i>Zieria smithii</i>	2	15%	1	4%	uninformative

ESCARPMENT NEW ENGLAND BLACKBUTT WET FERNY FOREST CH_WSF18

SCIENTIFIC NAME New England Blackbutt (*Eucalyptus campanulata*)
– Coastal Blackbutt (*Eucalyptus pilularis*) - Thick-leaved Mahogany
(*Eucalyptus carnea*) Tall Open Forest of the Orara Escarpment

STATEWIDE CLASS Wet Sclerophyll Forests – Northern Hinterland Wet
Sclerophyll Forest (Keith 2006)

PLANT COMMUNITY TYPE Blackbutt – Tallowwood – Turpentine
moist shrubby tall open forest of coastal hills and lower altitude
escarpment, South Eastern Queensland Bioregion and NSW North Coast
(Bioregion (NSW1000-1592). Coachwood-Sassafras-Crab Apple tall closed
forest of the Dorrigo area in the NSW North Coast Boregion (NSW1000-
1591)



Description

A tall to very tall wet sclerophyll forest located primarily on steep upper slopes of the Orara and Dorrigo escarpments with scattered occurrences on undulating hills on the Bobo Plateau between Ulong and Lowanna. The community is characterised by the association of New England Blackbutt (*Eucalyptus campanulata*) with Blackbutt (*Eucalyptus pilularis*) and Thick-leaved Mahogany (*Eucalyptus carnea*). The mid layer varies from a warm temperate rainforest to wet sclerophyll forest with Forest Oak (*Allocasuarina torulosa*), Black Wattle (*Callicoma serratifolia*), Coachwood (*Ceratopetalum apetalum*), Forest Maple (*Cryptocarya rigida*), Blueberry Ash (*Elaeocarpus reticulatus*) and Tree Heath (*Trochocarpa laurina*) being the main species. The ground layer consists mainly of Gristle Fern (*Blechnum cartilagineum*), Spiny-headed Mat-rush (*Lomandra longifolia*) and Soft Bracken (*Calochlaena dubia*).

Most occurrences are near the escarpment rim on moist, fertile soils of metasediment origin between 500m and 700m elevation.

Floristic summary

Layer	Height *	Cover *	Dominant Species
Tallest	10-40	80	<i>Eucalyptus campanulata</i> , <i>Eucalyptus pilularis</i> , <i>Eucalyptus carnea</i> .
Mid	0.5 – 5	70	<i>Callicoma serratifolia</i> , <i>Caldcluvia paniculosa</i> , <i>Cryptocarya rigida</i> , <i>Doryphora sassafras</i> , <i>Drymophila moorei</i> , <i>Orites excelsa</i> , <i>Ripogonum elseyanum</i> , <i>Pilidiostigma glabrum</i> .
Lower	0.1 – 1.2	5	<i>Blechnum cartilagineum</i> , <i>Entolasia stricta</i> , <i>Lomandra longifolia</i> , <i>Cordyline rubra</i> .

* Data collated from 1 of 2 full floristic sites

Structural and floristic variations

The frequency of New England Blackbutt (*Eucalyptus campanulata*) is varied from dominance to co-dominance and in some sites occurring as an associated species.

Species richness

Number of plots	2
Total species	44
Average number of species	39 ±3.5

Conservation status

This community is reserved in Bindarri National Park (289ha), Bindarri State Conservation Area (2ha), and Dorrigo National Park (83ha).

Tenure	Area (ha)
Freehold	86
National Park	372
NSW State Forest	175
State Conservation Area	2
TOTAL	635

Relationship to other communities

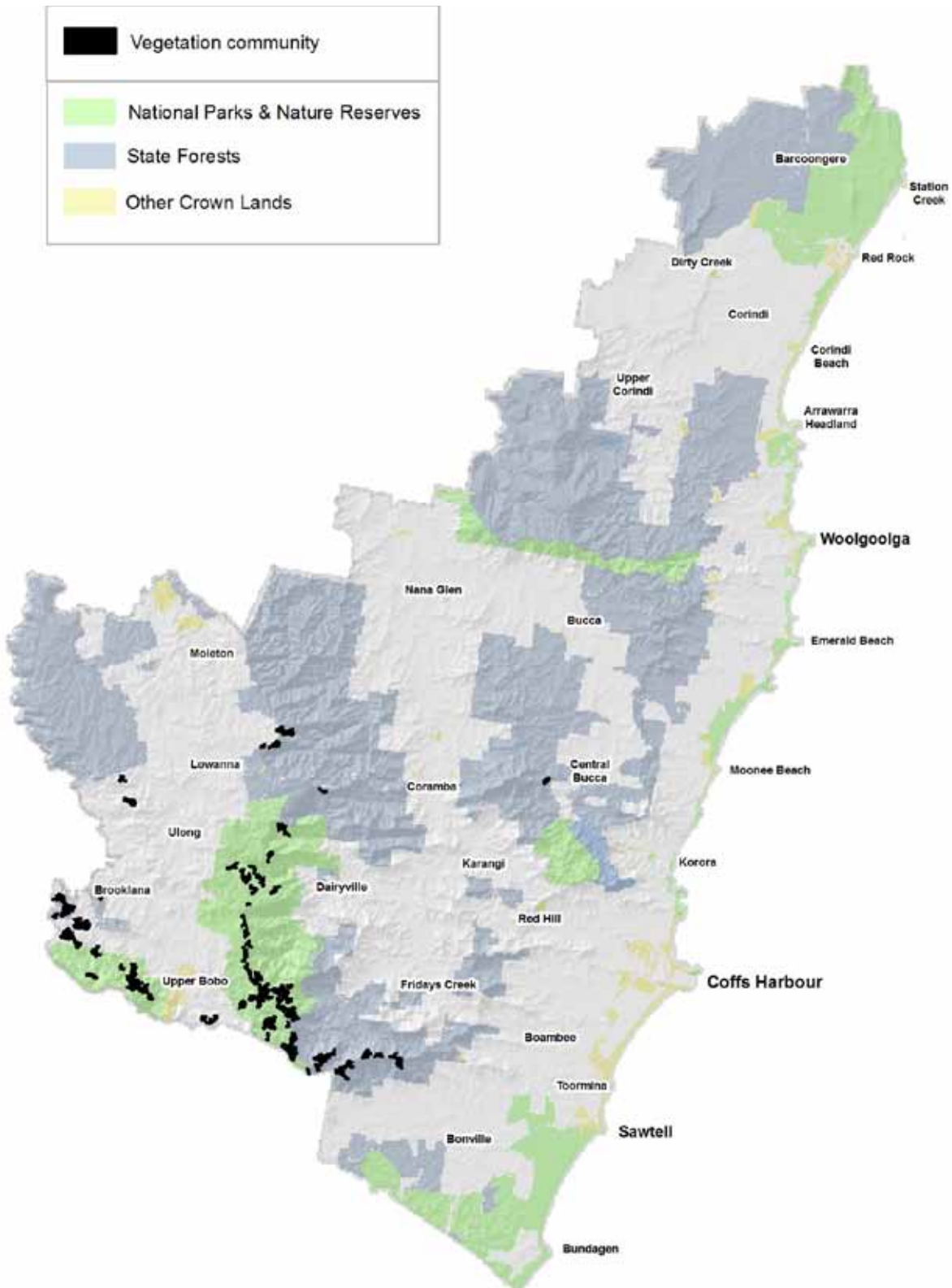
Closely related to the CH_WSF09 (Northern Escarpment Blackbutt - Apple Wet Ferny Forest) and often grades into this community as New England Blackbutt becomes less common. Drier occurrences of CH_WSF18 have affinities with CH_DOFO7 (Escarpment New England Blackbutt Dry Forest) and CH_DOFO1 (Coast and Escarpment Blackbutt Dry Forest) and may occur adjacent to this community. CH_WSF18 can be distinguished from CH_DOFO7 by having a characteristically moist mid and lower layer. A high cover of New England Blackbutt (*Eucalyptus campanulata*) is a key diagnostic feature of this community where it becomes dominant or co-dominant with other canopy species. In some locations further from the escarpment rim this community grades into CH_WSF07 (Plateau and Escarpment Rim Brush Box – Blackbutt Wet Forest). In these locations New England Blackbutt becomes less common and is replaced with a higher frequency of Coastal Blackbutt (*Eucalyptus pilularis*) and Brush Box (*Lophostemon confertus*).

Equivalents

Biometric:	Blackbutt tall moist forest of the coastal ranges of the central and southern North Coast (NR126)
Other:	N7b - Moist Blackbutt (Fisher et al.1996)

Locations

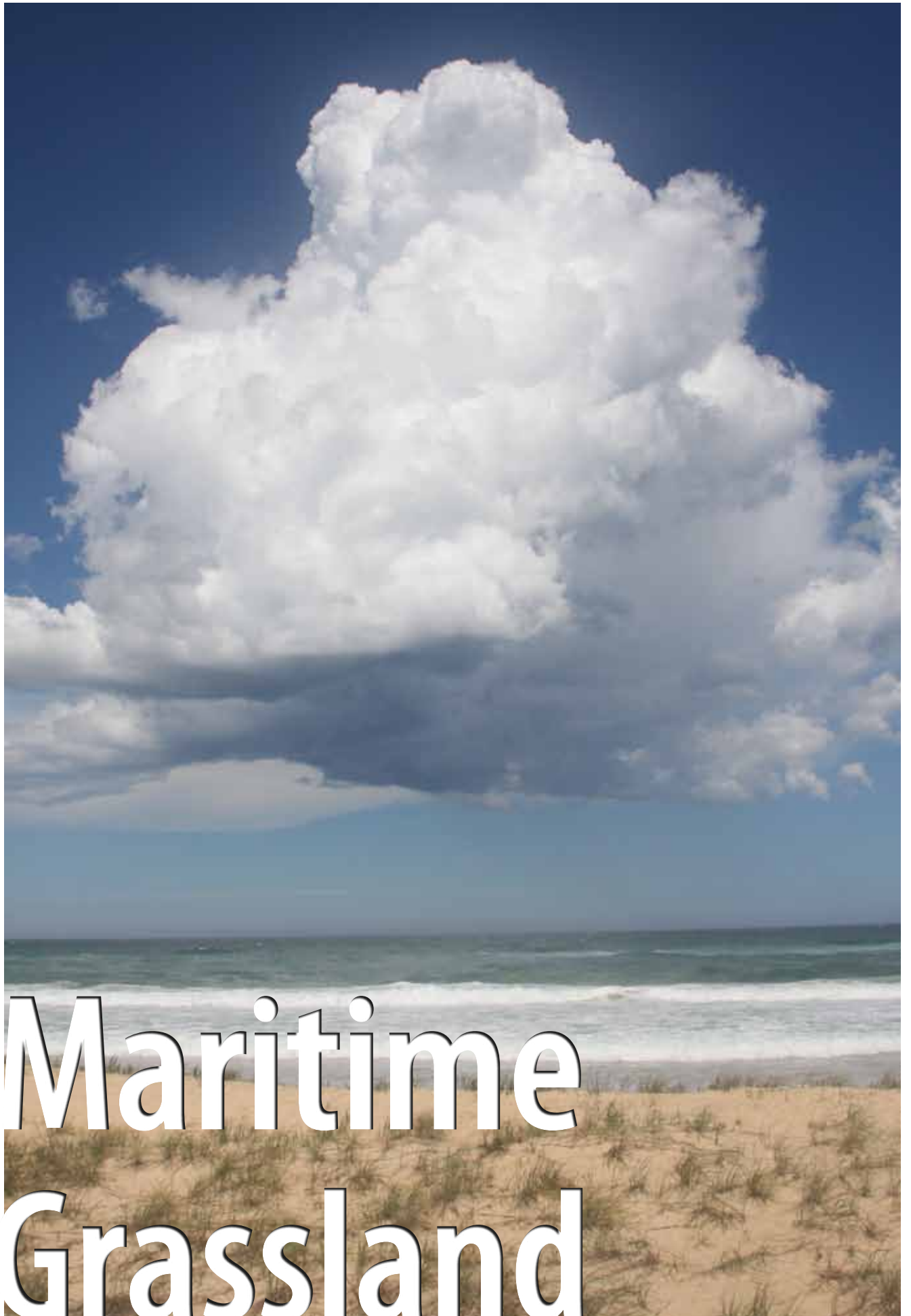
Known examples of this community include Langley's Road, Bushman's Range Road, Junction of Pine Road, Falls Road and Bangalore Road in Bindarra National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	3	50%	2	18%	positive
<i>Acmena smithii</i>	1	50%	1	26%	uninformative
<i>Acradenia euodiiformis</i>	2	50%	3	3%	positive
<i>Acrotriche aggregata</i>	1	50%	1	1%	uninformative
<i>Allocasuarina torulosa</i>	5	100%	2	35%	positive
<i>Angophora costata</i>	3	50%	2	13%	positive
<i>Anopterus macleayanus</i>	2	50%	2	3%	positive
<i>Archirhodomertus beckleri</i>	3	50%	2	23%	positive
<i>Archontophoenix cunninghamiana</i>	2	50%	1	32%	positive
<i>Atractocarpus benthamianus</i>	2	50%	2	7%	positive
<i>Austrobuxus swainii</i>	1	50%	1	4%	uninformative
<i>Billardiera scandens</i>	1	50%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	2	100%	2	38%	positive
<i>Blechnum patersonii</i>	1	50%	3	2%	uninformative
<i>Calamus muelleri</i>	2	50%	2	14%	positive
<i>Caldcluvia paniculosa</i>	3	50%	2	12%	positive
<i>Callicoma serratifolia</i>	4	100%	2	17%	positive
<i>Calochlaena dubia</i>	1	50%	2	27%	uninformative
<i>Ceratopetalum apetalum</i>	4	100%	3	10%	positive
<i>Cinnamomum oliveri</i>	2	50%	1	6%	positive
<i>Cissus hypoglauca</i>	2	100%	1	37%	positive
<i>Cordyline rubra</i>	2	50%	1	1%	positive
<i>Cryptocarya glaucescens</i>	2	50%	2	17%	positive
<i>Cryptocarya rigida</i>	3	100%	2	27%	positive
<i>Cyathea australis</i>	1	50%	1	13%	uninformative
<i>Cyathea leichhardtiana</i>	1	50%	1	10%	uninformative
<i>Doryphora sassafras</i>	2	50%	2	7%	positive
<i>Drymophila moorei</i>	2	50%	2	2%	positive
<i>Elaeocarpus reticulatus</i>	3	100%	1	27%	positive
<i>Entolasia stricta</i>	2	50%	2	25%	positive
<i>Eucalyptus campanulata</i>	5	100%	1	0%	positive
<i>Eucalyptus pilularis</i>	4	100%	3	27%	positive
<i>Hibbertia dentata</i>	1	50%	1	7%	uninformative
<i>Hibbertia scandens</i>	1	50%	1	31%	uninformative
<i>Linospadix monostachya</i>	1	50%	2	13%	uninformative
<i>Lomandra longifolia</i>	2	50%	2	51%	constant
<i>Lomatia silaifolia</i>	1	50%	1	9%	uninformative
<i>Melicope hayesii</i>	1	50%	1	4%	uninformative
<i>Myrsine variabilis</i>	2	50%	1	16%	positive
<i>Orites excelsus</i>	3	50%	2	6%	positive
<i>Ozothamnus obovatus</i>	1	50%	1	0%	uninformative
<i>Palmeria scandens</i>	2	50%	1	9%	positive
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	50%	1	12%	uninformative
<i>Parsonsia purpurascens</i>	1	50%	1	1%	uninformative
<i>Parsonsia straminea</i>	1	50%	1	27%	uninformative
<i>Persoonia media</i>	1	50%	2	7%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Petermannia cirrosa</i>	2	50%	1	6%	positive
<i>Pilidiostigma glabrum</i>	2	50%	1	12%	positive
<i>Pittosporum revolutum</i>	1	50%	1	13%	uninformative
<i>Platyterium bifurcatum</i>	1	50%	1	16%	uninformative
<i>Plectorrhiza tridentata</i>	1	50%	1	2%	uninformative
<i>Polyosma cunninghamii</i>	2	50%	2	5%	positive
<i>Polyscias sambucifolia</i>	1	50%	1	16%	uninformative
<i>Pseuderanthemum variabile</i>	1	50%	2	27%	uninformative
<i>Pteridium esculentum</i>	1	50%	2	32%	uninformative
<i>Ripogonum album</i>	2	50%	2	6%	positive
<i>Ripogonum elseyanum</i>	4	50%	2	7%	positive
<i>Sarcopteryx stipata</i>	2	100%	1	11%	positive
<i>Schizomeria ovata</i>	2	50%	1	12%	positive
<i>Smilax australis</i>	1	50%	1	44%	uninformative
<i>Smilax glycyphylla</i>	2	100%	1	28%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	2	50%	2	34%	positive
<i>Trimenia moorei</i>	2	50%	1	3%	positive
<i>Tristaniopsis laurina</i>	2	50%	2	3%	positive
<i>Trochocarpa laurina</i>	2	100%	1	37%	positive



Maritime Grassland

STRANDLINE GRASSLAND

CH_G01

SCIENTIFIC NAME *Spinifex (Spinifex sericeus)* strandline grasslandPLANT COMMUNITY TYPE Spinifex strandline grassland of the
NSW North Coast and South Eastern Queensland Bioregion (NSW700-674)

STATEWIDE CLASS Grasslands – Maritime Grasslands (Keith 2006)



Description

A dynamic strandline grassland community that occupies sheltered sections of beaches and creek mouths, and undergoes a regular expansion and contraction in extent. The community expands during periods of sand accretion, enabling sand binding plants to colonise, and the community contracts in times of storm events. Often a very simple community in which Coastal Spinifex (*Spinifex sericeus*) is abundant; other herbs and prostrate shrubs include Pig Face (*Carpobrotus glaucescens*), *Ipomoea brasiliensis* and the introduced *Hydrocotyle bonariensis* and American Sea Rocket (*Cakile edentula*). There are also scattered shrubs of Coast Wattle (*Acacia longifolia* subsp. *sophorae*). At Red Rock Surf Beach the stable areas that have been mapped are more species diverse and contain Blue Fan Flower (*Scaevola calendulacea*), Prickly Couch (*Zoysia macrantha*) and Club Rush (*Ficinia nodosa*).

Occurs on strandlines of sandy beaches and offshore islands



Floristic summary

Layer	Height	Cover	Dominant Species
Lower layer 1	0-1.5	35-70	<i>Spinifex sericeus</i> , <i>Ipomoea brasiliensis</i> , <i>Carpobrotus glaucescens</i> , <i>Vigna marina</i> .

* Data collated from 3 of 3 full floristic sites.

Exotics *Asparagus aethiopicus*, *Bidens pilosa*, *Cakile endentula*, *Chrysanthemoides monilifera* subsp. *rotundata*, *Hydrocotyle bonariensis*, *Solanum nigrum*

Species richness

Number of plots	5
Total native species	20
Average number of species	6 ±5.7

Conservation status

Bongil Bongil National Park (1ha), Coffs Coast Regional Park (11ha), Moonee Beach Nature Reserve (1ha), Yuraygir National Park (15ha)

Tenure	Area (ha)
Crown Land	5
Freehold	1
National Park	18
Nature Reserve	2
Regional Park	5
TOTAL	30

Relationship to other communities

Often adjoining or forming a mosaic with CH_H02 (Coastal Dune Wattle Shrublands). Coastal Spinifex (*Spinifex sericeus*) is a key diagnostic species for CH_G01.

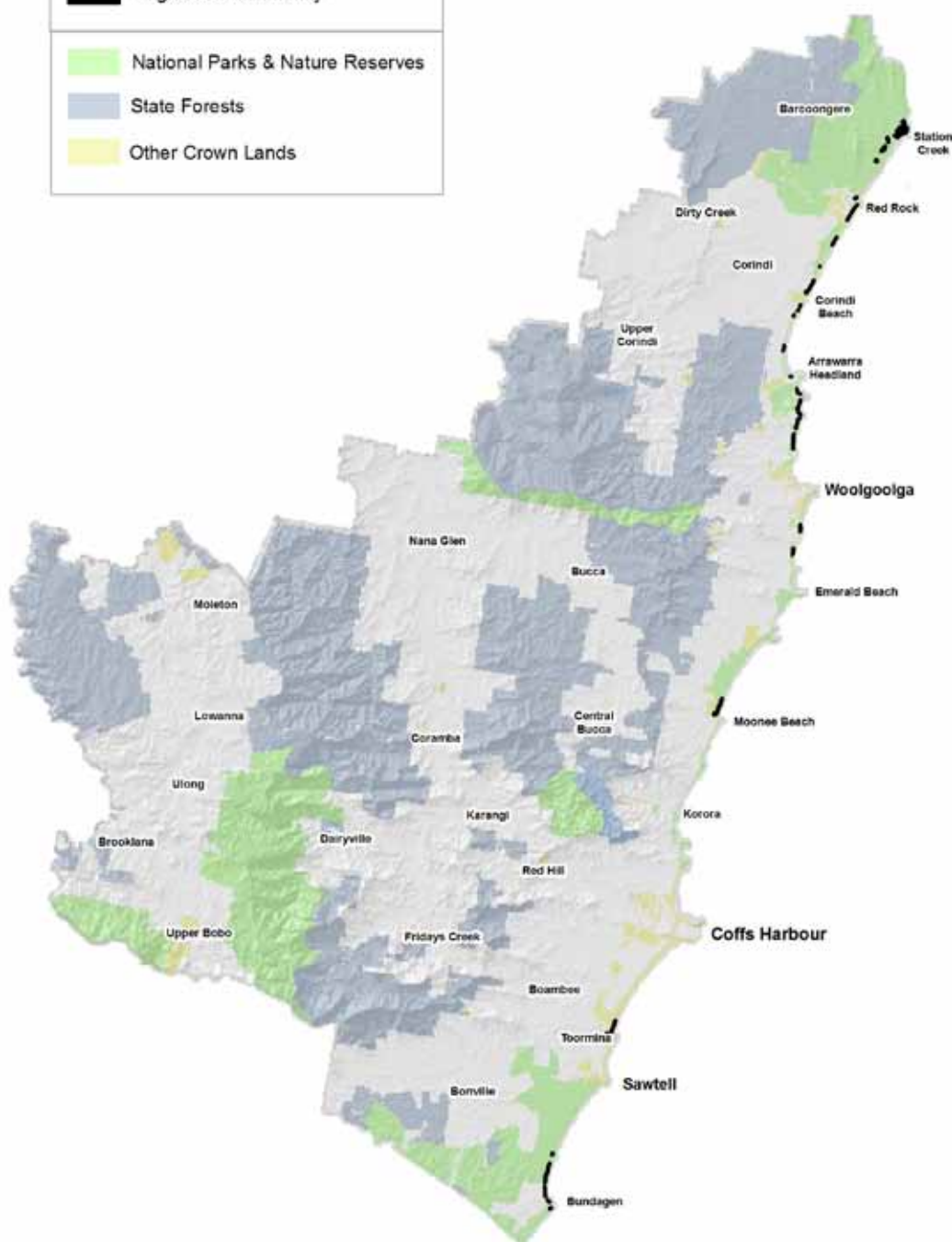
Equivalentents

Biometric: No equivalent although sites with Coastal Spinifex (*Spinifex sericeus*) listed as dominant are included in Kangaroo Grass (*Themeda australis*) sod tussock grassland of coastal areas of the North Coast.

Other: Community 2- Strandline Grassland (Cameron et al. 2011).

Locations

Boambee Beach, Woolgoolga Beach; South Mullaway Beach, Mullaway Beach ; Ocean View Beach; Corindi Beach; Red Rock Surf Beach.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	2	67%	1	5%	positive
<i>Carpobrotus glaucescens</i>	1	33%	2	1%	uninformative
<i>Hydrocotyle pedicellosa</i>	1	33%	2	2%	uninformative
<i>Ipomoea brasiliensis</i>	2	33%	2	0%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>	1	33%	2	1%	uninformative
<i>Spinifex sericeus</i>	4	100%	3	1%	positive
<i>Vigna marina</i>	2	33%	0	0%	positive

MARITIME GRASSLANDS - OFFSHORE ISLANDS

CH_G02

SCIENTIFIC NAME Native Wandering Jew (*Commelina cyanea*) – Prickly Couch (*Zoysia macrantha*) Pig Face (*Carpobrotus glaucescens*) Maritime Grasslands of Offshore Islands

PLANT COMMUNITY TYPE (NSW700-535)

Maritime Grasslands of Offshore Islands

STATEWIDE CLASS Grasslands – Maritime Grasslands (Keith 2006)



Description

A maritime grassland community occupying offshore islands and comprising a zonation of herbs, grasses and forbs influenced by location on slope, exposure to salt spray and soil depth. Ice Plant (*Sesuvium portulacastrum*), Ruby Saltmarsh (*Enchylaena tomentosa*), Shore Spleenwort (*Asplenium difforme*), Sea Daisy (*Melanthera biflora*), Sticky Cockspur flower (*Plectranthus cremnus*) and Pig Face (*Carpobrotus glaucescens*) are most common on cliffs and steep slopes. Prickly Couch (*Zoysia macrantha*), Dune Bean (*Vigna marina*) and Sword Bean (*Canavalia rosea*) occur on gentle slopes on shallow soils. On gentle slopes with deeper soils Blue Flax-lily (*Dianella caerulea*), (*Dianella congesta*), Weeping Meadow Grass (*Microlaena stipoides*), Native Wandering Jew (*Commelina cyanea*), Variable Groundsel (*Senecio pinnatifolius* var. *pinnatifolius*), New Zealand Spinach (*Tetragonia tetragonioides*) and Pennywort (*Hydrocotyle sibthorpioides*) form a very dense cover (Floyd 1984).

Floristic summary

Layer	Height	Cover	Dominant Species
Lower	0-0.4	70	<i>Commelina cyanea</i> , <i>Zoysia macrantha</i> , <i>Carpobrotus glaucescens</i> , <i>Plectranthus cremnus</i> .

Exotics *Digitaria ciliaris*, *Hypochaeris radicata*, *Paspalum urvillei*, *Solanum nigrum*

Species richness

Number of plots	1
Total species	17
Average number of species	17

Conservation status

This community is reserved in Mutton Bird Island Nature Reserve (8ha).

Tenure	Area (ha)
Nature Reserve	8
TOTAL	8

Threatened and Rare plants: *Plectranthus cremnus*

Relationship to other communities

Related to CH_H03 (Kangaroo Grass Headland Grasslands), but with a very different suite of grasses and shrubs and soils

Equivalents

Biometric: No equivalent

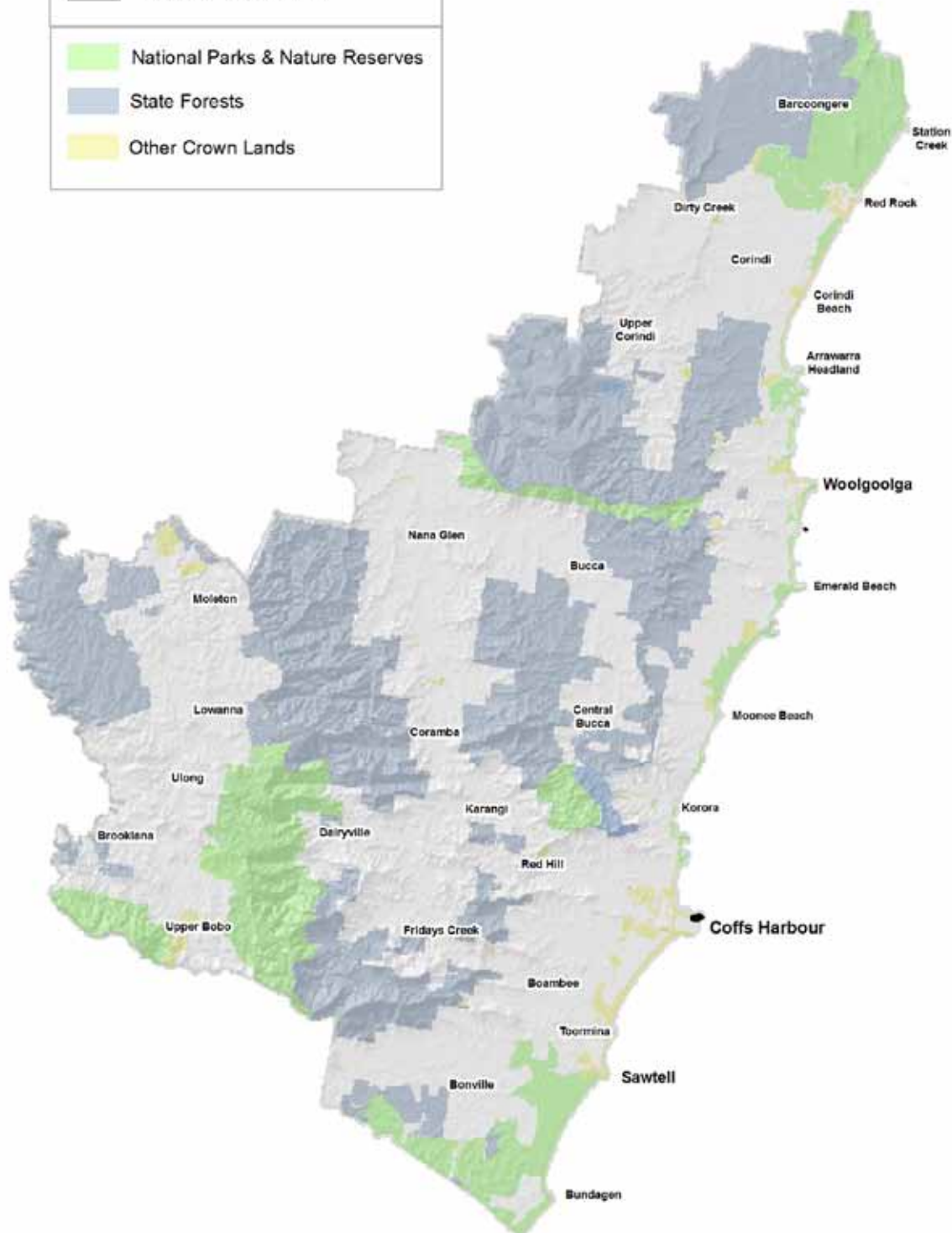
Locations

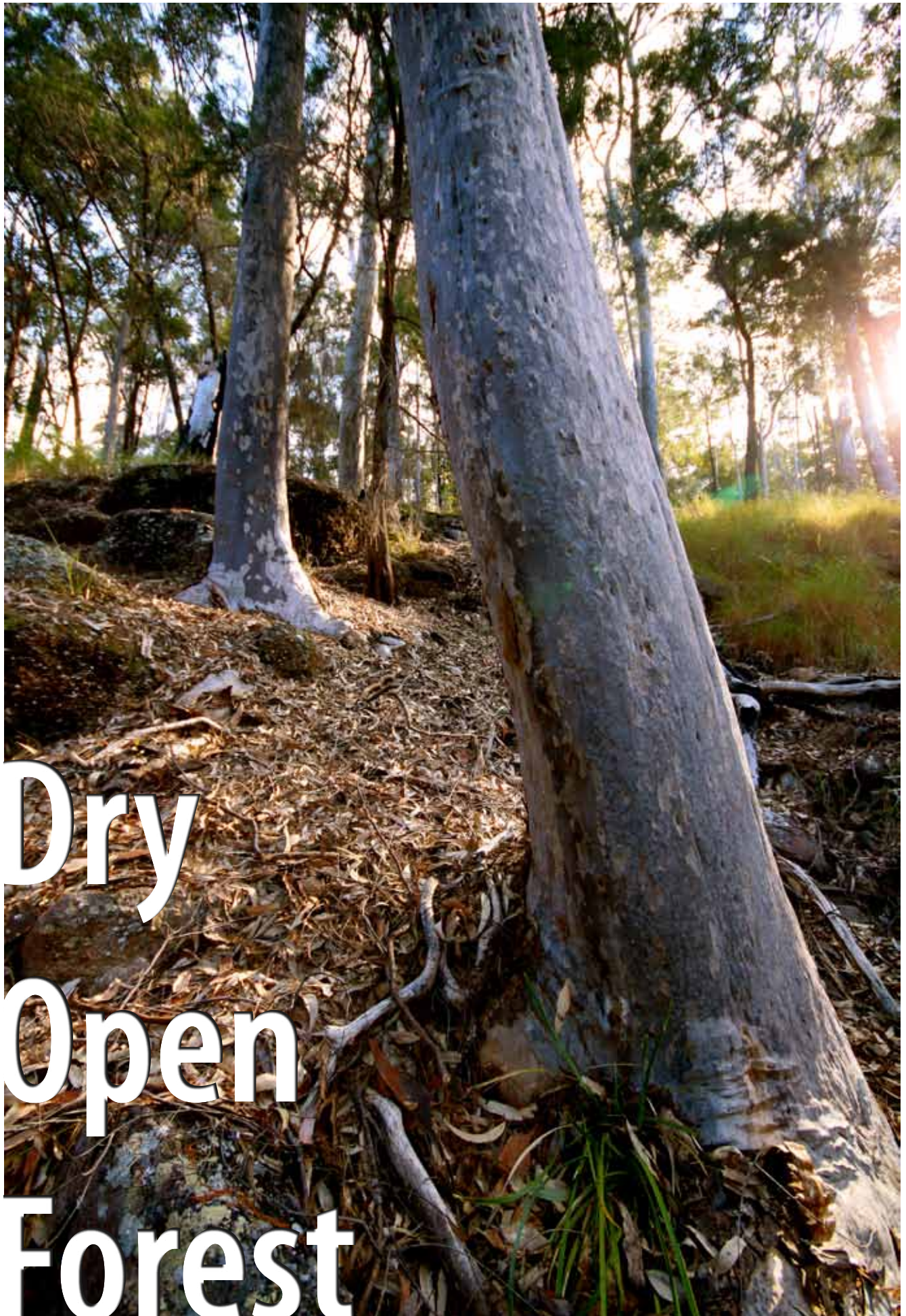
Muttonbird Island, North West Rock, Flat Top Rock and other offshore islands of the Solitary Islands Group.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Asplenium difforme</i>	2	100%	0	0%	positive
<i>Carpobrotus glaucescens</i>	3	100%	1	1%	positive
<i>Commelina cyanea</i>	4	100%	1	4%	positive
<i>Dianella congesta</i>	3	100%	2	1%	positive
<i>Dichondra repens</i>	2	100%	1	5%	positive
<i>Ficinia nodosa</i>	1	100%	2	3%	uninformative
<i>Lobelia anceps</i>	2	100%	1	5%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Parsonsia straminea</i>	1	100%	1	27%	uninformative
<i>Plectranthus cremnus</i>	3	100%	1	0%	positive
<i>Portulaca oleracea</i>	2	100%	0	0%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Pseuderanthemum variabile</i>	2	100%	2	27%	positive
<i>Pseudognaphalium luteoalbum</i>	1	100%	3	0%	uninformative
<i>Rhagodia candolleana</i> subsp. <i>candolleana</i>	2	100%	1	0%	positive
<i>Senecio pinnatifolius</i>	2	100%	2	1%	positive
<i>Tetragonia tetragonioides</i>	1	100%	1	0%	uninformative
<i>Zoysia macrantha</i>	4	100%	3	3%	positive





COAST AND ESCARPMENT BLACKBUTT DRY FOREST

CH_DOF01

SCIENTIFIC NAME Blackbutt (*Eucalyptus pilularis*) – Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*) – Turpentine (*Syncarpia glomulifera*) – Pink Bloodwood (*Corymbia intermedia*) grassy dry open to tall open forest

PLANT COMMUNITY TYPE Turpentine – Blackbutt – Tallowwood shrub/grass open forest of hinterland hills, NSW North Coast Bioregion (NSW700-297)

STATEWIDE CLASS Dry Sclerophyll Forests – North Coast Dry Sclerophyll Forest (Keith 2006)



Description

A tall open forest characterised by an open canopy of Blackbutt (*Eucalyptus pilularis*). Other species that co-dominate may include some or all of the following species: Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*), Scribbly Gum (*Eucalyptus signata*), Turpentine (*Syncarpia glomulifera*), Pink Bloodwood (*Corymbia intermedia*) and Tallowwood (*Eucalyptus microcorys*). The understorey is predominantly grassy and/or ferny and can vary from a heathy to a dry shrubby species composition. A range of other canopy species may be present as associated species and include Smooth-barked Apple (*Angophora costata*), Blue Gum (*Eucalyptus saligna*) and Small-fruited Grey Gum (*Eucalyptus propinqua*). An open middle small tree layer is present and may include Black She-oak (*Allocasuarina littoralis*), Forest Oak (*Allocasuarina torulosa*), Green Wattle (*Acacia irrorata*) and sapling Eucalypt (*Eucalyptus* spp), Turpentine (*Syncarpia glomulifera*) and Bloodwood (*Corymbia* spp.) trees. A sparse to dense second mid layer of shrubs is sometimes present and includes Large-leaf Hop Bush (*Dodonaea triquetra*), Beard Heath (*Leucopogon lanceolatus*), Mock Olive (*Notelaea longifolia*), Blueberry Ash (*Elaeocarpus reticulatus*), Geebung (*Persoonia stradbrokeensis*) and Elderberry Ash (*Polyscias sambucifolia*). The dense ground layer is comprised of species such as Kangaroo Grass (*Themeda australis*), Spiny-headed Mat-rush (*Lomandra longifolia*), Bracken Fern (*Pteridium esculentum*), Soft Bracken (*Calochlaena dubia*), Gristle Fern (*Blechnum cartilagineum*), Blady Grass (*Imperata cylindrica*) and Blue Flax-lily (*Dianella caerulea*). Variants of this community sometimes exhibit canopy dominance of species such as Sydney Blue Gum (*Eucalyptus saligna*), Scribbly Gum (*Eucalyptus signata*) and Smooth-barked Apple (*Angophora costata*).

This community is very widespread, occurring often on exposed to intermediate aspects on sedimentary and metasedimentary coastal and hinterland hills. It also occurs on clay soils near creek banks and extending into the escarpment ranges and plateau rim on more exposed sites with less fertile soils. More commonly occurs below 400m.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	5-30	18-65	<i>Eucalyptus pilularis</i> , <i>Syncarpia glomulifera</i> , <i>Corymbia intermedia</i> , <i>Eucalyptus microcorys</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> , <i>Angophora costata</i> .
Middle layer 1	5-20	20-55	<i>Allocasuarina littoralis</i> , <i>Allocasuarina torulosa</i> , <i>Syncarpia glomulifera</i> .
Middle layer 2	3-15	10-60	<i>Dodonaea triquetra</i> , <i>Hovea acutifolia</i> , <i>Leucopogon lanceolatus</i> , <i>Notelaea longifolia</i> , <i>Persoonia stradbrokeensis</i> , <i>Polyscias sambucifolia</i> , <i>Elaeocarpus reticulatus</i> .
Ground	0-0.5	60-90	<i>Imperata cylindrica</i> , <i>Lomandra longifolia</i> , <i>Pteridium esculentum</i> , <i>Calochlaena dubia</i> , <i>Blechnum cartilagineum</i> , <i>Dianella caerulea</i> , <i>Themeda australis</i> , <i>Hibbertia scandens</i> , <i>Cissus hypoglauca</i> , <i>Hibbertia aspera</i> .

* Data collated from 10 of 11 full floristic sites

Structural and floristic variations

Some occurrences of this community on metasedimentary geology around Toormina and Coffs Harbour may be dominated or co-dominated by Scribbly Gum (*Eucalyptus signata*). Other species such as Sydney Blue Gum (*Eucalyptus saligna*) and Smooth-barked Apple (*Angophora costata*) occasionally occur in the community and may be locally abundant. Variations in the understorey occur across the distribution of this community. In some locations a heathy, dry and shrubby understorey is found. In other locations there has been significant disturbance and the understorey is simple, grassy or contains exotics. This community is extensive throughout the study area and contains significant variation within the floristic profile.

Exotics *Ageratina adenophora*, *Andropogon virginicus*, *Baccharis halimifolia*, *Cinnamomum camphora*, *Lantana camara*, *Paspalum urvillei*, *Schefflera actinophylla*

Species richness

Number of plots	11
Total species	132
Average number of species	33 ±6.2

Conservation status

This community is reserved in Bindarri National Park (49ha), Bongil Bongil National Park (50ha), Coffs Coast Regional Park (12ha), Garby Nature Reserve (28ha), Bruxner Park Flora Reserve (17ha), Sherwood Nature Reserve (109ha), Yuraygir National Park (632ha).



Tenure	Area (ha)
Crown Land	138
Freehold	2 679
National Park	727
Nature Reserve	138
NSW State Forest	3 098
NSW State Forest Flora Reserve	17
Regional Park	12
Total	6 809

Relationship to other communities

Related to and grades into CH_WSF08 (Southern Foothills Blackbutt Turpentine Tallowwood Wet Ferny Forest) and CH_WSF09 (Northern Escarpment Blackbutt - Apple Wet Ferny Forest) with increasing soil moisture and fertility. Often occurring adjacent to CH_DOFO5 (Foothills Grey Gum Ironbark Mahogany), CH_WSF17 (Foothills Turpentine Grey Gum Ironbark Moist Shrubby Forest) and CH_DOFO6 (Lowlands Swamp Paperbark Red Gum Dry Forest).

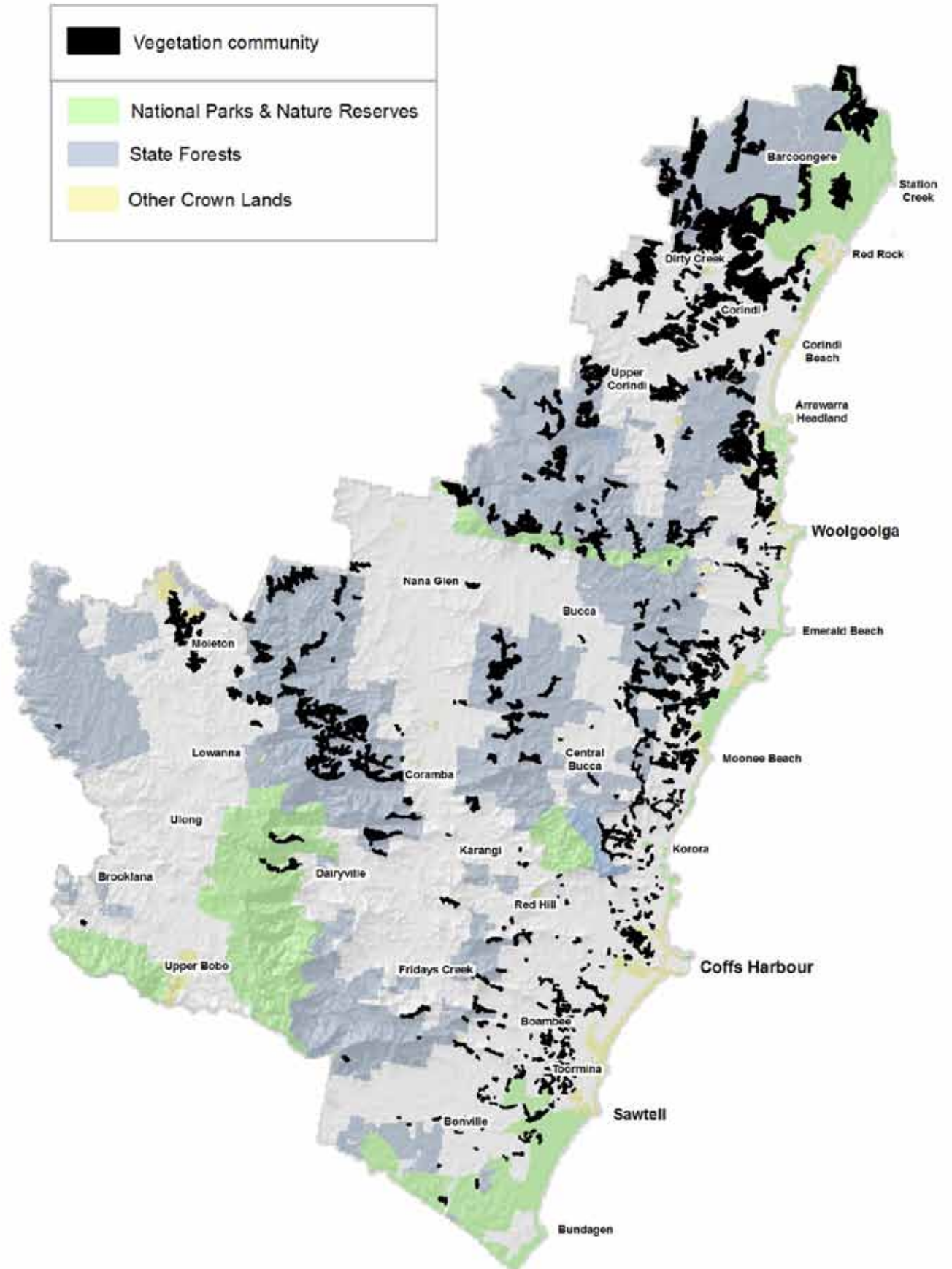
Equivalentents

Biometric: (NR117) Blackbutt - Pink Bloodwood shrubby open forest of the coastal lowlands of the North Coast

Other: N2a – Dry Blackbutt (Fisher et al. 1996), Community 20 - Tallowwood-Blackbutt Dry Open Forest (Cameron et al. 2011), Forest Ecosystem 72 – Low Relief Coastal Blackbutt (NPWS 1999)

Locations

Range Road near Dundoo Creek, Corindi. Tramway Drive, west of Pacific Highway near Mullaway. Cordwells Creek, north of Linden Avenue, East Boambee. Moleton Road near Cradle Creek Road north of Lowanna.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	1	9%	2	5%	uninformative
<i>Acacia irrorata</i>	2	18%	1	8%	uninformative
<i>Acacia longissima</i>	1	9%	1	1%	uninformative
<i>Acacia melanoxylon</i>	1	45%	2	18%	uninformative
<i>Acacia myrtifolia</i>	1	18%	1	1%	uninformative
<i>Acacia suaveolens</i>	1	9%	1	3%	uninformative
<i>Acacia ulicifolia</i>	1	9%	1	2%	uninformative
<i>Acianthus fornicatus</i>	1	9%	1	1%	uninformative
<i>Acmena smithii</i>	1	27%	1	26%	uninformative
<i>Acronychia imperforata</i>	1	9%	1	4%	uninformative
<i>Acronychia oblongifolia</i>	1	9%	1	4%	uninformative
<i>Allocasuarina littoralis</i>	3	45%	3	9%	uninformative
<i>Allocasuarina torulosa</i>	3	55%	2	35%	positive
<i>Alpinia caerulea</i>	1	9%	1	18%	uninformative
<i>Angophora costata</i>	2	27%	2	13%	uninformative
<i>Archirhodomomyrtus beckleri</i>	1	9%	2	24%	uninformative
<i>Baeckea frutescens</i>	1	9%	2	3%	uninformative
<i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i>	1	9%	2	3%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	9%	1	8%	uninformative
<i>Billardiera scandens</i>	1	27%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	2	55%	2	38%	positive
<i>Breynia oblongifolia</i>	2	36%	1	29%	uninformative
<i>Brunoniella australis</i>	1	9%	1	3%	uninformative
<i>Callicoma serratifolia</i>	2	9%	2	17%	uninformative
<i>Callistemon salignus</i>	2	36%	3	12%	uninformative
<i>Calochlaena dubia</i>	2	55%	2	26%	positive
<i>Cassytha pubescens</i>	1	9%	2	2%	uninformative
<i>Cissus hypoglauca</i>	1	55%	1	37%	uninformative
<i>Clematis aristata</i>	2	9%	1	11%	uninformative
<i>Clerodendrum tomentosum</i>	1	9%	1	5%	uninformative
<i>Cordyline stricta</i>	1	9%	1	39%	uninformative
<i>Corymbia gummifera</i>	3	18%	2	8%	uninformative
<i>Corymbia intermedia</i>	2	73%	2	19%	positive
<i>Cryptocarya glaucescens</i>	2	18%	2	17%	uninformative
<i>Cryptocarya microneura</i>	1	9%	1	21%	uninformative
<i>Cryptocarya rigida</i>	2	9%	2	27%	uninformative
<i>Cyathea australis</i>	1	9%	1	13%	uninformative
<i>Cyclophyllum longipetalum</i>	1	9%	1	5%	uninformative
<i>Cymbidium suave</i>	1	9%	1	3%	uninformative
<i>Dampiera stricta</i>	1	18%	2	7%	uninformative
<i>Dampiera sylvestris</i>	1	9%	1	1%	uninformative
<i>Desmodium rhytidophyllum</i>	1	18%	1	7%	uninformative
<i>Dianella caerulea</i>	1	100%	1	49%	uninformative
<i>Dillwynia retorta</i>	1	9%	1	1%	uninformative
<i>Dodonaea triquetra</i>	2	55%	1	8%	positive
<i>Doodia aspera</i>	1	9%	2	16%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Elaeocarpus reticulatus</i>	2	64%	1	26%	positive
<i>Entolasia marginata</i>	2	27%	1	9%	uninformative
<i>Entolasia stricta</i>	1	9%	2	25%	uninformative
<i>Epacris microphylla</i>	1	9%	1	1%	uninformative
<i>Eucalyptus grandis</i>	1	27%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	2	82%	3	33%	positive
<i>Eucalyptus pilularis</i>	3	100%	3	25%	positive
<i>Eucalyptus propinqua</i>	1	9%	3	14%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	2	91%	3	9%	positive
<i>Eucalyptus robusta</i>	1	9%	2	7%	uninformative
<i>Eucalyptus saligna</i>	1	9%	3	9%	uninformative
<i>Eucalyptus siderophloia</i>	2	9%	3	11%	uninformative
<i>Eupomatia laurina</i>	3	9%	1	15%	uninformative
<i>Eustrephus latifolius</i>	1	36%	1	29%	uninformative
<i>Exocarpos cupressiformis</i>	2	9%	1	0%	uninformative
<i>Exocarpos strictus</i>	2	9%	1	1%	uninformative
<i>Gahnia clarkei</i>	2	27%	2	14%	uninformative
<i>Geitonoplesium cymosum</i>	1	27%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	2	27%	1	13%	uninformative
<i>Glycine clandestina</i>	1	9%	1	12%	uninformative
<i>Glycine microphylla</i>	1	9%	1	3%	uninformative
<i>Gonocarpus tetragynus</i>	1	9%	1	4%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	9%	1	3%	uninformative
<i>Goodenia rotundifolia</i>	1	9%	1	4%	uninformative
<i>Guioa semiglauca</i>	2	18%	1	28%	uninformative
<i>Hakea salicifolia</i>	1	9%	1	1%	uninformative
<i>Hardenbergia violacea</i>	1	9%	1	8%	uninformative
<i>Hibbertia aspera</i>	2	64%	1	9%	positive
<i>Hibbertia dentata</i>	1	9%	1	7%	uninformative
<i>Hibbertia obtusifolia</i>	1	9%	1	1%	uninformative
<i>Hibbertia scandens</i>	2	82%	1	30%	positive
<i>Hibbertia vestita</i>	1	27%	1	11%	uninformative
<i>Hovea acutifolia</i>	4	18%	1	1%	uninformative
<i>Hovea linearis</i>	2	9%	1	1%	uninformative
<i>Hydrocotyle laxiflora</i>	1	9%	2	0%	uninformative
<i>Hypolepis muelleri</i>	1	9%	1	3%	uninformative
<i>Imperata cylindrica</i>	3	64%	2	31%	positive
<i>Indigofera australis</i>	2	9%	2	4%	uninformative
<i>Jacksonia scoparia</i>	2	9%	1	2%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	2	9%	1	11%	uninformative
<i>Kennedia rubicunda</i>	1	36%	1	7%	uninformative
<i>Lepidosperma laterale</i>	1	27%	1	17%	uninformative
<i>Leptospermum polygalifolium</i>	1	9%	1	12%	uninformative
<i>Leucopogon lanceolatus</i>	2	45%	1	19%	uninformative
<i>Leucopogon margarodes</i>	2	9%	1	3%	uninformative
<i>Litsea reticulata</i>	1	9%	2	7%	uninformative
<i>Lomandra filiformis</i>	2	9%	1	12%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Lomandra longifolia</i>	3	100%	2	50%	constant
<i>Lomatia silaifolia</i>	1	45%	1	8%	uninformative
<i>Lophostemon confertus</i>	2	45%	2	31%	uninformative
<i>Lophostemon suaveolens</i>	1	27%	2	8%	uninformative
<i>Melaleuca sieberi</i>	1	9%	3	4%	uninformative
<i>Melaleuca styphelioides</i>	1	9%	2	1%	uninformative
<i>Monotoca scoparia</i>	1	9%	1	3%	uninformative
<i>Notelaea longifolia</i>	1	82%	1	25%	uninformative
<i>Notelaea ovata</i>	1	9%	1	3%	uninformative
<i>Ochrosperma lineare</i>	1	9%	2	0%	uninformative
<i>Oxylobium robustum</i>	2	18%	2	1%	uninformative
<i>Ozothamnus diosmifolius</i>	2	27%	1	8%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	2	18%	1	12%	uninformative
<i>Parsonia straminea</i>	2	9%	1	28%	uninformative
<i>Patersonia sericea</i>	2	9%	2	4%	uninformative
<i>Persoonia conjuncta</i>	4	9%	1	2%	uninformative
<i>Persoonia levis</i>	1	9%	2	2%	uninformative
<i>Persoonia stradbrokeensis</i>	2	55%	1	17%	positive
<i>Pimelea linifolia</i>	1	9%	1	10%	uninformative
<i>Platysace lanceolata</i>	1	9%	0	0%	positive
<i>Polyscias sambucifolia</i>	2	55%	1	15%	positive
<i>Pomaderris aspera</i>	2	9%	2	1%	uninformative
<i>Pratia purpurascens</i>	1	45%	1	22%	uninformative
<i>Pteridium esculentum</i>	2	100%	1	30%	positive
<i>Pultenaea retusa</i>	2	9%	1	6%	uninformative
<i>Rhodamnia rubescens</i>	1	9%	1	16%	uninformative
<i>Ripogonum fawcettianum</i>	3	9%	2	21%	uninformative
<i>Rubus moluccanus</i> var. <i>trilobus</i>	1	9%	1	4%	uninformative
<i>Schizomeria ovata</i>	2	9%	1	12%	uninformative
<i>Smilax australis</i>	2	36%	1	45%	uninformative
<i>Smilax glycyphylla</i>	2	45%	1	28%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	18%	1	22%	uninformative
<i>Syncarpia glomulifera</i>	3	82%	2	38%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	27%	2	35%	uninformative
<i>Themeda australis</i>	3	36%	3	24%	uninformative
<i>Trochocarpa laurina</i>	2	18%	1	37%	uninformative
<i>Vernonia cinerea</i>	1	9%	1	11%	uninformative
<i>Viola hederacea</i>	2	9%	2	2%	uninformative
<i>Xanthorrhoea macronema</i>	2	18%	1	5%	uninformative

SANDSTONE BLOODWOOD - NEEDLEBARK STRINGYBARK HEATHY FOREST

CH_DOF02

SCIENTIFIC NAME Red Bloodwood (*Corymbia gummifera*) - Needlebark Stringybark (*Eucalyptus planchoniana*) heathy dry open forest on sandstone and conglomerate

STATEWIDE CLASS Dry Sclerophyll Forests – North Coast Dry Sclerophyll Forest (Keith 2006)

PLANT COMMUNITY TYPE Bailey's Stringybark – Needlebark Stringybark heathy woodland on sandstones of the lower Clarence Valley of the NSW North Coast and South Eastern Queensland Bioregions (NSW700-305)



Description

A moderate to tall open forest where the dominant canopy species can vary but include Needlebark Stringybark (*Eucalyptus planchoniana*), Red Bloodwood (*Corymbia gummifera*), Large-fruited Blackbutt (*Eucalyptus pyrocarpa*) and Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*). Turpentine (*Syncarpia glomulifera*) is sometimes common in both the tree and mid layer. Tindale's Stringybark (*Eucalyptus tindaliae*) and Scribbly Gum (*Eucalyptus signata*) may also occur in some sites particularly along drainage lines and at times can become dominant. There is usually a well developed and diverse tall mid shrub layer of species including Tooton Tea-tree (*Leptospermum*



Heathland Variant

polygalifolium), Flaky-bark Tea-tree (*Leptospermum trinervium*), Fern-leaved Banksia (*Banksia oblongifolia*), *Pultenaea villosa* and Black She-oak (*Allocasuarina littoralis*). The ground layer generally contains Wiry Panic (*Entolasia stricta*), *Austrostipa pubescens*, Saw Sedge (*Gahnia clarkei*) and Kangaroo Grass (*Themeda australis*). Smaller shrubs such as Rice Flower (*Pimelea linifolia*) and *Phyllota phyllicoides* also occur. Some sites have a dense cover of Kangaroo Grass (*Themeda australis*), and the middle layer of shrubs may be sparse. The Horned sedge (*Ptilothrix deusta*) dominates the ground layer in some locations while other common species include Purple Flag (*Patersonia sericea*), Wiry Panic (*Entolasia stricta*), Pinnate Wedge Pea (*Gompholobium pinnatum*) and in one location, Slender Twine-rush (*Leptocarpus tenax*).

Located on undulating topography and clay and sandy loam soils in the Red Range area, parts of the Coast Range on Corindi Conglomerate and also sandstone plateaus at Anderson’s Mountain and Dick’s Knob. East of the ranges, there are isolated occurrences in Yuraygir National Park (around the upper reaches of Station Creek) and Garby Nature Reserve mainly on a clay substrate.

Floristic summary

Layer	Height	Cover	Dominant Species
Tallest	6-25	40-60	<i>Corymbia gummifera</i> , <i>Eucalyptus planchoniana</i> , <i>Eucalyptus pyrocarpa</i> , <i>Angophora costata</i> , <i>Syncarpia glomulifera</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> .
Middle	0.3-8	15-55	<i>Leptospermum polygalifolium</i> , <i>Leptospermum trinervium</i> , <i>Persoonia stradbrokeensis</i> , <i>Phyllota phyllicoides</i> , <i>Banksia oblongifolia</i> , <i>Syncarpia glomulifera</i> , <i>Pimelea linifolia</i> , <i>Allocasuarina littoralis</i> , <i>Banksia spinulosa</i> var. <i>collina</i> , <i>Pultenaea villosa</i> , <i>Lambertia formosa</i> , <i>Leucopogon lanceolatus</i> .
Ground	0.1 - 1	5-20	<i>Patersonia glabrata</i> , <i>Entolasia stricta</i> , <i>Dianella caerulea</i> , <i>Lomandra multiflora</i> subsp. <i>multiflora</i> , <i>Lomandra confertifolia</i> subsp. <i>pallida</i> , <i>Phyllanthus hirtellus</i> , <i>Hibbertia vestita</i> , <i>Austrostipa pubescens</i> , <i>Gahnia clarkei</i> , <i>Pteridium esculentum</i> , <i>Themeda australis</i> .

* Data collated from 12 of 20 full floristic sites

Exotics

Paspalum spp., *Pinus* spp.

Species richness

Number of plots	20
Total species	189
Average number of species	33 ±8.3

Conservation status

This community is reserved in Coffs Coast Regional Park (1ha), Madman's Creek Flora Reserve (6ha), Garby Nature Reserve (24ha), Sherwood Nature Reserve (60ha) and Yuraygir National Park (295ha).

Tenure	Area (ha)
Crown Land	30
Freehold	1 493
National Park	292
Nature Reserve	85
NSW State Forest	1 474
NSW State Forest Flora Reserve	6
Regional Park	1
Total	3 382

Threatened and Rare plants: *Boronia chartacea* 3R, *Olearia stilwelliae* 3RCa

Relationship to other communities

May grade into CH_DOF04 (Needlebark Stringybark- Scribbly Gum – Red Mahogany Dry Open Forest) along creek lines and poorly drained flats where Scribbly Gum (*Eucalyptus signata*) occurs.

Equivalents

Biometric: (NR104) Bailey's Stringybark - Needlebark Stringybark heathy woodland on sandstones of the lower Clarence Valley of the North Coast

Other: N42a - Needlebark Stringybark (Fisher et al. 1996); URov21 - *Eucalyptus planchoniana* (Tweedie et al. 1995); Research Note 17 – Type 97 Needlebark Stringybark (Forestry Commission of NSW, 1989).

Locations

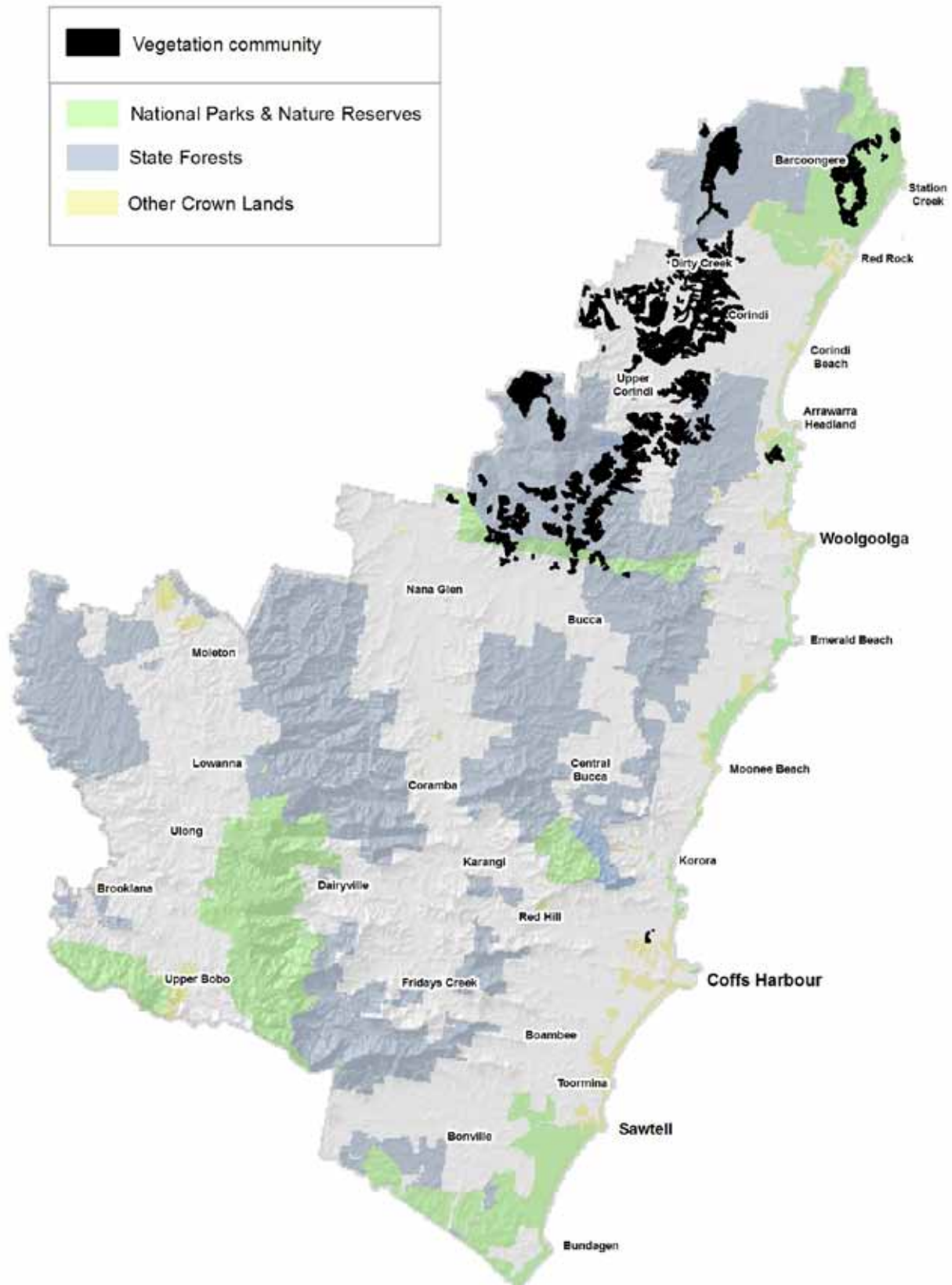
Conglomerate State Forest; Wedding Bells State Forest; Red Ridge Road on the Coast Range; Dirty Creek; Newfoundland State Forest; Station Creek, Yuraygir National Park.

Structural and floristic variations

There is considerable structural and floristic variation in this community. Structurally it can vary from shrubland or woodland on shallow sandstone plateau tops and ridges to a taller open forest in more sheltered aspects on deeper soils. At Anderson's Mountain, patches of heath with Horned sedge (*Ptilothrix deusta*) and *Allocasuarina defungens* were observed in areas of clay soils on slopes with impeded drainage. Additionally, there were sandstone sedgelands too small to map with *Baeckea spp.* and *Lepidosperma limicola*.

The overstorey can vary from areas dominated by Large-fruited Blackbutt (*Eucalyptus pyrocarpa*) to areas in which Needlebark Stringybark (*Eucalyptus planchoniana*) is the only tree present. There are areas where Blackbutt (*Eucalyptus pilularis*) and Large-fruited Blackbutt (*Eucalyptus pyrocarpa*) intergrade. Red Bloodwood (*Corymbia gummifera*) is a consistently occurring species in the canopy and other species such as Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*) and Tallowwood (*Eucalyptus microcorys*) are present in less sandy areas of higher fertility.

Along creek lines and lower slopes on sandstone plateaus there is a dense layer of tall Flaky-bark Tea-tree (*Leptospermum trinervium*), Sieber's Paperbark (*Melaleuca sieberi*) and Old Man Banksia (*Banksia serrata*.) with a ground layer of sedges such as *Lepyrodia* sp. A. In Conglomerate State Forest the understorey is often a dense ground layer of Kangaroo Grass (*Themeda australis*) and shrub cover is low. Elsewhere at Madman's Creek and parts of the Red Range the understorey consists of a well developed shrub layer. Sometimes Saw Sedge (*Gahnia sieberiana*) is common in areas of poor drainage.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia brownii</i>	1	5%	2	0%	uninformative
<i>Acacia complanata</i>	1	10%	1	1%	uninformative
<i>Acacia fimbriata</i>	2	10%	1	5%	uninformative
<i>Acacia irrorata</i>	5	10%	1	8%	uninformative
<i>Acacia myrtifolia</i>	1	25%	1	1%	uninformative
<i>Acacia suaveolens</i>	2	20%	1	2%	uninformative
<i>Acacia terminalis</i>	1	35%	2	0%	uninformative
<i>Acmena smithii</i>	1	10%	1	27%	uninformative
<i>Allocasuarina littoralis</i>	3	40%	2	8%	uninformative
<i>Allocasuarina torulosa</i>	1	5%	2	37%	uninformative
<i>Angophora costata</i>	2	30%	2	13%	uninformative
<i>Angophora floribunda</i>	2	15%	1	1%	uninformative
<i>Angophora subvelutina</i>	1	5%	4	0%	uninformative
<i>Angophora woodsiana</i>	1	5%	1	1%	uninformative
<i>Anisopogon avenaceus</i>	1	15%	0	0%	positive
<i>Archontophoenix cunninghamiana</i>	1	10%	1	33%	uninformative
<i>Aristida vagans</i>	2	5%	2	2%	uninformative
<i>Aristida warburgii</i>	1	5%	2	1%	uninformative
<i>Austrostipa pubescens</i>	1	15%	2	1%	uninformative
<i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i>	2	10%	1	3%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	5%	1	8%	uninformative
<i>Banksia oblongifolia</i>	2	50%	3	7%	positive
<i>Banksia serrata</i>	2	20%	3	0%	uninformative
<i>Banksia spinulosa</i> var. <i>collina</i>	2	65%	2	2%	positive
<i>Billardiera scandens</i>	1	25%	1	10%	uninformative
<i>Blandfordia grandiflora</i>	1	5%	1	1%	uninformative
<i>Boronia chartacea</i>	1	5%	0	0%	positive
<i>Bossiaea heterophylla</i>	1	10%	0	0%	positive
<i>Brachyloma daphnoides</i>	1	5%	0	0%	positive
<i>Breynia oblongifolia</i>	1	10%	1	30%	uninformative
<i>Brunoniella australis</i>	2	10%	1	3%	uninformative
<i>Caesia parviflora</i>	1	10%	1	1%	uninformative
<i>Callistemon salignus</i>	1	5%	3	13%	uninformative
<i>Calochlaena dubia</i>	2	15%	2	27%	uninformative
<i>Cassytha filiformis</i>	1	10%	2	3%	uninformative
<i>Cassytha glabella</i> f. <i>glabella</i>	2	10%	1	4%	uninformative
<i>Cassytha pubescens</i>	1	10%	2	2%	uninformative
<i>Caustis blakei</i> subsp. <i>blakei</i>	2	5%	0	0%	positive
<i>Caustis flexuosa</i>	3	10%	1	1%	uninformative
<i>Caustis pentandra</i>	2	25%	0	0%	positive
<i>Ceratopetalum gummiferum</i>	1	35%	3	0%	uninformative
<i>Cestichis coelogynoides</i>	1	5%	0	0%	positive
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	1	5%	1	3%	uninformative
<i>Cissus hypoglauca</i>	1	5%	1	39%	uninformative
<i>Comesperma ericinum</i>	1	20%	1	0%	uninformative
<i>Comesperma sphaerocarpum</i>	1	5%	0	0%	positive
<i>Corymbia gummifera</i>	3	70%	2	6%	positive



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Corymbia intermedia</i>	3	5%	2	21%	uninformative
<i>Dampiera stricta</i>	2	40%	2	6%	uninformative
<i>Dampiera sylvestris</i>	1	10%	1	1%	uninformative
<i>Daviesia umbellulata</i>	2	20%	2	1%	uninformative
<i>Daviesia wyattiana</i>	1	5%	0	0%	positive
<i>Dendrobium kingianum</i>	2	5%	4	0%	uninformative
<i>Desmodium rhytidophyllum</i>	1	5%	1	7%	uninformative
<i>Dianella caerulea</i>	1	35%	1	51%	uninformative
<i>Dillwynia retorta</i>	3	10%	1	1%	uninformative
<i>Dodonaea triquetra</i>	1	15%	1	9%	uninformative
<i>Drosera pygmaea</i>	1	5%	0	0%	positive
<i>Echinostephia aculeata</i>	1	5%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	10%	1	28%	uninformative
<i>Endiandra discolor</i>	1	5%	1	5%	uninformative
<i>Entolasia stricta</i>	2	70%	2	23%	positive
<i>Entolasia whiteana</i>	1	5%	0	0%	positive
<i>Epacris microphylla</i>	1	10%	1	1%	uninformative
<i>Epacris pulchella</i>	2	30%	2	2%	uninformative
<i>Eragrostis brownii</i>	2	5%	1	0%	uninformative
<i>Eucalyptus baileyana</i>	1	5%	0	0%	positive
<i>Eucalyptus carnea</i>	2	10%	3	10%	uninformative
<i>Eucalyptus microcorys</i>	1	20%	3	35%	uninformative
<i>Eucalyptus pilularis</i>	3	15%	3	27%	uninformative
<i>Eucalyptus planchoniana</i>	4	80%	5	0%	positive
<i>Eucalyptus pyrocarpa</i>	3	35%	3	1%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	3	20%	2	10%	uninformative
<i>Eucalyptus signata</i>	3	20%	3	1%	uninformative
<i>Eustrephus latifolius</i>	1	10%	1	30%	uninformative
<i>Exocarpos strictus</i>	1	10%	2	0%	uninformative
<i>Gahnia clarkei</i>	2	15%	2	14%	uninformative
<i>Gahnia sieberiana</i>	3	20%	2	6%	uninformative
<i>Geitonoplesium cymosum</i>	1	5%	1	24%	uninformative
<i>Genoplesium fimbriatum</i>	1	5%	0	0%	positive
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	5%	1	13%	uninformative
<i>Glycine clandestina</i>	1	20%	1	12%	uninformative
<i>Gompholobium latifolium</i>	1	25%	1	2%	uninformative
<i>Gompholobium pinnatum</i>	1	40%	1	3%	uninformative
<i>Gonocarpus tetragynus</i>	1	10%	1	4%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	2	5%	1	4%	uninformative
<i>Goodenia heterophylla</i>	1	5%	1	0%	uninformative
<i>Goodenia rotundifolia</i>	1	5%	1	4%	uninformative
<i>Hakea florulenta</i>	1	10%	3	1%	uninformative
<i>Hakea laevipes</i> subsp. <i>laevipes</i>	1	5%	1	1%	uninformative
<i>Hakea salicifolia</i>	2	15%	1	1%	uninformative
<i>Hakea sericea</i>	1	20%	0	0%	positive
<i>Hardenbergia violacea</i>	1	25%	1	7%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Heteropogon contortus</i>	2	5%	0	0%	positive
<i>Hibbertia aspera</i>	2	20%	1	10%	uninformative
<i>Hibbertia dentata</i>	1	5%	1	7%	uninformative
<i>Hibbertia obtusifolia</i>	1	5%	1	1%	uninformative
<i>Hibbertia riparia</i>	2	5%	0	0%	positive
<i>Hibbertia scandens</i>	1	5%	1	33%	uninformative
<i>Hibbertia vestita</i>	2	45%	1	10%	uninformative
<i>Hovea linearis</i>	1	15%	2	0%	uninformative
<i>Hybanthus monopetalus</i>	1	10%	2	0%	uninformative
<i>Hybanthus vernonii</i>	1	5%	0	0%	positive
<i>Hypoxis pratensis</i>	1	5%	0	0%	positive
<i>Imperata cylindrica</i>	2	35%	2	32%	uninformative
<i>Jacksonia scoparia</i>	1	5%	1	2%	uninformative
<i>Kennedia rubicunda</i>	2	5%	1	8%	uninformative
<i>Lambertia formosa</i>	4	20%	0	0%	positive
<i>Laxmannia gracilis</i>	3	5%	1	0%	uninformative
<i>Lepidosperma latens</i>	1	5%	1	1%	uninformative
<i>Lepidosperma laterale</i>	1	55%	1	15%	uninformative
<i>Leptomeria acida</i>	1	25%	1	1%	uninformative
<i>Leptospermum juniperinum</i>	2	5%	1	2%	uninformative
<i>Leptospermum liversidgei</i>	3	5%	3	3%	uninformative
<i>Leptospermum petersonii</i>	3	5%	2	0%	uninformative
<i>Leptospermum polygalifolium</i>	2	65%	1	10%	positive
<i>Leptospermum trinervium</i>	3	60%	3	1%	positive
<i>Leucopogon lanceolatus</i>	1	70%	1	17%	uninformative
<i>Leucopogon margarodes</i>	1	5%	1	3%	uninformative
<i>Leucopogon parviflorus</i>	2	5%	1	1%	uninformative
<i>Lindsaea linearis</i>	1	20%	1	3%	uninformative
<i>Lindsaea microphylla</i>	1	15%	1	1%	uninformative
<i>Lobelia andrewsii</i>	1	5%	1	0%	uninformative
<i>Logania pusilla</i>	1	5%	1	0%	uninformative
<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	2	20%	1	3%	uninformative
<i>Lomandra filiformis</i>	2	25%	1	12%	uninformative
<i>Lomandra glauca</i>	3	5%	0	0%	positive
<i>Lomandra longifolia</i>	1	35%	2	52%	negative
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	1	35%	1	4%	uninformative
<i>Lomatia silaifolia</i>	1	70%	1	6%	uninformative
<i>Lophostemon suaveolens</i>	2	10%	2	9%	uninformative
<i>Lycopodium deuterodensum</i>	4	5%	1	0%	uninformative
<i>Macrozamia fawcettii</i>	1	20%	1	2%	uninformative
<i>Melaleuca quinquenervia</i>	1	10%	2	12%	uninformative
<i>Melaleuca sieberi</i>	1	20%	4	4%	uninformative
<i>Melichrus procumbens</i>	1	15%	2	0%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	1	5%	2	4%	uninformative
<i>Mirbelia rubiifolia</i>	2	15%	1	1%	uninformative
<i>Monotoca elliptica</i>	1	5%	1	2%	uninformative
<i>Monotoca scoparia</i>	1	20%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	5%	1	17%	uninformative
<i>Notelaea ovata</i>	1	15%	1	3%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Oplismenus imbecillis</i>	2	5%	2	22%	uninformative
<i>Oxalis perennans</i>	1	5%	1	1%	uninformative
<i>Pandanus tectorius</i> var. <i>australianus</i>	1	5%	0	0%	positive
<i>Panicum simile</i>	1	15%	1	4%	uninformative
<i>Parsonia straminea</i>	1	5%	1	29%	uninformative
<i>Patersonia glabrata</i>	2	70%	2	3%	positive
<i>Patersonia sericea</i>	1	40%	2	2%	uninformative
<i>Persoonia cornifolia</i>	2	10%	2	0%	uninformative
<i>Persoonia stradbrokeensis</i>	1	80%	1	16%	uninformative
<i>Persoonia tenuifolia</i>	1	15%	1	0%	uninformative
<i>Petrophile canescens</i>	1	35%	1	0%	uninformative
<i>Phyllanthus hirtellus</i>	1	40%	1	1%	uninformative
<i>Phyllota phyllicoides</i>	4	20%	3	1%	uninformative
<i>Pimelea linifolia</i>	2	45%	1	8%	uninformative
<i>Platylobium formosum</i>	2	5%	0	0%	positive
<i>Podolobium ilicifolium</i>	1	5%	0	0%	positive
<i>Polyscias sambucifolia</i>	1	5%	1	17%	uninformative
<i>Pomax umbellata</i>	1	5%	1	6%	uninformative
<i>Pseuderanthemum variabile</i>	1	5%	2	28%	uninformative
<i>Pteridium esculentum</i>	2	60%	1	31%	positive
<i>Pultenaea flexilis</i>	3	15%	0	0%	positive
<i>Pultenaea myrtoides</i>	1	5%	3	1%	uninformative
<i>Pultenaea petiolaris</i>	1	10%	0	0%	positive
<i>Pultenaea retusa</i>	2	25%	1	5%	uninformative
<i>Pultenaea rostrata</i>	3	10%	1	0%	uninformative
<i>Pultenaea villosa</i>	2	50%	2	4%	positive
<i>Ricinocarpos pinifolius</i>	3	5%	1	2%	uninformative
<i>Scaevola ramosissima</i>	1	10%	0	0%	positive
<i>Schizaea bifida</i>	1	25%	1	1%	uninformative
<i>Schizaea dichotoma</i>	1	5%	1	1%	uninformative
<i>Schoenus melanostachys</i>	1	5%	3	1%	uninformative
<i>Smilax australis</i>	1	5%	1	46%	uninformative
<i>Smilax glycyphylla</i>	1	30%	1	29%	uninformative
<i>Sprengelia incarnata</i>	1	5%	0	0%	positive
<i>Styphelia viridis</i>	1	15%	1	0%	uninformative
<i>Syncarpia glomulifera</i>	3	70%	3	37%	positive
<i>Tetratheca thymifolia</i>	2	10%	0	0%	positive
<i>Themeda australis</i>	2	55%	3	22%	positive
<i>Thysanotus tuberosus</i> subsp. <i>tuberosus</i>	1	10%	1	1%	uninformative
<i>Tricoryne anceps</i> subsp. <i>pterocaulon</i>	1	5%	0	0%	positive
<i>Tricoryne elatior</i>	1	10%	1	2%	uninformative
<i>Trochocarpa laurina</i>	1	10%	1	38%	uninformative
<i>Vernonia cinerea</i>	1	5%	1	11%	uninformative
<i>Viola banksii</i>	2	5%	1	16%	uninformative
<i>Xanthorrhoea johnsonii</i>	2	10%	2	1%	uninformative
<i>Xanthorrhoea latifolia</i> subsp. <i>latifolia</i>	1	15%	2	0%	uninformative
<i>Xanthorrhoea macronema</i>	2	35%	1	4%	uninformative

HINTERLAND NEEDLEBARK STRINGYBARK - SCRIBBLY GUM - RED MAHOGANY DRY FOREST

CH_DOF04

SCIENTIFIC NAME Needlebark Stringybark (*Eucalyptus planchoniana*) – Scribbly Gum (*Eucalyptus signata*) – Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*) Dry Open Forest on gentle slopes on clay and sandy riparian creek lines

PLANT COMMUNITY TYPE Scribbly Gum – Bloodwood heathy open forest on poorly drained sandy soils, South Eastern Queensland Bioregion and north east parts of the NSW North Coast Bioregion (NSW999-705)

STATEWIDE CLASS Dry Sclerophyll Forests – North Coast Dry Sclerophyll Forest (Keith 2006)



Description

A tall to very tall open forest with the canopy dominated by Red Bloodwood (*Corymbia intermedia*), Needlebark Stringybark (*Eucalyptus planchoniana*), Scribbly Gum (*Eucalyptus signata*), Tindale's Stringybark and Red Mahogany (*E. resinifera* subsp. *hemilampra*). There is usually a well developed diverse and tall mid shrub layer of species such as Sieber's Paperbark (*Melaleuca sieberi*) and Tanton Tea-tree (*Leptospermum polygalifolium*). A second layer of smaller shrubs is present including Fern-leaved Banksia (*Banksia oblongifolia*), Blunt-leaved Heath (*Epacris obtusifolia*), Hairpin Banksia (*Banksia spinulosa* var. *collina*), and Prickly Tea-tree (*Leptospermum juniperinum*). The Horned sedge (*Ptilothrix deusta*) dominates the ground layer at most sites while other common species include Pinnate Wedge Pea (*Gompholobium pinnatum*) and in one site *Leptocarpus tenax*. This community occurs on poorly drained flats and creeklines with sandy clay soils. It often occurs on slight rises adjacent to wet heath vegetation on more permanently moist soils. It is primarily distributed in the north-west of the study area in Newfoundland State Forest along gently undulating country adjoining the Woolli Woolli River, Station Creek in Yuraygir National Park and further south at Dundoo Creek on the Red Range and along Moonee Creek.

Floristic summary

Layer	Height	Cover	Dominant Species
Tallest	*	*	<i>Corymbia gummifera</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> , <i>Eucalyptus planchoniana</i> , <i>Eucalyptus signata</i> , <i>Eucalyptus tindaliae</i> .
Middle	*	*	<i>Melaleuca sieberi</i> , <i>Banksia oblongifolia</i> , <i>Leptospermum polygalifolium</i> , <i>Pultenaea myrtoides</i> , <i>Epacris pulchella</i> , <i>Epacris obtusifolia</i> , <i>Persoonia stradbokensis</i> , <i>Hakea actites</i> , <i>Leptospermum juniperinum</i> .
Lower	*	*	<i>Ptilothrix deusta</i> , <i>Gompholobium pinnatum</i> , <i>Leptocarpus tenax</i> .

* Structural information not available from full floristic data. Summary information interpreted from rapid flora data and field observation.

Structural and floristic variations

In parts of the Red Range, Scribbly Gum (*Eucalyptus signata*) and Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*) dominate over large Sieber's Paperbarks (*Melaleuca sieberi*) with a ground layer of sedges in riparian areas and flat valleys. During rapid sampling Tindale's Stringybark (*Eucalyptus tindaliae*) and Scribbly Gum (*Eucalyptus signata*) were observed and will occur periodically in areas mapped as this community.

Species richness

Number of plots	2
Total species	43
Average number of species	27 ±14

Conservation status

This community is reserved in Moonee Beach Nature Reserve (6ha) and Yuraygir National Park (11ha).

Tenure	Area (ha)
Freehold	99
National Park	29
Nature Reserve	5
NSW State Forest	30
TOTAL	163

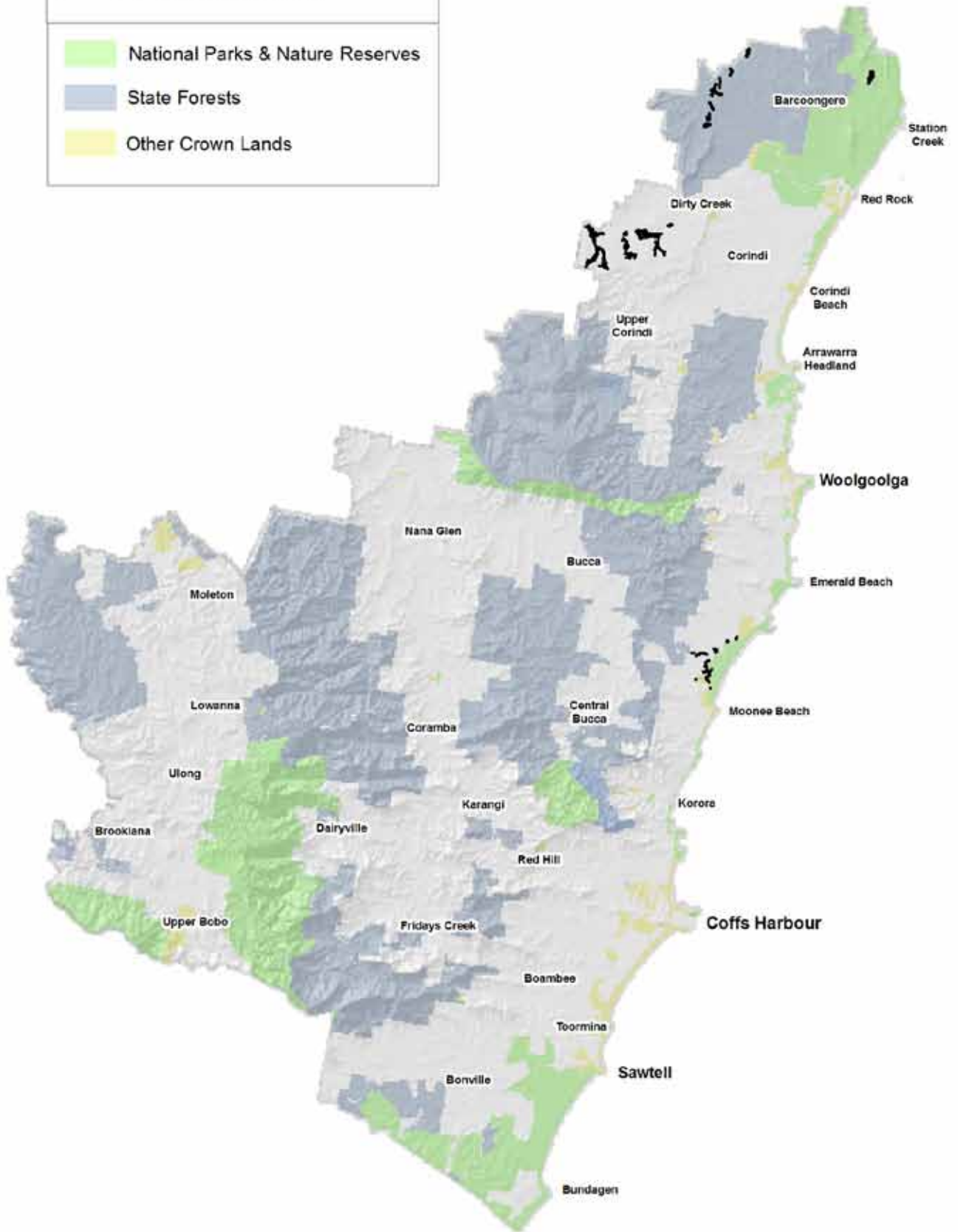
Relationship to other communities

Related to communities CH_FW02 (Coastal Swamp Mahogany Forest) and transitions into CH_DOF02 (Sandstone Bloodwood – Needlebark Stringybark Heathy Forest) as the drainage improves and the Horned sedge (*Ptilothrix deusta*) is more or less replaced by grass and herb floristic species including Mat-Rushes (*Lomandra multiflora* subsp. *multiflora*, *Lomandra confertifolia* subsp. *pallida*).

Equivalents

Biometric: (NR220) Pink Bloodwood open forest of the coastal lowlands of the North Coast

Other: UR0v20 - *Eucalyptus gummifera*/*E. signata* (Tweedie et al. 1995)



Locations

Moonee Beach Nature Reserve; Dundoo Creek; Red Range; Dirty Creek; Newfoundland State Forest and Station Creek, Yuraygir National Park.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia terminalis</i>	1	50%	2	2%	uninformative
<i>Angophora woodsiana</i>	1	50%	1	1%	uninformative
<i>Banksia oblongifolia</i>	4	100%	3	9%	positive
<i>Banksia spinulosa</i> var. <i>collina</i>	1	50%	2	5%	uninformative
<i>Blandfordia grandiflora</i>	1	100%	1	0%	uninformative
<i>Comesperma defoliatum</i>	1	50%	1	1%	uninformative
<i>Corymbia gummiifera</i>	4	100%	2	8%	positive
<i>Cymbidium suave</i>	1	50%	1	3%	uninformative
<i>Dampiera stricta</i>	2	50%	2	7%	positive
<i>Drosera burmanni</i>	2	50%	0	0%	positive
<i>Entolasia stricta</i>	1	50%	2	25%	uninformative
<i>Epacris obtusifolia</i>	3	50%	2	2%	positive
<i>Epacris pulchella</i>	2	100%	2	3%	positive
<i>Eucalyptus planchoniana</i>	5	50%	4	4%	positive
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	4	100%	2	10%	positive
<i>Gompholobium pinnatum</i>	2	100%	1	4%	positive
<i>Gonocarpus tetragynus</i>	1	50%	1	4%	uninformative
<i>Hakea actites</i>	2	50%	4	1%	positive
<i>Hakea salicifolia</i>	1	50%	1	1%	uninformative
<i>Leptocarpus tenax</i>	4	50%	2	2%	positive
<i>Leptospermum juniperinum</i>	2	50%	1	2%	positive
<i>Leptospermum polygalifolium</i>	3	100%	1	12%	positive
<i>Lepyrodia scariosa</i>	1	50%	4	0%	uninformative
<i>Lepyrodia</i> sp. A	1	50%	1	1%	uninformative
<i>Lindsaea linearis</i>	1	50%	1	3%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Lophostemon suaveolens</i>	1	50%	2	9%	uninformative
<i>Melaleuca sieberi</i>	4	100%	3	4%	positive
<i>Patersonia sericea</i>	1	50%	2	4%	uninformative
<i>Persoonia stradbrokeensis</i>	2	100%	1	18%	positive
<i>Persoonia tenuifolia</i>	1	50%	1	1%	uninformative
<i>Pimelea linifolia</i>	1	100%	1	9%	uninformative
<i>Pseudanthus orientalis</i>	2	50%	0	0%	positive
<i>Ptilothrix deusta</i>	4	50%	3	2%	positive
<i>Pultenaea myrtoidea</i>	3	100%	2	0%	positive
<i>Pultenaea villosa</i>	1	50%	2	6%	uninformative
<i>Schizaea bifida</i>	1	50%	1	1%	uninformative
<i>Selaginella uliginosa</i>	1	50%	1	3%	uninformative
<i>Tricoryne elatior</i>	1	50%	1	2%	uninformative
<i>Velleia spathulata</i>	1	50%	0	0%	positive
<i>Vernonia cinerea</i>	1	50%	1	10%	uninformative
<i>Xanthorrhoea australis</i>	2	50%	0	0%	positive
<i>Xanthorrhoea fulva</i>	1	50%	3	6%	uninformative

FOOTHILLS GREY GUM-IRONBARK - MAHOGANY DRY FOREST

CH_DOF05

SCIENTIFIC NAME Small-fruited Grey Gum (*Eucalyptus propinqua*) - Grey Ironbark (*Eucalyptus siderophloia*) - Thick-leaved Mahogany (*Eucalyptus carnea*) - Tallowwood (*Eucalyptus microcorys*) grassy dry open forest of ridges and exposed slopes on metasediments

PLANT COMMUNITY TYPE Thick-leaved Mahogany – Small-fruited Grey Gum – Grey Ironbark grassy open forest on exposed slopes of the hinterland hills, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW1000-1072)

STATEWIDE CLASS Dry Sclerophyll Forests – North Coast Dry Sclerophyll Forest (Keith 2006)



Description

A dry open forest located below 500 metres in altitude, commonly occurring in rolling low hills in exposed aspects, ridges and upper slopes on shallow soils of metasedimentary and sedimentary geology of the Orara Escarpment, Coast Range and Gleniffer - Bonville Hills. Widespread on coastal foothills and escarpment ranges.

In the canopy, Small-fruited Grey Gum (*Eucalyptus propinqua*), Thick-leaved Mahogany (*Eucalyptus carnea*), Tallowwood (*Eucalyptus microcorys*) and Grey Ironbark (*Eucalyptus siderophloia*) are the most frequent cover abundant species. At different locations there may be a dominance of Grey Ironbark (*Eucalyptus siderophloia*), Small-fruited Grey Gum (*Eucalyptus propinqua*) or Thick-leaved Mahogany (*Eucalyptus carnea*). Smooth-barked Apple (*Angophora costata*) and Turpentine (*Syncarpia glomulifera*) occur in about half the sites and Red Mahogany (*E. resinifera* subsp. *hemilampra*) occurs slightly less often. Spotted Gum (*Corymbia variegata*) occurs in a small number of sites usually at low frequency. Forest Oak (*Allocasuarina torulosa*) is very frequent in the mid and sometimes upper layer. Other shrubs and small trees include Tree Heath (*Trochocarpa laurina*), Maiden's Wattle (*Acacia maidenii*), Lance Beard-heath (*Leucopogon lanceolatus*) and Geebung (*Persoonia stradbrokeensis*). The ground layer is comprised of Spiny-headed Mat-rush (*Lomandra longifolia*), Blady Grass (*Imperata cylindrica*), Blue Flax-lily (*Dianella caerulea*), Bracken Fern (*Pteridium esculentum*), Wiry Panic (*Entolasia stricta*), Kangaroo Grass (*Themeda australis*), Basket Grass (*Oplismenus aemulus*) and White Root (*Pratia purpurascens*). Vines and twiners include Wombat Berry (*Eustrephus latifolius*) and Guinea Flower (*Hibbertia scandens*).

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	17-40	30-70	<i>Eucalyptus propinqua</i> , <i>Eucalyptus carnea</i> , <i>Eucalyptus microcorys</i> , <i>Eucalyptus siderophloia</i> .
Middle	0.5-15	5-25	<i>Allocasuarina torulosa</i> , <i>Trochocarpa laurina</i> , <i>Leucopogon lanceolatus</i> , <i>Persoonia stradbrokeensis</i> , <i>Cissus hypoglauca</i> , <i>Breynia oblongifolia</i> , <i>Acacia maidenii</i> .
Lower	0-1.2	20-55	<i>Imperata cylindrica</i> , <i>Entolasia stricta</i> , <i>Themeda australis</i> , <i>Oplismenus aemulus</i> , <i>Pseuderanthemum variabile</i> , <i>Pratia purpurascens</i> , <i>Dianella caerulea</i> .

* Data collated from 16 of 19 full floristic sites

Structural and floristic variations

Areas of the foothills and escarpment mapped as this community include Grey Gum (*Eucalyptus biturbinata*) replacing Small-fruited Grey Gum (*Eucalyptus propinqua*) where mapped as this community for example around Buchanan's Lane and on the escarpment below Bruxner Park. In some sites Turpentine (*Syncarpia glomulifera*) can be locally abundant and in other locations this species may be absent.

Exotics *Ageratina adenophora*, *Cinnamomum camphora*, *Conyza albida*, *Erechtites valerianifolia*, *Lantana camara*, *Ligustrum sinense*, *Paspalum mandiocanum*, *Passiflora edulis*, *Senna pendula* var. *glabrata*

Species richness

Number of plots	19
Total species	213
Average number of species	43 ±11

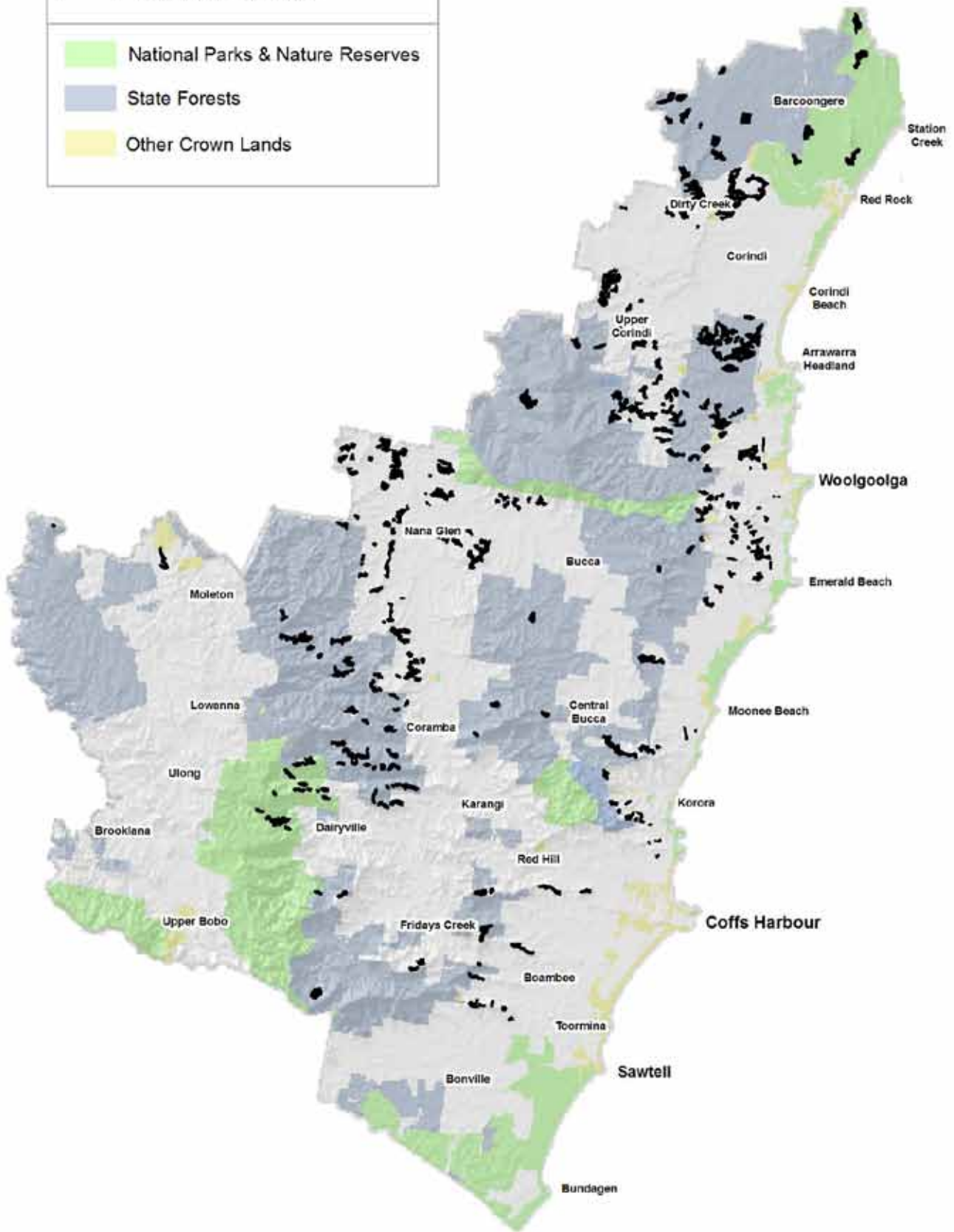
Conservation status

This community is reserved in Bindarri National Park (69ha), Madman's Creek Flora Reserve (3ha), Bruxner Park Flora Reserve (2ha) and Yuraygir National Park (75ha).

Tenure	Area (ha)
Crown Land	10
Freehold	958
National Park	141
NSW State Forest	883
NSW State Forest Flora Reserve	5
TOTAL	1 998

Relationship to other communities

CH_WSF17 (Foothills Turpentine - Grey Gum- Ironbark Moist Shrubby Forest) is the wet forest equivalent community where Turpentine (*Syncarpia glomulifera*) and White Mahogany (*Eucalyptus acmenoides*) occur with Small-fruited Grey Gum (*E. propinqua*). CH_DSF05 becomes CH_DOF10 (Foothills Spotted Gum – Mahogany -Grey Gum - Ironbark Dry Forest) as the frequency of Spotted Gum (*Corymbia variegata*) increases, commonly in the northern part of the study area. This change is sometimes difficult to detect from remote sensing and field verification is recommended to validate mapping.



Equivalentents

Biometric: (NR263) Tallowwood - Small-fruited Grey Gum dry grassy open forest of the foothills of North Coast

Other: N67b (Fisher et al. 1996); Forest Ecosystem 36 (NPWS 1999)

Locations

Known at Bagawa Creek, Nana Glen State Forest, Wedding Bells State Forest, Woolgoolga township and surrounds.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	1	11%	2	5%	uninformative
<i>Acacia concurrens</i>	1	5%	2	0%	uninformative
<i>Acacia falcata</i>	2	5%	2	1%	uninformative
<i>Acacia fimbriata</i>	1	32%	1	4%	uninformative
<i>Acacia floribunda</i>	1	5%	1	0%	uninformative
<i>Acacia irrorata</i>	1	37%	1	7%	uninformative
<i>Acacia maidenii</i>	1	32%	1	13%	uninformative
<i>Acacia melanoxylon</i>	2	5%	2	19%	uninformative
<i>Acalypha nemorum</i>	1	5%	1	0%	uninformative
<i>Acmena smithii</i>	2	11%	1	27%	uninformative
<i>Acronychia oblongifolia</i>	1	5%	1	4%	uninformative
<i>Adiantum aethiopicum</i>	1	11%	1	2%	uninformative
<i>Adiantum formosum</i>	2	11%	1	2%	uninformative
<i>Adiantum hispidulum</i>	1	5%	2	9%	uninformative
<i>Allocasuarina littoralis</i>	2	21%	3	9%	uninformative
<i>Allocasuarina torulosa</i>	1	74%	2	34%	uninformative
<i>Alphitonia excelsa</i>	1	16%	1	14%	uninformative
<i>Amyema miquelii</i>	1	5%	0	0%	positive
<i>Angophora costata</i>	1	47%	2	12%	uninformative
<i>Angophora floribunda</i>	1	5%	2	1%	uninformative
<i>Angophora subvelutina</i>	4	11%	1	0%	uninformative
<i>Angophora woodsiana</i>	3	5%	1	1%	uninformative
<i>Archirhodomomyrtus beckleri</i>	1	5%	2	24%	uninformative
<i>Aristida vagans</i>	2	11%	2	2%	uninformative
<i>Arthropodium minus</i>	1	11%	0	0%	positive
<i>Asplenium australasicum</i>	1	5%	1	9%	uninformative
<i>Asterolasia correifolia</i>	1	5%	1	1%	uninformative
<i>Astrotricha latifolia</i>	1	5%	1	2%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	2	5%	1	8%	uninformative
<i>Billardiera scandens</i>	1	26%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	1	11%	2	39%	uninformative
<i>Botrychium australe</i>	1	16%	0	0%	positive
<i>Breynia oblongifolia</i>	1	68%	1	28%	uninformative
<i>Brunoniella australis</i>	1	5%	1	3%	uninformative
<i>Bursaria spinosa</i>	1	5%	0	0%	positive
<i>Caladenia carnea</i>	1	5%	1	1%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Callistemon salignus</i>	2	16%	3	12%	uninformative
<i>Calochlaena dubia</i>	2	21%	2	27%	uninformative
<i>Cassytha glabella</i> f. <i>glabella</i>	1	11%	1	4%	uninformative
<i>Cassytha pubescens</i>	1	5%	2	2%	uninformative
<i>Celastrus subspicata</i>	1	5%	1	4%	uninformative
<i>Centella asiatica</i>	1	5%	1	3%	uninformative
<i>Centratherum punctatum</i> subsp. <i>australianum</i>	1	5%	1	0%	uninformative
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	1	26%	1	2%	uninformative
<i>Chiloglottis diphylla</i>	2	16%	0	0%	positive
<i>Chorizema parviflorum</i>	1	5%	1	1%	uninformative
<i>Cinnamomum oliveri</i>	1	5%	1	6%	uninformative
<i>Cissus antarctica</i>	1	21%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	37%	1	38%	uninformative
<i>Clematis aristata</i>	1	32%	1	10%	uninformative
<i>Clematis glycinoides</i>	1	21%	1	5%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	11%	1	10%	uninformative
<i>Clerodendrum tomentosum</i>	1	5%	1	5%	uninformative
<i>Cordyline stricta</i>	1	16%	1	39%	uninformative
<i>Corymbia gummifera</i>	1	21%	2	8%	uninformative
<i>Corymbia intermedia</i>	3	37%	2	20%	uninformative
<i>Corymbia variegata</i>	3	11%	3	6%	uninformative
<i>Croton verreauxii</i>	1	5%	1	3%	uninformative
<i>Cryptocarya microneura</i>	1	11%	1	21%	uninformative
<i>Cryptocarya rigida</i>	1	11%	2	28%	uninformative
<i>Cryptostylis erecta</i>	1	5%	2	1%	uninformative
<i>Cymbopogon refractus</i>	2	32%	2	5%	uninformative
<i>Daviesia ulicifolia</i>	1	5%	2	0%	uninformative
<i>Denhamia celastroides</i>	1	5%	1	9%	uninformative
<i>Desmodium brachypodum</i>	1	26%	1	5%	uninformative
<i>Desmodium gunnii</i>	1	42%	1	3%	uninformative
<i>Desmodium rhytidophyllum</i>	2	47%	1	5%	uninformative
<i>Dianella caerulea</i>	1	89%	1	49%	uninformative
<i>Dichondra repens</i>	2	32%	1	4%	uninformative
<i>Digitaria parviflora</i>	1	47%	1	2%	uninformative
<i>Dioscorea transversa</i>	1	11%	1	29%	uninformative
<i>Dodonaea triquetra</i>	1	32%	2	8%	uninformative
<i>Doodia aspera</i>	1	11%	2	16%	uninformative
<i>Doodia linearis</i>	1	5%	1	0%	uninformative
<i>Duboisia myoporoides</i>	1	16%	1	4%	uninformative
<i>Echinopogon caespitosus</i>	1	16%	2	2%	uninformative
<i>Echinostephia aculeata</i>	1	11%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	32%	1	27%	uninformative
<i>Entolasia marginata</i>	2	5%	1	9%	uninformative
<i>Entolasia stricta</i>	2	84%	2	22%	positive
<i>Epacris microphylla</i>	1	5%	1	1%	uninformative
<i>Eucalyptus acmenoides</i>	3	21%	2	8%	uninformative
<i>Eucalyptus carnea</i>	3	68%	2	8%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Eucalyptus eugenioides</i>	2	5%	1	1%	uninformative
<i>Eucalyptus fibrosa</i>	1	5%	2	1%	uninformative
<i>Eucalyptus grandis</i>	1	5%	3	18%	uninformative
<i>Eucalyptus microcorys</i>	4	53%	3	34%	positive
<i>Eucalyptus pilularis</i>	1	16%	3	27%	uninformative
<i>Eucalyptus propinqua</i>	3	68%	3	11%	positive
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	3	37%	2	9%	uninformative
<i>Eucalyptus saligna</i>	1	5%	3	10%	uninformative
<i>Eucalyptus siderophloia</i>	3	53%	3	9%	positive
<i>Euroschinus falcatus</i>	1	5%	1	4%	uninformative
<i>Eustrephus latifolius</i>	1	68%	1	28%	uninformative
<i>Exocarpos cupressiformis</i>	1	11%	2	0%	uninformative
<i>Flagellaria indica</i>	1	5%	1	4%	uninformative
<i>Gahnia aspera</i>	1	26%	1	14%	uninformative
<i>Gahnia clarkei</i>	1	5%	2	14%	uninformative
<i>Geitonoplesium cymosum</i>	1	32%	1	23%	uninformative
<i>Geranium solanderi</i>	2	11%	1	1%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	16%	1	13%	uninformative
<i>Glycine clandestina</i>	1	21%	1	12%	uninformative
<i>Glycine microphylla</i>	1	32%	1	2%	uninformative
<i>Glycine tabacina</i>	1	5%	1	1%	uninformative
<i>Gompholobium latifolium</i>	1	5%	1	3%	uninformative
<i>Gonocarpus tetragynus</i>	1	11%	1	4%	uninformative
<i>Gonocarpus teucroides</i>	1	5%	1	1%	uninformative
<i>Goodenia fordiana</i>	1	5%	1	0%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	16%	1	3%	uninformative
<i>Goodenia rotundifolia</i>	1	26%	1	4%	uninformative
<i>Guioa semiglauc</i>	1	32%	1	28%	uninformative
<i>Gymnostachys anceps</i>	1	16%	1	19%	uninformative
<i>Hardenbergia violacea</i>	1	32%	1	7%	uninformative
<i>Hibbertia aspera</i>	1	16%	1	10%	uninformative
<i>Hibbertia obtusifolia</i>	2	5%	1	1%	uninformative
<i>Hibbertia scandens</i>	1	63%	1	30%	uninformative
<i>Hibbertia vestita</i>	1	16%	1	12%	uninformative
<i>Hybanthus enneaspermus</i>	1	16%	1	2%	uninformative
<i>Hybanthus stellarioides</i>	2	16%	1	4%	uninformative
<i>Hydrocotyle laxiflora</i>	2	11%	1	0%	uninformative
<i>Hypericum gramineum</i>	1	11%	1	0%	uninformative
<i>Imperata cylindrica</i>	2	95%	2	29%	positive
<i>Jacksonia scoparia</i>	1	26%	1	2%	uninformative
<i>Kennedia rubicunda</i>	1	16%	1	7%	uninformative
<i>Lepidosperma laterale</i>	1	47%	1	16%	uninformative
<i>Leucopogon juniperinus</i>	1	26%	1	2%	uninformative
<i>Leucopogon lanceolatus</i>	1	74%	1	17%	uninformative
<i>Livistona australis</i>	2	5%	1	4%	uninformative
<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	1	21%	1	3%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Lomandra filiformis</i>	1	21%	1	12%	uninformative
<i>Lomandra longifolia</i>	3	95%	2	50%	positive
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	1	26%	1	4%	uninformative
<i>Lomatia silaifolia</i>	1	16%	1	9%	uninformative
<i>Lophostemon confertus</i>	1	16%	2	32%	uninformative
<i>Lophostemon suaveolens</i>	1	37%	2	8%	uninformative
<i>Macrozamia fawcettii</i>	1	5%	1	2%	uninformative
<i>Marsdenia lloydii</i>	1	5%	2	2%	uninformative
<i>Maytenus bilocularis</i>	1	21%	1	4%	uninformative
<i>Maytenus silvestris</i>	1	16%	1	2%	uninformative
<i>Melaleuca alternifolia</i>	1	5%	2	1%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	1	16%	2	3%	uninformative
<i>Monotoca scoparia</i>	1	5%	1	3%	uninformative
<i>Morinda jasminoides</i>	1	26%	1	37%	uninformative
<i>Myrsine variabilis</i>	1	21%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	16%	1	27%	uninformative
<i>Notelaea ovata</i>	1	11%	2	3%	uninformative
<i>Opercularia hispida</i>	1	5%	0	0%	positive
<i>Oplismenus aemulus</i>	2	58%	2	10%	positive
<i>Oplismenus imbecillis</i>	2	16%	2	22%	uninformative
<i>Ottochloa gracillima</i>	2	21%	2	9%	uninformative
<i>Oxalis exilis</i>	1	5%	1	2%	uninformative
<i>Oxalis perennans</i>	1	5%	1	1%	uninformative
<i>Oxalis radicata</i>	1	5%	1	1%	uninformative
<i>Ozothamnus diosmifolius</i>	1	37%	1	8%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	21%	1	11%	uninformative
<i>Panicum simile</i>	1	11%	1	4%	uninformative
<i>Parsonsia straminea</i>	1	21%	1	28%	uninformative
<i>Passiflora herbertiana</i> subsp. <i>herbertiana</i>	1	5%	1	1%	uninformative
<i>Patersonia glabrata</i>	2	5%	2	6%	uninformative
<i>Persoonia stradbrokeensis</i>	1	68%	1	16%	uninformative
<i>Phyllanthus hirtellus</i>	1	11%	1	2%	uninformative
<i>Phyllanthus similis</i>	1	21%	1	2%	uninformative
<i>Pimelea latifolia</i>	2	5%	1	1%	uninformative
<i>Pimelea linifolia</i>	1	5%	1	10%	uninformative
<i>Pittosporum multiflorum</i>	2	11%	1	13%	uninformative
<i>Pittosporum revolutum</i>	1	16%	1	13%	uninformative
<i>Pittosporum undulatum</i>	1	11%	1	10%	uninformative
<i>Platynerium bifurcatum</i>	1	11%	1	16%	uninformative
<i>Plectranthus parviflorus</i>	2	11%	1	2%	uninformative
<i>Poa labillardierei</i> var. <i>labillardierei</i>	1	5%	1	1%	uninformative
<i>Poa sieberiana</i>	2	21%	2	4%	uninformative
<i>Polymeria calycina</i>	1	5%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	32%	1	16%	uninformative
<i>Pomaderris eriocephala</i>	1	5%	0	0%	positive
<i>Pomax umbellata</i>	1	32%	1	5%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Poranthera microphylla</i>	1	5%	1	2%	uninformative
<i>Pratia purpurascens</i>	2	79%	1	21%	positive
<i>Pseuderanthemum variabile</i>	2	47%	2	26%	uninformative
<i>Psychotria loniceroides</i>	1	11%	1	14%	uninformative
<i>Pteridium esculentum</i>	1	47%	2	31%	uninformative
<i>Pultenaea euchila</i>	1	5%	2	0%	uninformative
<i>Pultenaea retusa</i>	1	11%	2	6%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	2	5%	1	5%	uninformative
<i>Ranunculus lappaceus</i>	1	5%	0	0%	positive
<i>Rhodomyrtus psidioides</i>	1	5%	1	4%	uninformative
<i>Rubus moluccanus</i> var. <i>moluccanus</i>	1	5%	1	2%	uninformative
<i>Rubus parvifolius</i>	2	5%	1	4%	uninformative
<i>Rubus rosifolius</i>	1	5%	2	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	11%	1	9%	uninformative
<i>Schizomeria ovata</i>	1	11%	1	12%	uninformative
<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	1	11%	1	2%	uninformative
<i>Smilax australis</i>	1	58%	1	44%	uninformative
<i>Smilax glycyphylla</i>	1	21%	1	29%	uninformative
<i>Solanum hapalum</i>	1	11%	1	6%	uninformative
<i>Stackhousia viminea</i>	1	5%	0	0%	positive
<i>Stephania japonica</i> var. <i>discolor</i>	1	26%	1	21%	uninformative
<i>Syncarpia glomulifera</i>	3	47%	2	38%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	2	11%	2	36%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	16%	1	28%	uninformative
<i>Tetrastigma nitens</i>	1	5%	1	3%	uninformative
<i>Themeda australis</i>	2	68%	3	22%	positive
<i>Trema tomentosa</i> var. <i>aspera</i>	1	16%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	1	5%	1	10%	uninformative
<i>Trochocarpa laurina</i>	1	68%	1	36%	uninformative
<i>Vernonia cinerea</i>	1	63%	1	8%	uninformative
<i>Veronica plebeia</i>	2	5%	1	1%	uninformative
<i>Viola banksii</i>	2	11%	1	16%	uninformative
<i>Viola betonicifolia</i>	2	16%	2	1%	uninformative
<i>Viola hederacea</i>	1	11%	2	2%	uninformative
<i>Wikstroemia indica</i>	1	5%	1	1%	uninformative
<i>Wilkiea austroqueenslandica</i>	1	5%	3	0%	uninformative
<i>Xanthorrhoea macronema</i>	2	5%	1	6%	uninformative
<i>Zieria smithii</i>	1	5%	1	4%	uninformative

LOWLANDS SWAMP BOX - PAPERBARK - RED GUM DRY FOREST CH_DOF06

SCIENTIFIC NAME Swamp Box (*Lophostemon suaveolens*) – Broad-leaved Paperbark (*Melaleuca quinquenervia*) – Forest Red Gum (*Eucalyptus tereticornis*) – Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*) transitional dry open forest of coastal lowlands and valleys

STATEWIDE CLASS Dry Sclerophyll Forests – North Coast Dry Sclerophyll Forest (Keith 2006)

PLANT COMMUNITY TYPE Forest Red Gum – Swamp Box – Prickly-leaved Tea-tree shrubby open forest on floodplains of the lower Richmond River valley, South Eastern Queensland Bioregion (NSW700-66)

Forest Red Gum – Swamp Box shrubby open forest on floodplain edges in the lower Richmond River valley, South Eastern Queensland Bioregion (NSW700-488)



Description

A dry open forest which has a varied dominance in the canopy usually of Swamp Box (*Lophostemon suaveolens*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Pink Bloodwood (*Corymbia intermedia*), Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*), Willow Bottlebrush (*Callistemon salignus*) and Forest Red Gum (*Eucalyptus tereticornis*). Other canopy species may include Swamp Mahogany (*Eucalyptus robusta*), Coastal Blackbutt (*Eucalyptus pilularis*) and Scribbly Gum (*Eucalyptus signata*). Black She-oak (*Allocasuarina littoralis*) and Cheese Tree (*Glochidion ferdinandi* var. *ferdinandi*) are sometimes present as a small tree layer. Large-leaf Hop Bush (*Dodonaea triquetra*), Geebung (*Personia stradbrogensis*), Notched Bush-pea (*Pultenaea retusa*) and Coffee Bush (*Breynia oblongifolia*) dominate the lower layer. The ground layer is distinctive and consists of Kangaroo Grass (*Themeda australis*), Wiry Panic (*Entolasia stricta*), Mat-Rushes (*Lomandra longifolia*, *Lomandra confertifolia*), Guinea Flower (*Hibbertia aspera*), Blue Flax-lily (*Dianella caerulea*), White Root (*Pratia purpurascens*) and Bracken Fern (*Pteridium esculentum*).

This community occurs mostly across coastal and hinterland lowlands on alluvial and colluvial flats and drainage depressions on clay and sand loam soils subject to infrequent inundation, which are transitional between dry sclerophyll forest and swamp sclerophyll Forest. In many areas this community has been cleared and is now only represented by remnant trees of Forest Red Gum (*Eucalyptus tereticornis*). For example at Corindi River and Coldwater Creek.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	3-40	35-80	<i>Corymbia intermedia</i> , <i>Lophostemon suaveolens</i> , <i>Melaleuca quinquenervia</i> , <i>Eucalyptus pilularis</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> , <i>Callistemon salignus</i>
Middle 1	5-15	30-50	<i>Allocasuarina littoralis</i> , <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> .
Middle 2	0.5-1.5	30-50	<i>Dodonaea triquetra</i> , <i>Persoonia stradbokensis</i> , <i>Pultenaea retusa</i> , <i>Breynia oblongifolia</i> , <i>Geitonoplesium cymosum</i>
Lower	0.1- 1.1	30-70	<i>Themeda australis</i> , <i>Entolasia stricta</i> , <i>Lomandra longifolia</i> , <i>Lomandra confertifolia</i> , <i>Hibbertia aspera</i> , <i>Dianella caerulea</i> , <i>Pratia purpurascens</i> , <i>Pteridium esculentum</i> , <i>Imperata cylindrica</i> , <i>Billardiera scandens</i> .

* Data collated from 5 of 6 full floristic sites

Structural and floristic variations

One site dominated by Bancroft's Red Gum (*Eucalyptus bancroftii*) in the Station Creek area of Yuraygir National Park was mapped within this community. In the Moonee area there are stands which were mapped as a dual code with CH_DOF01 (Coast and Escarpment Blackbutt Dry Forest). These areas contained Blackbutt (*Eucalyptus pilularis*), and Ironbark (*Eucalyptus siderophloia*) in association with Pink Bloodwood (*Corymbia intermedia*), Swamp Box (*Lophostemon suaveolens*) and Forest Red Gum (*Eucalyptus tereticornis*).

Exotics *Ageratum houstonianum*, *Andropogon virginicus*, *Asparagus aethiopicus*, *Baccharis halimifolia*, *Gomphocarpus fruticosus*, *Lantana camara*, *Senna pendula*

Species richness

Number of plots	6
Total species	80
Average number of species	28 ±8.2

Conservation status

This community is reserved in Coffs Coast Regional Park (8ha), Garby Nature Reserve (6ha), Moonee Beach Nature Reserve (4ha) and Yuraygir National Park (609ha).

Tenure	Area (ha)
Crown Land	93
Freehold	895
National Park	612
Nature Reserve	10
NSW State Forest	395
Regional Park	8
TOTAL	2 013

Endangered Ecological Community: *Subtropical Coastal Floodplain Forest of the NSW North Coast bioregion* EEC

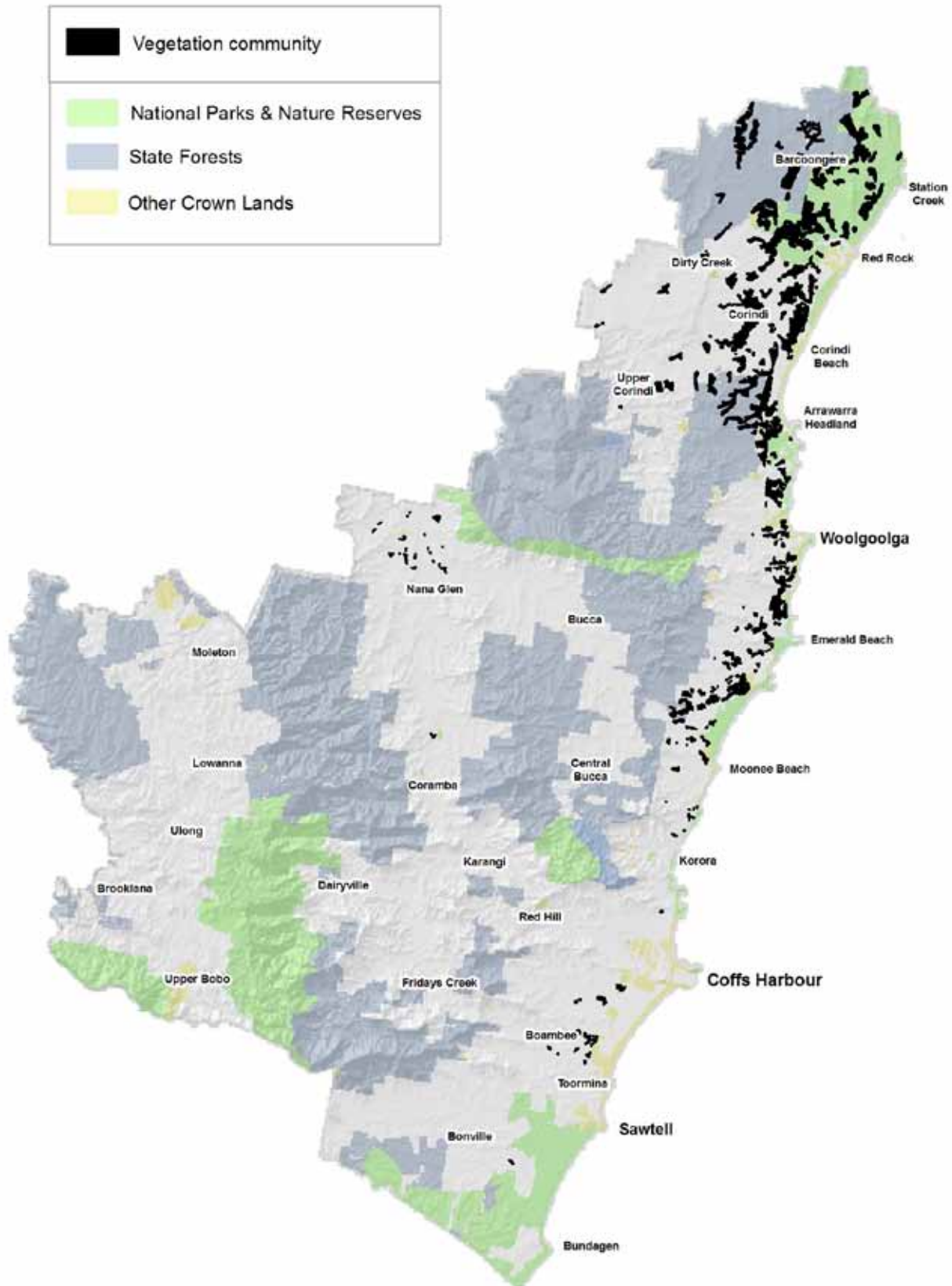
Relationship to other communities

This community often occurs adjacent to CH_DOF01 (Coast and Escarpment Blackbutt Dry Forest) and CH_FrW01 (Coastal Paperbark Swamp Oak Floodplain Forest). The presence of Red Gum (*Eucalyptus tereticornis*) is a major diagnostic feature of this community. The increasing proportion of Broadleaf Paperbark (*Melaleuca quinquenervia*) indicates transition into CH_FrW01.

Equivalents

Biometric: (NR161) Forest Red Gum - Swamp Box of the Clarence Valley lowlands of the North Coast

Other: (N1b) Coastal Forest Red Gum (Fisher et al. 1996); (FE 73) Lowland Red Gum (NPWS 1999)



Locations

Orara River floodplains; Coldwater Creek; Boambee Creek; Station Creek Yuraygir National Park; Wedding Bells State Forest; Arrawarra; Mullaway; Lake Road, Woolgoolga; Hearn's Lake, Sandy Beach, Upper Moonee Creek; Heritage Park; Yellow Water Holes, Orara East State Forest.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia falcata</i>	2	17%	2	1%	uninformative
<i>Acacia fimbriata</i>	1	17%	1	5%	uninformative
<i>Acacia irrorata</i>	1	17%	1	8%	uninformative
<i>Acacia longifolia</i>	1	17%	1	6%	uninformative
<i>Allocasuarina littoralis</i>	1	83%	3	8%	uninformative
<i>Allocasuarina torulosa</i>	2	17%	2	36%	uninformative
<i>Angophora costata</i>	1	17%	2	14%	uninformative
<i>Baumea rubiginosa</i>	4	17%	3	1%	uninformative
<i>Billardiera scandens</i>	2	67%	1	10%	positive
<i>Breynia oblongifolia</i>	1	33%	1	29%	uninformative
<i>Brunoniella australis</i>	1	17%	1	3%	uninformative
<i>Callistemon salignus</i>	2	50%	3	12%	positive
<i>Cassyltha glabella</i> f. <i>glabella</i>	2	17%	1	5%	uninformative
<i>Centella asiatica</i>	2	17%	1	3%	uninformative
<i>Chorizandra cymbaria</i>	3	33%	1	0%	uninformative
<i>Chorizema parviflorum</i>	1	33%	1	1%	uninformative
<i>Corymbia gummifera</i>	2	17%	2	8%	uninformative
<i>Corymbia intermedia</i>	3	50%	2	20%	positive
<i>Cupaniopsis anacardioides</i>	1	17%	1	11%	uninformative
<i>Cyperus polystachyos</i>	2	17%	2	1%	uninformative
<i>Dampiera lanceolata</i> var. <i>lanceolata</i>	1	17%	1	0%	uninformative
<i>Dampiera stricta</i>	2	17%	2	7%	uninformative
<i>Daviesia umbellulata</i>	1	17%	2	2%	uninformative
<i>Desmodium rhytidophyllum</i>	1	17%	1	7%	uninformative
<i>Dianella caerulea</i>	2	33%	1	51%	uninformative
<i>Dichondra repens</i>	1	17%	1	5%	uninformative
<i>Digitaria divaricatissima</i>	3	17%	2	0%	uninformative
<i>Dodonaea triquetra</i>	3	50%	1	9%	positive
<i>Echinopogon caespitosus</i>	2	17%	1	2%	uninformative
<i>Echinostephia aculeata</i>	1	17%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	1	33%	1	27%	uninformative
<i>Entolasia stricta</i>	3	83%	2	24%	positive
<i>Eucalyptus carnea</i>	3	17%	2	10%	uninformative
<i>Eucalyptus microcorys</i>	1	17%	3	35%	uninformative
<i>Eucalyptus pilularis</i>	5	33%	3	27%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	1	50%	3	10%	uninformative
<i>Eucalyptus robusta</i>	1	33%	2	7%	uninformative
<i>Eucalyptus siderophloia</i>	1	17%	3	11%	uninformative
<i>Eucalyptus signata</i>	3	17%	3	2%	uninformative
<i>Eucalyptus tereticornis</i>	3	33%	1	0%	uninformative
<i>Eustrephus latifolius</i>	1	33%	1	29%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Gahnia sieberiana</i>	2	17%	2	6%	uninformative
<i>Geitonoplesium cymosum</i>	1	50%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	2	33%	1	13%	uninformative
<i>Glycine clandestina</i>	2	17%	1	12%	uninformative
<i>Gonocarpus tetragynus</i>	1	50%	1	3%	uninformative
<i>Goodenia bellidifolia</i>	2	17%	2	0%	uninformative
<i>Hakea laevipes</i> subsp. <i>laevipes</i>	1	33%	1	1%	uninformative
<i>Hibbertia aspera</i>	2	83%	1	9%	positive
<i>Hibbertia scandens</i>	1	17%	1	32%	uninformative
<i>Hibbertia vestita</i>	1	50%	1	11%	uninformative
<i>Hydrocotyle peduncularis</i>	1	17%	1	6%	uninformative
<i>Imperata cylindrica</i>	3	67%	2	31%	positive
<i>Isachne globosa</i>	2	17%	0	0%	positive
<i>Kennedia rubicunda</i>	1	17%	1	8%	uninformative
<i>Lagenophora gracilis</i>	1	17%	1	1%	uninformative
<i>Lepidosperma filiforme</i>	3	17%	0	0%	positive
<i>Lepidosperma laterale</i>	3	33%	1	17%	uninformative
<i>Leptospermum juniperinum</i>	1	17%	2	2%	uninformative
<i>Leptospermum liversidgei</i>	1	17%	3	3%	uninformative
<i>Leptospermum polygalifolium</i>	1	17%	1	12%	uninformative
<i>Leucopogon lanceolatus</i>	1	50%	1	19%	uninformative
<i>Lindsaea microphylla</i>	1	17%	1	2%	uninformative
<i>Lobelia anceps</i>	2	33%	1	5%	uninformative
<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	2	17%	1	3%	uninformative
<i>Lomandra longifolia</i>	2	83%	2	51%	constant
<i>Lophostemon suaveolens</i>	4	100%	2	8%	positive
<i>Melaleuca alternifolia</i>	2	17%	2	1%	uninformative
<i>Melaleuca quinquenervia</i>	4	83%	2	11%	positive
<i>Melaleuca sieberi</i>	1	17%	3	4%	uninformative
<i>Notelaea longifolia</i>	2	33%	1	27%	uninformative
<i>Notelaea venosa</i>	1	17%	1	1%	uninformative
<i>Panicum obseptum</i>	2	17%	2	0%	uninformative
<i>Panicum pygmaeum</i>	1	17%	2	1%	uninformative
<i>Panicum simile</i>	1	17%	1	4%	uninformative
<i>Parsonsia straminea</i>	1	17%	1	28%	uninformative
<i>Patersonia glabrata</i>	2	33%	2	5%	uninformative
<i>Persoonia levis</i>	2	17%	1	2%	uninformative
<i>Persoonia stradbrokeensis</i>	1	50%	1	18%	uninformative
<i>Phyllota phyllicoides</i>	4	17%	3	1%	uninformative
<i>Pimelea linifolia</i>	1	17%	1	10%	uninformative
<i>Polymeria calycina</i>	1	17%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	33%	1	16%	uninformative
<i>Poranthera microphylla</i>	1	17%	1	2%	uninformative
<i>Pratia purpurascens</i>	1	33%	1	23%	uninformative
<i>Pteridium esculentum</i>	2	67%	2	31%	positive
<i>Ptilothrix deusta</i>	2	17%	4	2%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Pultenaea retusa</i>	3	67%	1	5%	positive
<i>Sacciolepis indica</i>	2	17%	1	0%	uninformative
<i>Schoenus apogon</i>	2	17%	1	1%	uninformative
<i>Themeda australis</i>	3	83%	3	23%	positive
<i>Trachymene incisa</i> subsp. <i>incisa</i>	1	17%	2	2%	uninformative
<i>Vernonia cinerea</i>	1	17%	1	11%	uninformative
<i>Viola banksii</i>	1	17%	1	16%	uninformative

ESCARPMENT NEW ENGLAND BLACKBUTT DRY FOREST

CH_DOF07

SCIENTIFIC NAME New England Blackbutt (*Eucalyptus campanulata*) PLANT COMMUNITY TYPE No equivalent
 - Coastal Blackbutt (*Eucalyptus pilularis*) – Thick-leaved Mahogany
 (*Eucalyptus carnea*) dry tall forest of the Orara Escarpment

STATEWIDE CLASS Dry Sclerophyll Forests – North Coast Dry
 Sclerophyll Forest (Keith 2006)



Description

A tall dry open forest located on the Orara Escarpment rim. The community is characterised by an association of New England Blackbutt (*Eucalyptus campanulata*) with Blackbutt (*Eucalyptus pilularis*) and Thick-leaved Mahogany (*Eucalyptus carnea*). A sparse mid stratum of Forest Oak (*Allocasuarina torulosa*) is often present and a variety of shrubs including Jackwood (*Cryptocarya glaucescens*), Two-veined Hickory (*Acacia binervata*), Blackwood (*Acacia melanoxylon*), Geebung (*Persoonia media*) and Olive-leaf Mint Bush (*Prostanthera ovalifolia*) are sparsely present. A dense cover of grasses, shrubs and ferns occupy the ground layer, the most common species being Spiny-headed Mat-rush (*Lomandra longifolia*), Soft Bracken (*Calochlaena dubia*), Snow grass (*Poa sieberiana*) and *Gonocarpus oreophilus*. No full floristic sites were collected in this map unit so description is indicative.

This community occurs sporadically on dry exposed crests and ridgelines along the edge of the Orara Escarpment rim.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	15-25	30-60	<i>Eucalyptus pilularis</i> , <i>Eucalyptus campanulata</i> , <i>Angophora costata</i> , <i>Eucalyptus carnea</i> .
Middle	5-15	5-10	<i>Allocasuarina torulosa</i> , <i>Acacia melanoxylon</i> , <i>Acacia binervata</i> .
Lower layer 1	1-3	10-25	<i>Trochocarpa laurina</i> , <i>Myrsine variabilis</i> , <i>Elaeocarpus reticulatus</i> , <i>Persoonia media</i> , <i>Cryptocarya glaucescens</i> , <i>Prostanthera ovalifolia</i>
Lower layer 2	0- 1.0	30-70	<i>Calochlaena dubia</i> , <i>Lomandra longifolia</i> , <i>Gonocarpus oreophilus</i> , <i>Poa sieberiana</i> .

* Data collated from 2 of 2 rapid data points

Structural and floristic variations

This highly restricted map unit has been sampled at only 2 locations in the study area and information about its structure is limited. From the survey data available, there appears to be a floristic variation in the understorey from dry sclerophyll (dominated by Two-veined Hickory (*Acacia binervata*), Snow grass (*Poa sieberiana*) and Spiny-headed Mat-rush (*Lomandra longifolia*) to a moist sclerophyll with Jackwood (*Cryptocarya glaucescens*), Soft Bracken (*Calochlaena dubia*) and *Gonocarpus oreophilus*. Further field sampling is required to clarify the floristic description for this map unit.

Conservation status

This community is reserved in Bindarri National Park (27ha), Bindarri State Conservation Area (3ha) and Dorrigo National Park (4ha).

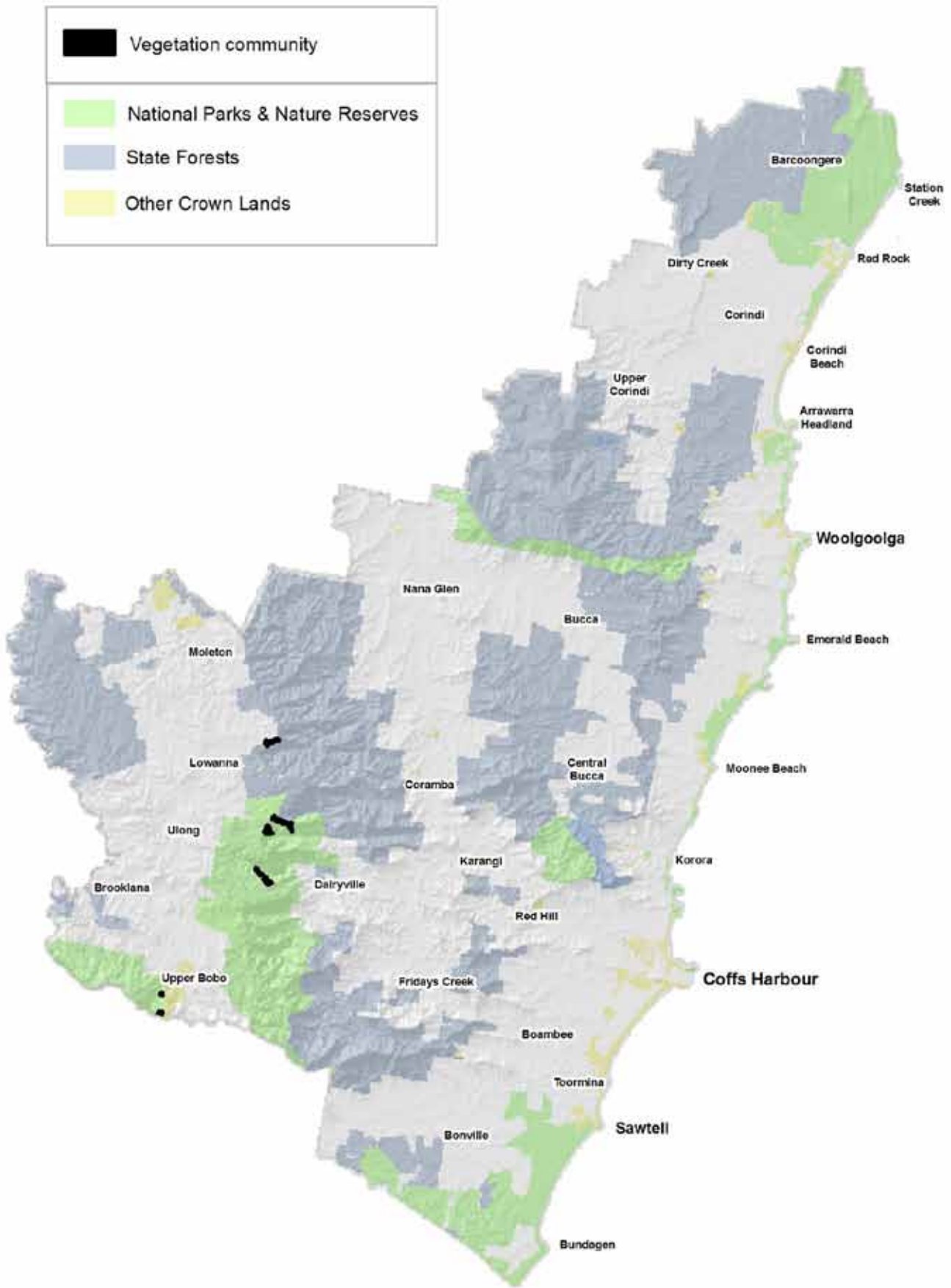
Tenure	Area (ha)
Crown Land	1
Freehold	1
National Park	24
NSW State Forest	9
State Conservation Area	3
TOTAL	37

Relationship to other communities

More exposed and drier variant of CH_WSF18 (Escarpment New England Blackbutt Wet Ferny Forest). Often intergrades with CH_DOF01 (Coast and Escarpment Blackbutt Dry Forest) and CH_WSF09 (Northern Escarpment Blackbutt - Apple Wet Ferny Forest). The presence of New England Blackbutt (*Eucalyptus campanulata*) is a key indicator of this community and is usually co-dominant with Coastal Blackbutt (*Eucalyptus pilularis*).

Locations

Known localities include Bushman's Range Road, east of Lowanna and Langley's Trail, Bindarri National Park.



COASTAL SAND BLOODWOOD - BANKSIA FOREST

CH_D0F08

SCIENTIFIC NAME Pink Bloodwood (*Corymbia intermedia*) – Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) shrubby dry open forest on Holocene dunes

PLANT COMMUNITY TYPE Pink Bloodwood – Brush Box open forest on coastal dunes and sand plains, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-467)

STATEWIDE CLASS Dry Sclerophyll Forests – North Coast Dune Sclerophyll Forest (Keith 2006)



Description

A dry open forest dominated by Pink Bloodwood (*Corymbia intermedia*) with a mid-layer of Tuckeroo (*Cupaniopsis anacardioides*), and Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*). There is an open to dense shrub layer of Large-leaf Hop-bush (*Dodonaea triquetra*), Bracken Fern (*Pteridium esculentum*) and *Xanthorrhoea glauca* subsp. *glauca*. The ground layer is sparse to open with Spiny-headed Mat-rush (*Lomandra longifolia*), Blady Grass (*Imperata cylindrica*), *Pomax umbellata*, White Root (*Pratia purpurascens*) and Basket Grass (*Oplismenus aemulus*). Dense tangles of Wait-a-while (*Smilax australis*) are common.

Located on Holocene dunes, ridges and strand plains in sheltered areas often between the Coast Banksia shrubland community and littoral rainforest. This community is mainly restricted to Bongil Bongil National Park with an outlying occurrence at Hearns Lake in Coffs Coast Regional Park.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	6-20	25-40	<i>Corymbia intermedia</i> .
Middle layer	3-8	10-20	<i>Cupaniopsis anacardioides</i> , <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> , <i>Callistemon salignus</i> , <i>Melaleuca quinquenervia</i> , <i>Guioa semiglauca</i> , <i>Smilax australis</i> .
Lower layer 1	0.2-4	25-60	<i>Dodonaea triquetra</i> , <i>Lomandra longifolia</i> , <i>Pteridium esculentum</i> , <i>Myrsine variabilis</i> , <i>Stephania japonica</i> var. <i>discolor</i> .
Lower layer 2	0-1	10-45	<i>Imperata cylindrica</i> , <i>Commelina cyanea</i> , <i>Pratia purpurascens</i> .

* Data collated from 4 flora plots.

Exotics

Chrysanthemoides monilifera subsp. *rotundata*, *Gloriosa superba*, *Lantana camara*, *Senna septemtrionalis*

Species richness

Number of plots	5
Total species	76
Average number of species	37 ±8

Conservation status

This community is reserved in Bongil Bongil National Park (123ha) and Coffs Coast Regional Park (5ha).

Tenure	Area (ha)
Crown Land	
Freehold	27
National Park	122
Regional Park	5
TOTAL	154

Relationship to other communities

Related to CH_DOF09 (Coast Sand Blackbutt - Bloodwood - Apple Forest) and CH_H01 (Coast Banksia Shrubland on Holocene Dunes). Distinguished from CH_DOF09 by dominance or co-dominance of *B. integrifolia* in the canopy.

Equivalentents

Biometric: NR220 - Pink Bloodwood open forest of the coastal lowlands of the North Coast

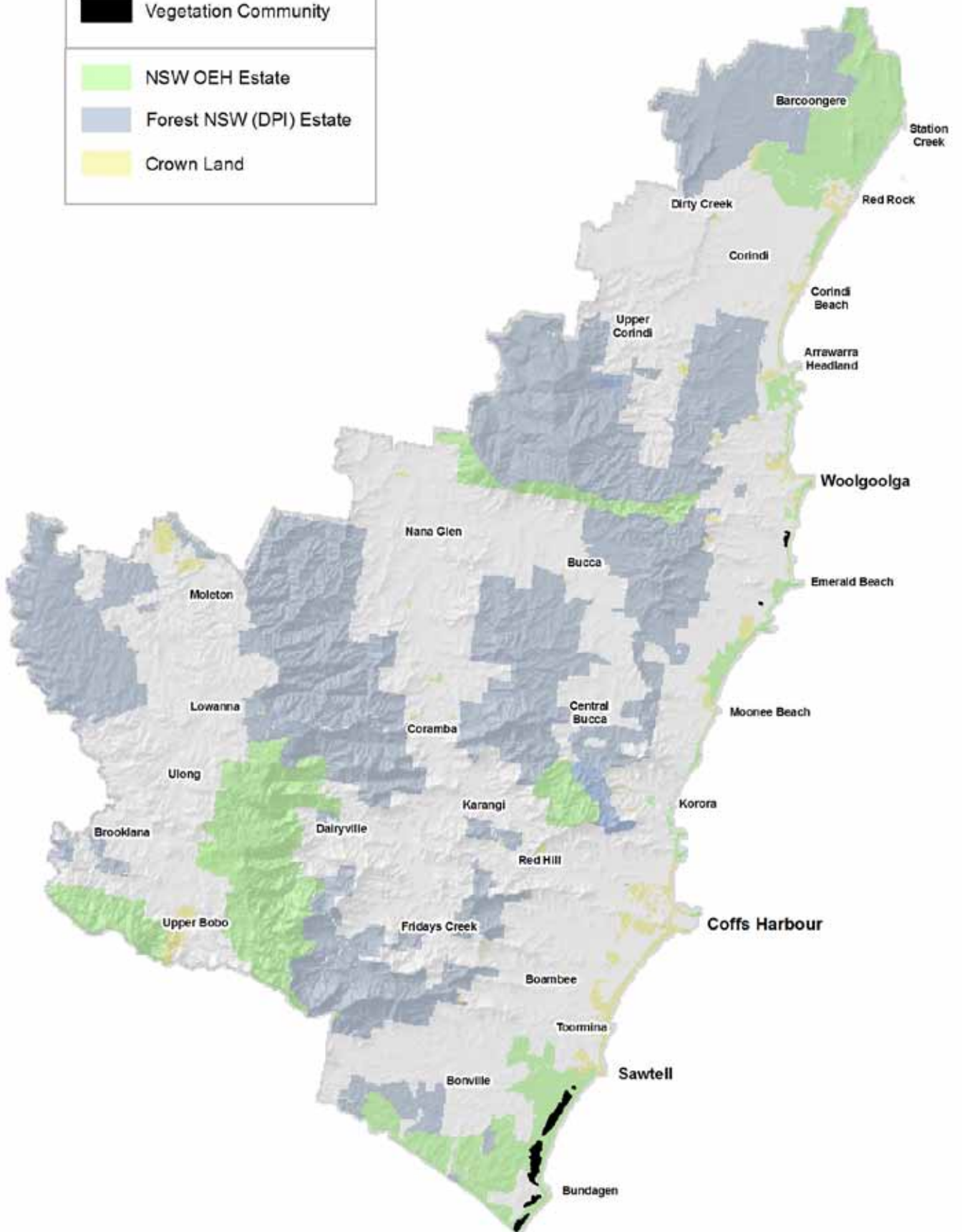
Other: N44a Dry Blackbutt (Fisher et al. 1996); Community 23-Pink Bloodwood on Holocene Dunes (Cameron et al. 2011)

Locations

Eastern Peninsula Trail, Bongil Bongil National Park; Moonee Beach Nature Reserve; Bundagen, Bongil Bongil National Park; Coffs Coast Regional Park.



	Vegetation Community
	NSW OEH Estate
	Forest NSW (DPI) Estate
	Crown Land



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia elongata</i>	1	20%	2	0%	uninformative
<i>Acacia maidenii</i>	1	20%	1	14%	uninformative
<i>Acacia melanoxylon</i>	2	40%	2	18%	uninformative
<i>Acacia ulicifolia</i>	1	20%	1	2%	uninformative
<i>Acianthus fornicatus</i>	2	40%	1	0%	uninformative
<i>Acmena smithii</i>	2	40%	1	26%	uninformative
<i>Acronychia imperforata</i>	1	20%	1	4%	uninformative
<i>Allocasuarina littoralis</i>	3	20%	3	9%	uninformative
<i>Alphitonia excelsa</i>	1	20%	1	14%	uninformative
<i>Alpinia caerulea</i>	1	20%	1	18%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	20%	1	32%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	2	80%	1	7%	positive
<i>Billardiera scandens</i>	1	40%	1	10%	uninformative
<i>Breynia oblongifolia</i>	1	100%	1	28%	uninformative
<i>Callistemon salignus</i>	2	20%	3	13%	uninformative
<i>Cayratia clematidea</i>	1	60%	1	7%	uninformative
<i>Cissus antarctica</i>	1	20%	1	19%	uninformative
<i>Cissus sterculiifolia</i>	1	40%	1	6%	uninformative
<i>Clerodendrum tomentosum</i>	1	20%	1	5%	uninformative
<i>Commelina cyanea</i>	2	40%	1	4%	uninformative
<i>Cordyline stricta</i>	1	60%	1	38%	uninformative
<i>Corymbia intermedia</i>	4	100%	2	20%	positive
<i>Cupaniopsis anacardioides</i>	2	100%	1	10%	positive
<i>Cyclophyllum longipetalum</i>	1	40%	1	5%	uninformative
<i>Cymbidium madidum</i>	1	60%	1	4%	uninformative
<i>Cymbopogon refractus</i>	1	20%	2	6%	uninformative
<i>Cyperus gracilis</i>	2	20%	1	1%	uninformative
<i>Davallia solida</i> var. <i>pyxidata</i>	1	20%	1	4%	uninformative
<i>Dianella caerulea</i>	1	60%	1	50%	uninformative
<i>Diospyros pentamera</i>	1	20%	2	6%	uninformative
<i>Dipodium variegatum</i>	1	20%	1	2%	uninformative
<i>Dodonaea triquetra</i>	3	40%	1	9%	uninformative
<i>Entolasia marginata</i>	1	60%	1	8%	uninformative
<i>Eragrostis leptostachya</i>	1	20%	1	0%	uninformative
<i>Eucalyptus grandis</i>	1	40%	3	17%	uninformative
<i>Eucalyptus microcorys</i>	2	40%	3	34%	uninformative
<i>Eucalyptus pilularis</i>	3	20%	3	27%	uninformative
<i>Eustrephus latifolius</i>	2	80%	1	29%	positive
<i>Ficinia nodosa</i>	1	20%	2	3%	uninformative
<i>Geitonoplesium cymosum</i>	1	20%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	20%	1	13%	uninformative
<i>Glycine clandestina</i>	1	60%	1	12%	uninformative
<i>Guioa semiglauca</i>	2	80%	1	27%	positive
<i>Hibbertia scandens</i>	1	100%	1	31%	uninformative
<i>Hybanthus stellarioides</i>	1	20%	1	4%	uninformative
<i>Imperata cylindrica</i>	3	100%	2	31%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Kennedia rubicunda</i>	1	40%	1	7%	uninformative
<i>Leucopogon lanceolatus</i>	1	60%	1	19%	uninformative
<i>Leucopogon margarodes</i>	1	60%	1	2%	uninformative
<i>Lomandra longifolia</i>	3	100%	2	51%	constant
<i>Lophostemon confertus</i>	1	20%	2	31%	uninformative
<i>Maclura cochinchinensis</i>	1	40%	1	6%	uninformative
<i>Marsdenia rostrata</i>	1	40%	1	8%	uninformative
<i>Melaleuca quinquenervia</i>	2	20%	2	12%	uninformative
<i>Mischocarpus pyriformis</i>	1	40%	2	4%	uninformative
<i>Myrsine variabilis</i>	1	80%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	40%	1	27%	uninformative
<i>Oplismenus aemulus</i>	2	20%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	1	60%	2	21%	uninformative
<i>Ottochloa gracillima</i>	3	20%	2	10%	uninformative
<i>Parsonia straminea</i>	1	60%	1	27%	uninformative
<i>Paspalidium distans</i>	1	20%	2	1%	uninformative
<i>Persoonia levis</i>	1	20%	2	2%	uninformative
<i>Persoonia stradbrokeensis</i>	1	20%	1	18%	uninformative
<i>Pisonia umbellifera</i>	1	20%	0	0%	positive
<i>Pittosporum revolutum</i>	1	20%	1	13%	uninformative
<i>Platynerium bifurcatum</i>	1	20%	1	16%	uninformative
<i>Platynerium superbum</i>	1	40%	1	5%	uninformative
<i>Polyscias elegans</i>	1	20%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	20%	1	16%	uninformative
<i>Pomax umbellata</i>	1	80%	1	5%	uninformative
<i>Pratia purpurascens</i>	2	80%	1	22%	positive
<i>Pteridium esculentum</i>	2	100%	1	31%	positive
<i>Pultenaea villosa</i>	2	20%	2	6%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	20%	1	5%	uninformative
<i>Rhodomyrtus psidioides</i>	3	20%	1	4%	uninformative
<i>Ripogonum brevifolium</i>	1	20%	1	1%	uninformative
<i>Rubus parvifolius</i>	1	40%	1	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	40%	1	9%	uninformative
<i>Smilax australis</i>	3	100%	1	44%	positive
<i>Smilax glycyphylla</i>	1	20%	1	29%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	80%	1	21%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	60%	2	34%	uninformative
<i>Syzygium australe</i>	2	20%	1	6%	uninformative
<i>Syzygium luehmannii</i>	1	20%	1	5%	uninformative
<i>Themeda australis</i>	1	20%	3	24%	uninformative
<i>Tripladenia cunninghamii</i>	1	20%	1	10%	uninformative
<i>Trochocarpa laurina</i>	1	20%	1	37%	uninformative
<i>Viola banksii</i>	2	40%	1	16%	uninformative
<i>Wilkiea huegeliana</i>	1	20%	1	28%	uninformative
<i>Xanthorrhoea glauca</i>	1	20%	0	0%	positive
<i>Xanthorrhoea macronema</i>	3	20%	1	6%	uninformative

COAST SAND BLACKBUTT - BLOODWOOD - APPLE FOREST

CH_DOF09

SCIENTIFIC NAME Pink Bloodwood (*Corymbia intermedia*) – Blackbutt (*Eucalyptus pilularis*) – Smooth-barked Apple (*Angophora costata*) tall dry open forest on sand

STATEWIDE CLASS Dry Sclerophyll Forests – Coastal Dune Dry Sclerophyll Forest (Keith 2006)

PLANT COMMUNITY TYPE Blackbutt – Sydney Red Gum/Bastard Tallowwood open forest on coastal dunes and sandplains of the South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW70-49)



Description

A tall dry to occasionally wet open forest that grows on coastal dune sands. The dominant trees are Blackbutt (*Eucalyptus pilularis*), Smooth-barked Apple (*Angophora costata*), Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*) and Pink Bloodwood (*Corymbia intermedia*). Other canopy trees may include Turpentine (*Syncarpia glomulifera*), Brush Box (*Lophostemon confertus*), Tindale's Stringybark (*Eucalyptus tindaliae*) and Grey Ironbark (*Eucalyptus siderophloia*). Old Man Banksia (*Banksia serrata*), Corkwood (*Endiandra sieberi*), Brush Box (*Lophostemon confertus*), and Forest Oak (*Allocasuarina torulosa*) may occur as a second tree layer. A sparse to moderately dense mid-stratum is usually present and composed mainly of Large-leaf Hop-bush (*Dodonaea triquetra*) and Coffee Bush (*Breynea oblongifolia*). The ground layer is composed of Blady Grass (*Imperata cylindrica*), Wiry Panic (*Entolasia stricta*), Wattle Mat-rush (*Lomandra filiformis*), Variable Sword-sedge (*Lepidosperma laterale*), Barbwire Grass (*Cymbopogon refractus*), Two-colour Panic (*Panicum simile*) and Three-awned Spear Grass (*Aristida vagans*).

Occurs in areas of well-drained sandy unconsolidated sediments over a range of landforms including large Pleistocene dunes, dry sites on backbarrier flats, and often associated with coastal creeks deposits. It occurs in relatively sheltered sites set back from the ocean and is distributed north from Bongil Bongil National Park to Station Creek in Yuraygir National Park.



Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	16-40	30-60	<i>Eucalyptus pilularis</i> , <i>Angophora costata</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> , <i>Corymbia intermedia</i> , <i>Syncarpia glomulifera</i> .
Middle	1-3	30-45	<i>Dodonaea triquetra</i> , <i>Breynia oblongifolia</i> , <i>Pteridium esculentum</i> , <i>Pultenaea villosa</i> , <i>Acacia falcata</i> , <i>Persoonia stradbrogensis</i> .
Lower layer 1	0-1.2	10-50	<i>Imperata cylindrica</i> , <i>Hovea longifolia</i> , <i>Pteridium esculentum</i> , <i>Leucopogon lanceolatus</i> , <i>Lomandra longifolia</i> .
Lower layer 2	0-0.5	10-70	<i>Entolasia stricta</i> , <i>Lomandra filiformis</i> , <i>Lepidosperma laterale</i> , <i>Aristida vagans</i> .

* Data collated from 2 of 2 full floristic sites. The description is developed from additional API sites which more fully documents the variation in this community.

Structural and floristic variations

Varies from heathy to grassy dry sclerophyll forest to some examples of taller wet sclerophyll forest on sand.

Species richness

Number of plots	6
Total species	112
Average number of species	37 ±6

Conservation status

This community is reserved in Bongil Bongil National Park (83ha), Coffs Coast Regional Park (1ha), Moonee Beach Nature Reserve (19ha) and Yuraygir National Park (141ha).

Tenure	Area (ha)
Crown Land	29
Freehold	48
National Park	238
Nature Reserve	19
Regional Park	1
TOTAL	334

Relationship to other communities

Closely related to CH_DOF01 (Coast and Escarpment Blackbutt Dry Forest) and CH_WSF12 (Brushbox-Corkwood Open Forest on sand). The key diagnostic feature for CH_DOF09 is the sandy substrate. This community is found adjacent to CH_FrW01 (Coastal Paperbark Swamp Oak Floodplain Forest), CH_SW02 (Estuarine Twig Rush Saltmarsh), CH_SW06 (Estuarine Sea Rush Saltmarsh), CH_SW07 (Estuarine Samphire - Saltwater Couch Saltmarsh) and CH_DOF06 (Lowlands Swamp Paperbark Red Gum Dry Forest).

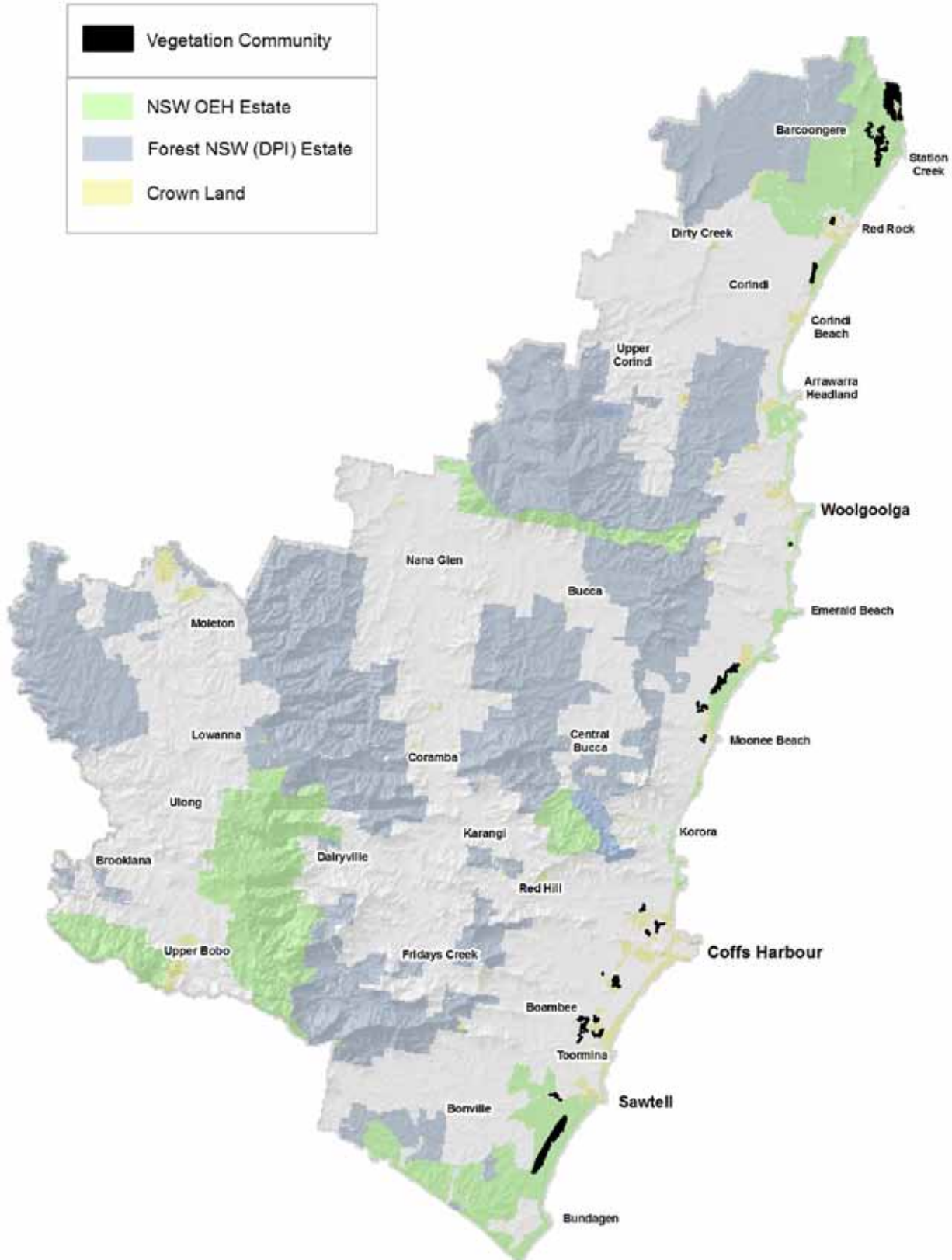
Equivalents

Biometric: (NR114) Blackbutt - bloodwood dry heathy open forest on Quaternary sands of the northern North Coast

Other: N44a Dry Blackbutt (Fisher et al. 1996); Community 23-Pink Bloodwood on Holocene Dunes (Cameron et al. 2011); Forest Ecosystem 27 - Coast Sands Blackbutt (ELA 2005).

Locations

Station Creek area (Yuraygir National Park); Red Rock (south of Corindi river estuary); Moonee Beach Nature Reserve; Lower Coffs Creek area (Botanic Gardens and surrounds); Lower Boambee and Newport's Creek; Bongil Bongil National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	1	50%	2	5%	uninformative
<i>Acacia falcata</i>	2	100%	2	1%	positive
<i>Acacia longifolia</i>	1	50%	1	6%	uninformative
<i>Acacia suaveolens</i>	1	100%	1	3%	uninformative
<i>Acacia ulicifolia</i>	1	50%	1	2%	uninformative
<i>Aristida vagans</i>	1	50%	2	2%	uninformative
<i>Aristida warburgii</i>	2	50%	2	1%	positive
<i>Banksia spinulosa</i> var. <i>collina</i>	1	50%	2	5%	uninformative
<i>Baumea juncea</i>	1	50%	3	4%	uninformative
<i>Billardiera scandens</i>	2	50%	1	10%	positive
<i>Breynia oblongifolia</i>	2	100%	1	29%	positive
<i>Caladenia catenata</i>	2	50%	0	0%	positive
<i>Callistemon salignus</i>	2	50%	3	12%	positive
<i>Casuarina glauca</i>	1	50%	3	7%	uninformative
<i>Corymbia intermedia</i>	3	100%	2	20%	positive
<i>Desmodium rhytidophyllum</i>	1	50%	1	7%	uninformative
<i>Desmodium varians</i>	2	50%	1	6%	positive
<i>Dianella caerulea</i>	1	50%	1	50%	uninformative
<i>Digitaria parviflora</i>	1	50%	1	3%	uninformative
<i>Dodonaea triquetra</i>	4	100%	1	9%	positive
<i>Entolasia stricta</i>	2	100%	2	24%	positive
<i>Eucalyptus pilularis</i>	4	100%	3	27%	positive
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	3	100%	3	10%	positive
<i>Eucalyptus siderophloia</i>	1	50%	3	10%	uninformative
<i>Eustrephus latifolius</i>	2	50%	1	29%	positive
<i>Glycine clandestina</i>	2	100%	1	12%	positive
<i>Hibbertia aspera</i>	2	100%	1	10%	positive
<i>Hibbertia scandens</i>	2	50%	1	31%	positive
<i>Hibbertia vestita</i>	1	50%	1	12%	uninformative
<i>Hovea longifolia</i>	2	100%	1	0%	positive
<i>Imperata cylindrica</i>	4	100%	2	31%	positive
<i>Kennedia rubicunda</i>	2	100%	1	7%	positive
<i>Lepidosperma laterale</i>	1	100%	1	16%	uninformative
<i>Leucopogon lanceolatus</i>	2	100%	1	19%	positive
<i>Lomandra filiformis</i>	1	50%	1	12%	uninformative
<i>Lomandra longifolia</i>	2	100%	2	51%	constant
<i>Lophostemon confertus</i>	1	50%	2	31%	uninformative
<i>Marsdenia fraseri</i>	1	50%	1	1%	uninformative
<i>Marsdenia rostrata</i>	1	100%	1	8%	uninformative
<i>Melaleuca nodosa</i>	2	50%	3	3%	positive
<i>Myrsine variabilis</i>	1	50%	1	16%	uninformative
<i>Notelaea ovata</i>	2	100%	1	3%	positive
<i>Olearia nernstii</i>	1	50%	2	0%	uninformative
<i>Oplismenus aemulus</i>	2	50%	2	12%	positive
<i>Panicum simile</i>	2	100%	1	4%	positive
<i>Patersonia glabrata</i>	1	50%	2	5%	uninformative
<i>Persoonia stradbokensis</i>	2	100%	1	18%	positive
<i>Polyscias sambucifolia</i>	1	50%	1	16%	uninformative
<i>Pomax umbellata</i>	1	50%	1	6%	uninformative
<i>Pseuderanthemum variabile</i>	2	50%	2	27%	positive
<i>Pteridium esculentum</i>	4	100%	2	31%	positive
<i>Pultenaea villosa</i>	2	100%	2	5%	positive
<i>Syncarpia glomulifera</i>	3	100%	2	39%	positive
<i>Xanthorrhoea macronema</i>	1	50%	1	6%	uninformative

FOOTHILLS SPOTTED GUM - MAHOGANY - GREY GUM - IRONBARK DRY FOREST

CH_DOF10

SCIENTIFIC NAME Coastal Foothills Spotted Gum (*Corymbia variegata*) – Thick-leaved Mahogany (*Eucalyptus carnea*) – Small-fruited Grey Gum (*Eucalyptus propinqua*) – Grey Ironbark (*Eucalyptus siderophloia*) grassy dry exposed open forest on sediments and metasediments

PLANT COMMUNITY TYPE Tallowwood – Thick-leaved Mahogany – Small-fruited Grey Gum – Grey Ironbark grassy open forest on shallow sedimentary soils, NSW North Coast Bioregion and South Eastern Queensland Bioregion (NSW1500-124)

STATEWIDE CLASS Dry Sclerophyll Forests – North Coast Dry Sclerophyll Forest (Keith 2006)



Description

A dry open forest with Thick-leaved White Mahogany (*Eucalyptus carnea*), Small-fruited Grey Gum (*Eucalyptus propinqua*), Grey Ironbark (*Eucalyptus siderophloia*) and Spotted Gum (*Corymbia variegata*). Other canopy species that are common in few sites include Red Ironbark (*Eucalyptus fibrosa*), Tallowwood (*Eucalyptus microcorys*) and Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*). There are occurrences of Large-fruited Spotted Gum (*Corymbia henryi*) which are mapped with this community. A small tree layer of Forest Oak (*Allocasuarina torulosa*) and, at some sites, Green Wattle (*Acacia irrorata*) is present. Other shrubs such as Fringe Wattle (*Acacia fimbriata*) may occur. The ground layer comprises of Kangaroo Grass (*Themeda australis*), Blady Grass (*Imperata cylindrica*), *Lepidosperma laterale*, Wiry Panic (*Entolasia stricta*), *Glycine clandestina*, *Cheilanthes sieberi* subsp. *sieberi* and White Root (*Pratia purpurascens*).

This community occurs commonly on dry aspects of ridges and upper slopes on shallow soils derived from coarse and fine grained sedimentary and metasedimentary rocks. The community is distributed in three main localities in coastal and hinterland hills of the Coast Range, Barcoongeree Low Hills and Gleniffer - Bonville Hills. There is an outlying occurrence in Boambee State Forest.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	10 - 30	25 - 60	<i>Eucalyptus siderophloia</i> , <i>Corymbia variegata</i> , <i>Eucalyptus carnea</i> , <i>Eucalyptus pyrocarpa</i> , <i>Eucalyptus propinqua</i> .
Middle Layer 1	5 - 15	20	<i>Allocasuarina torulosa</i> , <i>Acacia irrorata</i> .
Lower layer 1	1 - 1.8	10 - 20	<i>Lomandra longifolia</i> , <i>Cymbopogon refractus</i> .
Lower layer 2	0.3 - 0.6	80	<i>Themeda australis</i> , <i>Imperata cylindrica</i> , <i>Lepidosperma laterale</i> , <i>Entolasia stricta</i> , <i>Pratia purpurascens</i> .

* Data collated from 4 of 12 full floristic sites

Structural and floristic variations

At Madman's Creek in Conglomerate State Forest there is a Spotted Gum (*Corymbia variegata*) – Thick-leaved Mahogany (*Eucalyptus carnea*) dominated dry sclerophyll forest. The heathy understorey contains shrubs of *Sannantha collina* and Lemon-scented Tea-tree (*Leptospermum petersonii*) over a ground cover of Kangaroo Grass (*Themeda australis*).

Exotics *Andropogon virginicus*, *Cinnamomum camphora*, *Cirsium vulgare*, *Lantana camara*, *Sida rhombifolia*

Species richness

Number of plots	21
Total species	212
Average number of species	37 ±7.7

Conservation status

This community is reserved Madman's Creek Flora Reserve (15ha) and Sherwood Nature Reserve (40ha).

Tenure	Area (ha)
Crown Land	2
Freehold	600
Nature Reserve	40
NSW State Forest	1 591
NSW State Forest Flora Reserve	15
TOTAL	2 248

Threatened and Rare plants: *Eucalyptus rummeryi*, *Plectranthus suaveolens*

Relationship to other communities

Related to CH_DOF05 (Foothills Grey Gum – Ironbark – Mahogany Dry Forest), CH_WSF17 (Foothills Turpentine - Grey Gum - Ironbark Moist Shrubby Forest) and CH_WSF11 (Foothills Spotted Gum – Mahogany - Grey Gum Wet Shrubby Forest). CH_DOF10 can be distinguished by the higher abundance (typically dominant or sub-dominant) of Spotted Gum (*Corymbia variegata*) and is distinguished from CH_WSF11 by a characteristic dry grassy/shrubby understorey. The mapped occurrence of the map unit Ch_DOF10 has been shown to include elements of the dry sclerophyll community CH_DOF05 (Foothills Grey Gum-Ironbark - Mahogany Dry Forest) as the dominance of Spotted Gum decreases. As CH_DOF10 grades into wet sclerophyll forest, elements of the communities CH_WSF11 (Foothills Spotted Gum - Mahogany - Grey Gum Wet Shrubby Forest), CH_WSF17 (Foothills Turpentine - Grey Gum - Ironbark Moist Shrubby Forest) and CH_WSF03 (Foothills and Escarpment Blue Gum - Tallowwood -Turpentine Wet Shrubby Forest) may be present.

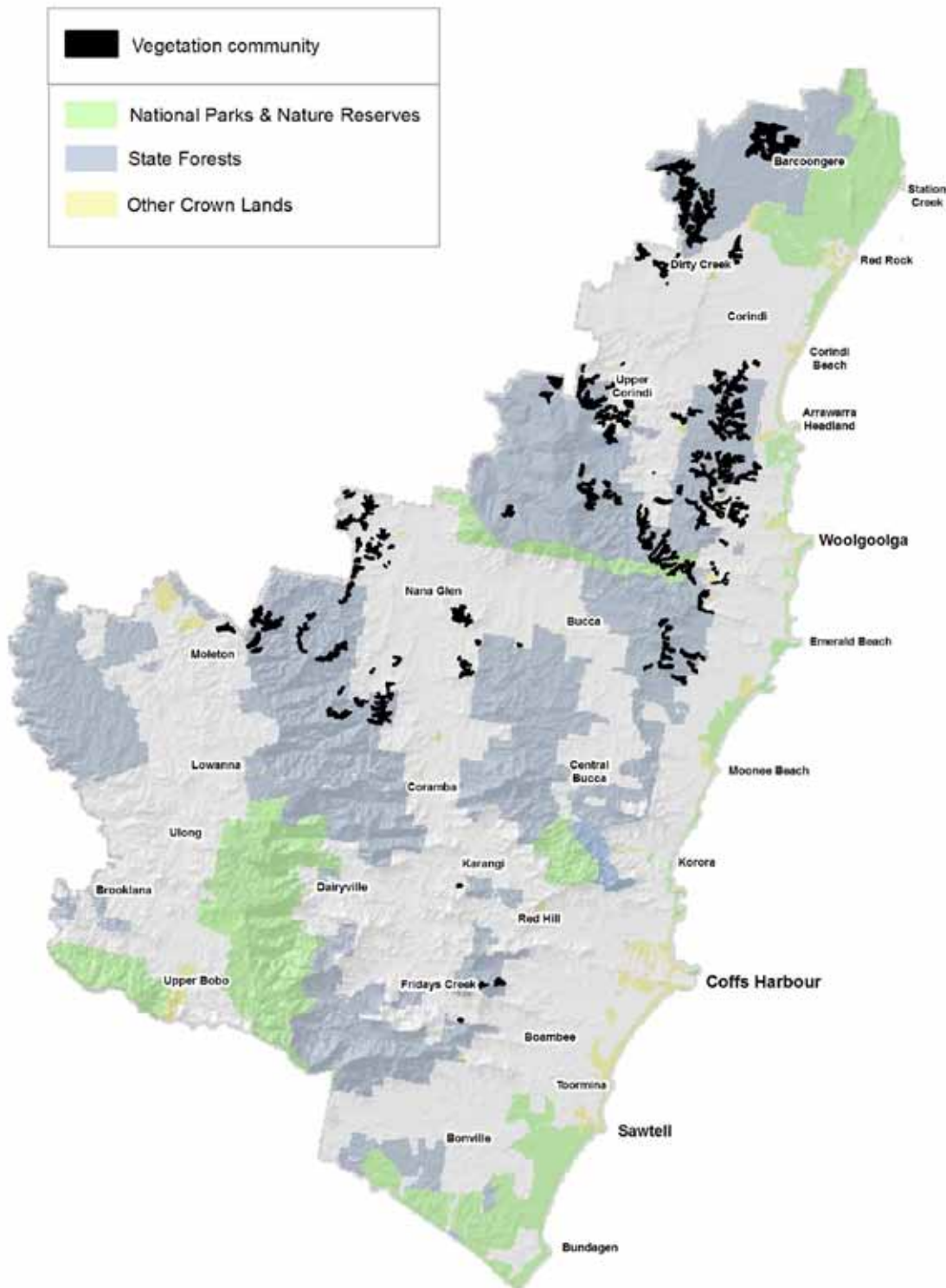
Equivalents

Biometric: (NR174) Grey Gum - Spotted Gum open forest of the southern Clarence lowlands of the North Coast

Other: N67c Dry Ironbark/Grey Gum (Fisher et al.1996), Forest Ecosystem 55 (NPWS 1999)

Locations

Boambee State Forest; Nana Creek and Day Dawn Creek in Bagawa State Forest; Bagawa Creek; Orara East State Forest; Wedding Bells State Forest; Conglomerate State Forest, Newfoundland State Forest, Upper Corindi and West Woolgoolga area.




Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia binervata</i>	2	14%	2	5%	uninformative
<i>Acacia complanata</i>	1	14%	1	1%	uninformative
<i>Acacia concurrens</i>	2	5%	2	0%	uninformative
<i>Acacia falcata</i>	2	5%	2	1%	uninformative
<i>Acacia falciformis</i>	2	10%	0	0%	positive
<i>Acacia fimbriata</i>	2	14%	1	5%	uninformative
<i>Acacia irrorata</i>	2	29%	1	7%	uninformative
<i>Acacia maidenii</i>	2	14%	1	14%	uninformative
<i>Acacia melanoxylon</i>	1	29%	2	18%	uninformative
<i>Acalypha nemorum</i>	1	5%	1	0%	uninformative
<i>Adiantum hispidulum</i>	1	5%	2	9%	uninformative
<i>Allocasuarina littoralis</i>	1	5%	3	10%	uninformative
<i>Allocasuarina torulosa</i>	2	81%	2	33%	positive
<i>Alloteropsis semialata</i>	1	5%	0	0%	positive
<i>Alphitonia excelsa</i>	1	33%	1	13%	uninformative
<i>Alpinia caerulea</i>	1	5%	1	18%	uninformative
<i>Angophora costata</i>	2	14%	2	14%	uninformative
<i>Angophora floribunda</i>	3	5%	2	1%	uninformative
<i>Angophora woodsiana</i>	1	5%	1	1%	uninformative
<i>Archirhodomomyrtus beckleri</i>	1	14%	2	24%	uninformative
<i>Archontophoenix cunninghamiana</i>	2	5%	1	33%	uninformative
<i>Aristida vagans</i>	2	19%	2	2%	uninformative
<i>Arthropodium sp. B</i>	1	5%	0	0%	positive
<i>Billardiera scandens</i>	1	24%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	2	5%	2	40%	uninformative
<i>Breynia oblongifolia</i>	1	62%	1	28%	uninformative
<i>Brunoniella australis</i>	1	14%	1	2%	uninformative
<i>Calochlaena dubia</i>	2	10%	2	27%	uninformative
<i>Caustis flexuosa</i>	1	5%	2	1%	uninformative
<i>Cayratia clematidea</i>	1	14%	1	7%	uninformative
<i>Celastrus subspicata</i>	1	10%	1	4%	uninformative
<i>Cenchrus caliculatus</i>	1	10%	1	0%	uninformative
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	1	33%	1	2%	uninformative
<i>Chorizema parviflorum</i>	1	5%	1	1%	uninformative
<i>Chrysocephalum apiculatum</i>	1	5%	1	0%	uninformative
<i>Cissus antarctica</i>	1	19%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	29%	1	38%	uninformative
<i>Clematicissus opaca</i>	1	5%	1	0%	uninformative
<i>Clematis aristata</i>	2	19%	1	10%	uninformative
<i>Clematis glycinoides</i>	1	5%	1	6%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	2	5%	1	10%	uninformative
<i>Clerodendrum tomentosum</i>	1	5%	1	5%	uninformative
<i>Cordyline stricta</i>	1	5%	1	40%	uninformative
<i>Coronidium elatum</i>	1	5%	1	0%	uninformative
<i>Corymbia gummifera</i>	2	38%	2	7%	uninformative
<i>Corymbia intermedia</i>	3	5%	2	21%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Corymbia variegata</i>	3	86%	3	2%	positive
<i>Cryptocarya microneura</i>	2	5%	1	21%	uninformative
<i>Cymbidium suave</i>	1	19%	1	2%	uninformative
<i>Cymbopogon refractus</i>	2	48%	2	4%	uninformative
<i>Cyperus enervis</i>	2	5%	3	0%	uninformative
<i>Cyperus imbecillis</i>	2	5%	0	0%	positive
<i>Davallia solida</i> var. <i>pyxidata</i>	1	14%	1	3%	uninformative
<i>Daviesia arborea</i>	3	5%	0	0%	positive
<i>Daviesia ulicifolia</i>	2	5%	2	0%	uninformative
<i>Daviesia umbellulata</i>	1	10%	2	2%	uninformative
<i>Derris involuta</i>	2	5%	1	1%	uninformative
<i>Desmodium brachypodum</i>	1	24%	1	5%	uninformative
<i>Desmodium rhytidophyllum</i>	1	48%	1	5%	uninformative
<i>Desmodium varians</i>	1	19%	1	6%	uninformative
<i>Dianella caerulea</i>	1	90%	1	48%	uninformative
<i>Dichelachne micrantha</i>	1	24%	1	0%	uninformative
<i>Digitaria divaricatissima</i>	2	10%	3	0%	uninformative
<i>Digitaria parviflora</i>	3	10%	1	3%	uninformative
<i>Diospyros australis</i>	1	5%	2	1%	uninformative
<i>Dodonaea triquetra</i>	2	10%	1	9%	uninformative
<i>Doodia aspera</i>	2	5%	2	16%	uninformative
<i>Doodia caudata</i>	1	5%	2	1%	uninformative
<i>Drypetes deplanchei</i>	1	5%	1	4%	uninformative
<i>Duboisia myoporoides</i>	1	5%	1	5%	uninformative
<i>Echinopogon caespitosus</i>	2	19%	1	2%	uninformative
<i>Elaeocarpus reticulatus</i>	1	5%	1	28%	uninformative
<i>Entolasia stricta</i>	2	57%	2	23%	positive
<i>Eremochloa bimaculata</i>	1	5%	0	0%	positive
<i>Eucalyptus acmenoides</i>	2	19%	2	8%	uninformative
<i>Eucalyptus amplifolia</i>	2	5%	0	0%	positive
<i>Eucalyptus biturbinata</i>	3	10%	2	0%	uninformative
<i>Eucalyptus carnea</i>	3	100%	2	6%	positive
<i>Eucalyptus fibrosa</i>	2	24%	1	0%	uninformative
<i>Eucalyptus microcorys</i>	2	52%	3	34%	positive
<i>Eucalyptus pilularis</i>	3	33%	3	27%	uninformative
<i>Eucalyptus propinqua</i>	3	81%	3	10%	positive
<i>Eucalyptus pyrocarpa</i>	3	14%	3	2%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	3	19%	3	10%	uninformative
<i>Eucalyptus rummeryi</i>	4	10%	3	1%	uninformative
<i>Eucalyptus siderophloia</i>	3	81%	3	7%	positive
<i>Eucalyptus tereticornis</i>	1	5%	3	1%	uninformative
<i>Eucalyptus tindaliae</i>	3	5%	3	0%	uninformative
<i>Euroschinus falcatus</i>	1	5%	1	4%	uninformative
<i>Eustrephus latifolius</i>	1	52%	1	28%	uninformative
<i>Ficus coronata</i>	1	5%	1	13%	uninformative
<i>Fimbristylis dichotoma</i>	1	5%	1	0%	uninformative
<i>Gahnia aspera</i>	1	10%	1	14%	uninformative
<i>Gahnia sieberiana</i>	1	5%	2	6%	uninformative
<i>Geitonoplesium cymosum</i>	1	14%	1	24%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	24%	1	13%	uninformative
<i>Glycine clandestina</i>	1	86%	1	9%	uninformative
<i>Glycine microphylla</i>	1	5%	1	3%	uninformative
<i>Glycine tabacina</i>	1	14%	1	1%	uninformative
<i>Glycine tomentella</i>	1	5%	0	0%	positive
<i>Gompholobium latifolium</i>	1	5%	1	3%	uninformative
<i>Gompholobium pinnatum</i>	1	5%	1	4%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	5%	1	4%	uninformative
<i>Goodenia rotundifolia</i>	1	24%	1	4%	uninformative
<i>Guioa semiglauca</i>	1	5%	1	29%	uninformative
<i>Gymnostachys anceps</i>	1	10%	1	19%	uninformative
<i>Haemodorum austroqueenslandicum</i>	1	5%	1	0%	uninformative
<i>Hakea florulenta</i>	2	5%	3	1%	uninformative
<i>Hakea laevipes</i> subsp. <i>laevipes</i>	1	5%	1	1%	uninformative
<i>Hakea salicifolia</i>	1	5%	1	1%	uninformative
<i>Hardenbergia violacea</i>	1	38%	1	7%	uninformative
<i>Hibbertia aspera</i>	1	24%	1	10%	uninformative
<i>Hibbertia dentata</i>	1	5%	1	7%	uninformative
<i>Hibbertia linearis</i>	1	5%	2	0%	uninformative
<i>Hibbertia obtusifolia</i>	1	10%	1	1%	uninformative
<i>Hibbertia scandens</i>	1	14%	1	32%	uninformative
<i>Hibbertia vestita</i>	1	19%	1	11%	uninformative
<i>Hybanthus enneaspermus</i>	1	38%	1	1%	uninformative
<i>Hybanthus stellarioides</i>	2	10%	1	4%	uninformative
<i>Hypericum japonicum</i>	1	10%	0	0%	positive
<i>Hypoxis hygrometrica</i>	1	10%	1	0%	uninformative
<i>Imperata cylindrica</i>	3	86%	2	29%	positive
<i>Indigofera australis</i>	2	33%	1	3%	uninformative
<i>Jacksonia scoparia</i>	2	10%	1	2%	uninformative
<i>Kennedia rubicunda</i>	2	38%	1	6%	uninformative
<i>Lagenophora gracilis</i>	1	19%	1	0%	uninformative
<i>Laxmannia gracilis</i>	1	5%	3	0%	uninformative
<i>Lepidosperma laterale</i>	2	43%	1	16%	uninformative
<i>Leptospermum polygalifolium</i>	1	5%	1	13%	uninformative
<i>Leucopogon lanceolatus</i>	1	19%	1	19%	uninformative
<i>Leucopogon parviflorus</i>	2	5%	1	1%	uninformative
<i>Lindsaea linearis</i>	1	14%	1	3%	uninformative
<i>Lobelia dentata</i>	1	5%	0	0%	positive
<i>Lomandra filiformis</i>	1	52%	1	10%	uninformative
<i>Lomandra laxa</i>	1	14%	1	0%	uninformative
<i>Lomandra longifolia</i>	2	67%	2	51%	constant
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	2	5%	1	5%	uninformative
<i>Lomatia silaifolia</i>	2	5%	1	9%	uninformative
<i>Lophostemon confertus</i>	1	33%	2	31%	uninformative
<i>Maclura cochinchinensis</i>	1	5%	1	7%	uninformative
<i>Macrozamia fawcettii</i>	1	24%	1	1%	uninformative
<i>Maytenus bilocularis</i>	2	10%	1	4%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	1	5%	2	4%	uninformative
<i>Monotoca scoparia</i>	1	5%	1	3%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Morinda jasminoides</i>	1	10%	1	38%	uninformative
<i>Muellerina eucalyptoides</i>	1	5%	0	0%	positive
<i>Murdannia graminea</i>	1	10%	0	0%	positive
<i>Notelaea longifolia</i>	1	19%	1	27%	uninformative
<i>Notelaea ovata</i>	2	5%	1	3%	uninformative
<i>Oplismenus aemulus</i>	1	19%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	2	5%	2	23%	uninformative
<i>Ozothamnus diosmifolius</i>	1	43%	1	7%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	33%	1	11%	uninformative
<i>Panicum obseptum</i>	2	5%	2	0%	uninformative
<i>Panicum simile</i>	1	19%	1	4%	uninformative
<i>Parsonsia straminea</i>	1	5%	1	29%	uninformative
<i>Paspalidium distans</i>	2	10%	2	1%	uninformative
<i>Persoonia conjuncta</i>	2	10%	1	1%	uninformative
<i>Persoonia cornifolia</i>	2	10%	2	0%	uninformative
<i>Persoonia levis</i>	2	10%	1	2%	uninformative
<i>Persoonia media</i>	2	19%	1	6%	uninformative
<i>Persoonia stradbrokeensis</i>	1	29%	1	18%	uninformative
<i>Phyllanthus gunnii</i>	2	5%	1	1%	uninformative
<i>Phyllanthus hirtellus</i>	1	10%	1	2%	uninformative
<i>Pimelea linifolia</i>	2	5%	1	10%	uninformative
<i>Pittosporum revolutum</i>	1	14%	1	13%	uninformative
<i>Platynerium bifurcatum</i>	1	5%	1	17%	uninformative
<i>Platynerium superbum</i>	1	5%	1	5%	uninformative
<i>Plectranthus parviflorus</i>	1	14%	1	2%	uninformative
<i>Plectranthus suaveolens</i>	1	10%	0	0%	positive
<i>Poa labillardierei</i> var. <i>labillardierei</i>	1	14%	1	0%	uninformative
<i>Poa sieberiana</i>	2	10%	2	4%	uninformative
<i>Podolobium scandens</i>	1	10%	1	0%	uninformative
<i>Polygala japonica</i>	1	5%	0	0%	positive
<i>Polyscias elegans</i>	2	10%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	2	19%	1	16%	uninformative
<i>Pomaderris andromedifolia</i>	1	5%	0	0%	positive
<i>Pratia purpurascens</i>	2	52%	1	22%	positive
<i>Pseuderanthemum variabile</i>	1	33%	2	27%	uninformative
<i>Psychotria loniceroides</i>	1	14%	1	14%	uninformative
<i>Pteridium esculentum</i>	2	33%	2	32%	uninformative
<i>Pteris tremula</i>	2	5%	1	0%	uninformative
<i>Pultenaea euchila</i>	2	10%	1	0%	uninformative
<i>Pultenaea retusa</i>	2	10%	1	6%	uninformative
<i>Pultenaea villosa</i>	2	14%	2	5%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	5%	1	5%	uninformative
<i>Rhodomyrtus psidioides</i>	2	10%	1	4%	uninformative
<i>Rubus parvifolius</i>	1	24%	1	3%	uninformative
<i>Rubus rosifolius</i>	1	5%	2	4%	uninformative
<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	1	24%	1	1%	uninformative
<i>Smilax australis</i>	1	24%	1	45%	uninformative
<i>Solanum aviculare</i>	1	5%	1	0%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Solanum hapalum</i>	1	24%	1	5%	uninformative
<i>Solanum inaequilaterum</i>	1	5%	1	1%	uninformative
<i>Solanum stelligerum</i>	1	10%	1	1%	uninformative
<i>Sorghum leiocladum</i>	1	10%	0	0%	positive
<i>Stephania japonica</i> var. <i>discolor</i>	1	14%	1	22%	uninformative
<i>Syncarpia glomulifera</i>	1	43%	3	39%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	5%	2	36%	uninformative
<i>Themeda australis</i>	4	95%	2	21%	positive
<i>Trema tomentosa</i> var. <i>aspera</i>	2	14%	1	3%	uninformative
<i>Tripladenia cunninghamii</i>	1	5%	1	10%	uninformative
<i>Trochocarpa laurina</i>	1	14%	1	38%	uninformative
<i>Urtica incisa</i>	1	5%	0	0%	positive
<i>Vernonia cinerea</i>	1	43%	1	9%	uninformative
<i>Viola betonicifolia</i>	1	5%	2	1%	uninformative
<i>Viola hederacea</i>	1	5%	2	2%	uninformative
<i>Wahlenbergia planiflora</i>	1	5%	0	0%	positive
<i>Xanthorrhoea johnsonii</i>	2	10%	2	1%	uninformative
<i>Xanthorrhoea macronema</i>	2	5%	1	6%	uninformative
<i>Xanthorrhoea malacophylla</i>	1	5%	3	1%	uninformative

NORTHERN ESCARPMENT MAHOGANY GRASSY DRY FOREST

CH_D0F11

SCIENTIFIC NAME Thick-leaved Mahogany (*Eucalyptus carnea*) grassy dry open forest of exposed slopes on shallow metasedimentary soils of the Little Nymboida River

PLANT COMMUNITY TYPE Thick-leaved Mahogany grassy woodland on shallow, rocky soils, NSW North Coast Bioregion and South Eastern Queensland Bioregion (NSW700-82)

STATEWIDE CLASS Dry Sclerophyll Forests – Northern Escarpment Mahogany Grassy Dry Forest (Keith 2006)



Description

A dry open forest characterised by an overstorey dominated by Thick-leaved Mahogany (*Eucalyptus carnea*) and Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*). A mid stratum of Forest Oak (*Allocasuarina torulosa*) is usually present. A sparse layer of shrubs includes Broad-leaved Geebung (*Persoonia cornifolia*), Hickory Wattle (*Acacia implexa*) and Coffee Bush (*Breynia oblongifolia*). The ground layer is dominated mainly by grasses and shrubs including Kangaroo Grass (*Themeda australis*), *Poa sieberiana*, Spiny-headed Mat-rush (*Lomandra longifolia*) and Broad-leaved Rice Flower (*Pimelea latifolia*). No full floristic information has been collected for this map unit, therefore the description given here is indicative only.

Restricted to dry exposed crests and ridgelines of shallow metasedimentary soils in Wild Cattle Creek State Forest near the junction of Little Nymboida River and Bobo River.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	15 - 25	30 - 60	<i>Eucalyptus carnea</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> .
Middle	5 - 15	5 - 10	<i>Allocasuarina torulosa</i> .
Lower layer 1	1 - 3	10 - 25	<i>Persoonia cornifolia</i> , <i>Acacia implexa</i> , <i>Breynia oblongifolia</i> .
Lower layer 2	0 - 1.0	30 - 70	<i>Themeda australis</i> , <i>Poa sieberiana</i> , <i>Lomandra longifolia</i> , <i>Pimelea latifolia</i> , <i>Lomandra filiformis</i> , <i>Imperata cylindrica</i> , <i>Desmodium brachypodium</i> .

* Data collated from 2 of 2 Rapid Data points

Conservation status

This map unit is not currently reserved in the Coffs Harbour LGA.

Tenure	Area (ha)
Crown Land	21
Freehold	1
NSW State Forest	38
TOTAL	60

Relationship to other communities

CH_DOF11 shares some species and structural similarities with CH_DOF05 (Foothills Grey Gum - Ironbark - Mahogany Dry Forest). CH_DOF11 generally occurs on more exposed sites with very shallow soils. A sparser shrub layer, a dense ground layer of Kangaroo Grass (*Themeda australis*) and strong dominance of Thick-leaved Mahogany (*Eucalyptus carnea*) are all key features of CH_DOF11.

Equivalents

Biometric: No equivalent

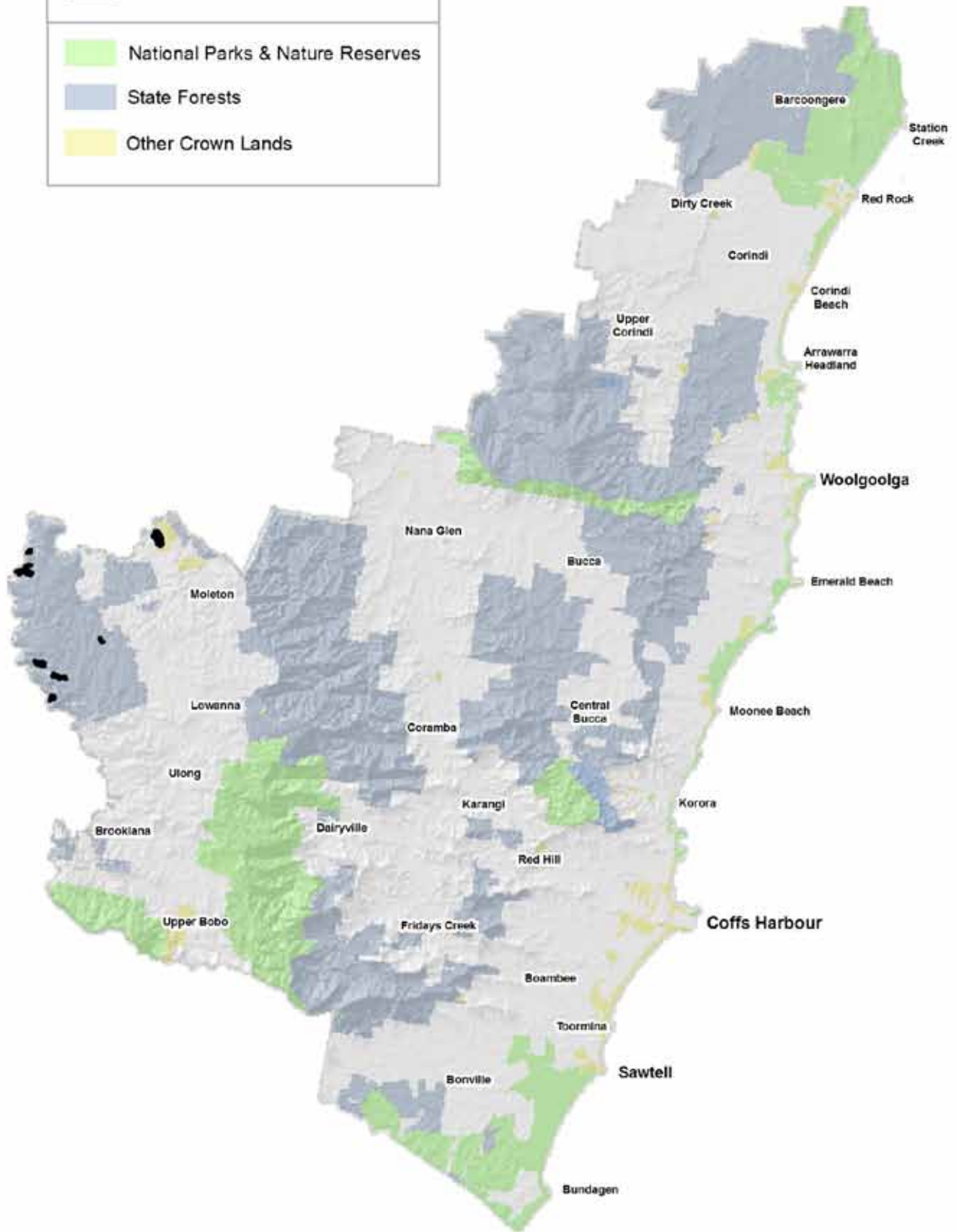
Other: RN17 61 - Broad-leaved White Mahogany (Forest Commission of NSW, 1989)

Locations

Known localities include Timmsvale Road near the junction of Little Nymboida River and Bobo River.

Diagnostic species

Map unit only, no site information for diagnostic species.





Heathlands

COAST BANKSIA SHRUBLAND ON HOLOCENE DUNES

SCIENTIFIC NAME Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) shrubland on Holocene dunes

STATEWIDE CLASS Heathlands – Coastal Headland Heaths (Keith 2006)

PLANT COMMUNITY TYPE Coast Banksia - Tuckeroo closed forest/shrubland of coastal Holocene dunes, NSW North Coast Bioregion and South Eastern Queensland Bioregion (NSW700-473)



Description

An open to closed forest located along Holocene fore dunes. Relatively undisturbed areas of this community have an overstorey characterised by Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*), Tuckeroo (*Cupaniopsis anacardioides*), and Brush Cherry (*Syzygium australe*). Coast Wattle (*Acacia longifolia* subsp. *sophorae*) and Beach Acronychia (*Acronychia imperforata*) may occur in the middle strata. Lawyer Vine (*Smilax australis*) is common growing as tangles in the various strata. The ground is comprised of *Dianella congesta*, Blady Grass (*Imperata cylindrica* var. *major*), Native violet (*Viola banksii*), Bracken Fern (*Pteridium esculentum*), Prickly Couch (*Zoysia macrantha*) and Creeping Beard Grass (*Oplismenus imbecillis*).

Floristic summary

Layer	Height	Cover	Dominant Species
Tallest	1-15	10-75	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i> , <i>Cupaniopsis anacardioides</i> , <i>Syzygium australe</i> , <i>Cryptocarya triplinervis</i> , <i>Alectryon coriaceus</i> .
Middle	0.5-8	10-60	<i>Smilax australis</i> , <i>Acacia longifolia</i> subsp. <i>sophorae</i> , <i>Acronychia imperforata</i> .
Lower	0-2	20-70	<i>Dianella congesta</i> , <i>Imperata cylindrica</i> var. <i>major</i> , <i>Pteridium esculentum</i> , <i>Zoysia macrantha</i> , <i>Oplismenus imbecillis</i> , <i>Viola banksii</i> .

* Data collated from 7 of 7 full floristic sites

Structural and floristic variations

The condition of this community varies considerably from open derived grassland with emergent Coast Banksias (*Banksia integrifolia* subsp. *integrifolia*) to dense low shrublands with Bitou Bush (*Chrysanthemoides rotundifolia* subsp. *monilifera*) and to shrublands and open forests with littoral rainforest elements. In disturbed examples, the overstorey is often composed of scattered Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) and sometimes with plantings of native species such as Coast Tea-tree (*Leptospermum laevigatum*) and Horse-tail She-oak (*Casuarina equisetifolia*). Disturbed open areas often have a lower layer of weeds such as Bitou Bush (*Chrysanthemoides rotundifolia* subsp. *monilifera*) and grasses, while more protected and less disturbed sites contain littoral rainforest species such as Tuckeroo (*Cupaniopsis anacardioides*), Beach Apple (*Acronychia imperforata*) and Beach Bird's Eye (*Alectryon coriaceus*). Some of the least disturbed examples of this community occur in Bongil Bongil National Park south of Bundagen Headland.

Exotics *Andropogon virginicus*, *Bidens pilosa*, *Chrysanthemoides monilifera* subsp. *rotundata*, *Cinnamomum camphora*, *Conyza bonariensis*, *Conyza parva*, *Gloriosa superba*, *Lantana camara*, *Oenothera affinis*, *Paspalum mandiocanum*, *Protasparagus aethiopicus*, *Senecio madagascariensis*, *Senna septemtrionalis*, *Solanum chenopodioides*, *Solanum nigrum*, *Sonchus oleraceus*

Species richness

Number of plots	5
Total native species	76
Average number of species	24 ±5.8

Conservation status

This community is reserved in Bongil Bongil National Park (83ha), Coffs Coast Regional Park (53ha), Moonee Beach Nature Reserve (37ha) and Yuraygir National Park (42ha)

Tenure	Area (ha)
Crown Land	147
Freehold	56
National Park	106
Nature Reserve	37
Regional Park	57
TOTAL	404

Threatened and Rare plants: *Sophora tomentosa*

Relationship to other communities

Related to and often occurring adjacent to CH_H02 (Coast Wattle Shrublands) and CH_H06 (Coast Headland Banksia). CH_H01 (Coast Banksia Shrubland on Holocene Dunes) is distinguished by having a dominance of Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) in a shrubland or low open forest form. CH_D0F08 (Coastal Sand Bloodwood – Banksia Forest) may also have a co-dominance of Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) in the middle strata but is characterised by having a taller forest structure with Pink Bloodwood (*Corymbia intermedia*) and Tallowwood (*Eucalyptus microcorys*). CH_H01 is also related to and intergrades with CH_RF13 (Coastal Sheltered Dune Littoral Rainforest) and CH_RF07 (Coastal Exposed Dune Littoral Rainforest).

Equivalentents

Biometric: NR151- Coastal headland heaths of the North Coast

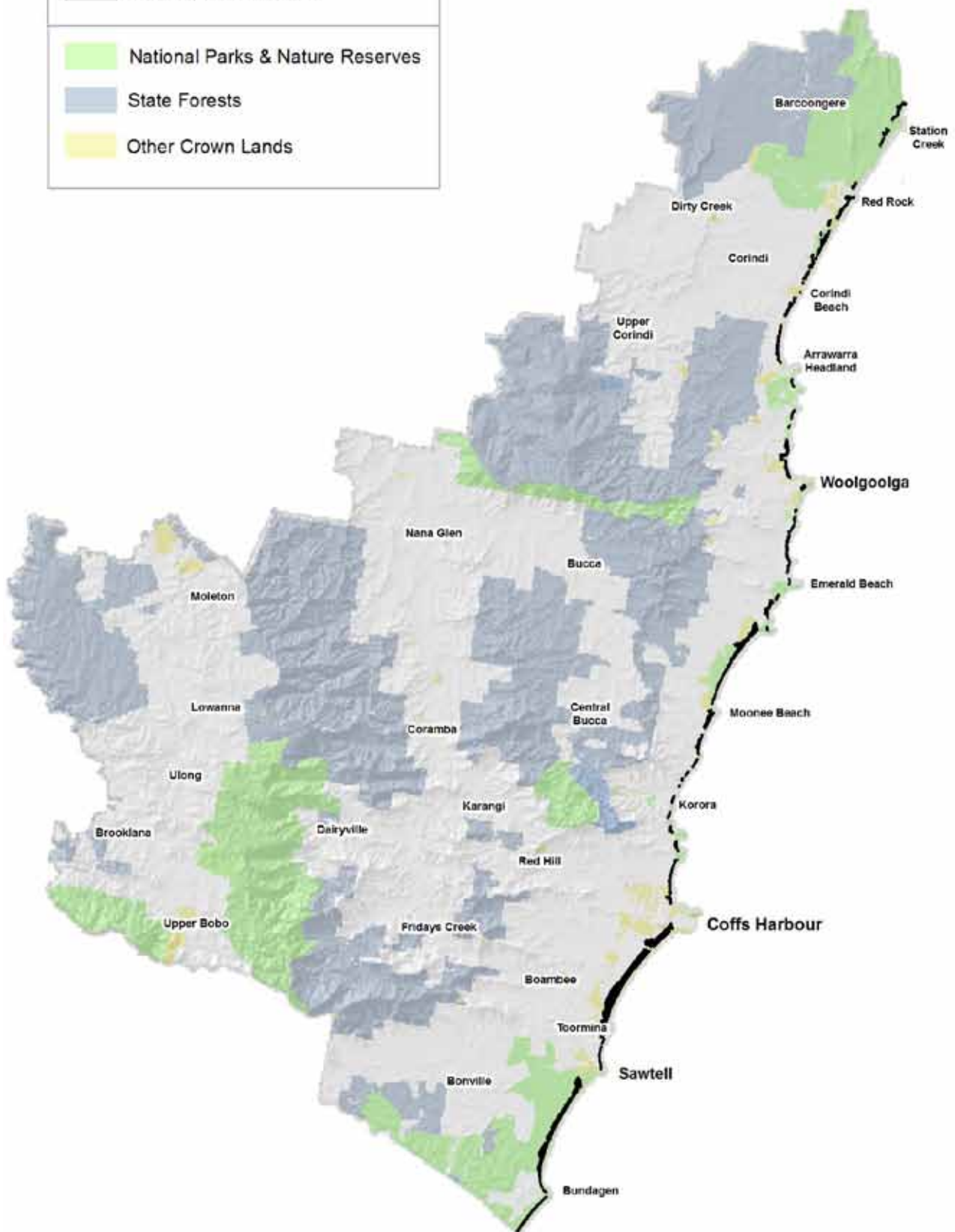
Other: N75a Foredune complex (Fisher et al. 1996); Community 4- Coast Banksia Shrublands (Cameron et al. 2011).

Locations

Bongil Bongil National Park between Tuckers Rock and Bonville Headland; Boambee Beach.




	Vegetation community
	National Parks & Nature Reserves
	State Forests
	Other Crown Lands



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia disparrima</i> subsp. <i>disparrima</i>	1	14%	0	0%	positive
<i>Acacia longifolia</i>	1	86%	1	5%	uninformative
<i>Acacia maidenii</i>	1	29%	1	14%	uninformative
<i>Acacia melanoxylon</i>	1	14%	2	19%	uninformative
<i>Acianthus exsertus</i>	3	14%	0	0%	positive
<i>Acmena smithii</i>	1	14%	1	27%	uninformative
<i>Acronychia imperforata</i>	2	57%	1	3%	positive
<i>Alectryon coriaceus</i>	3	57%	2	2%	positive
<i>Alphitonia excelsa</i>	1	14%	1	14%	uninformative
<i>Asplenium australasicum</i>	1	14%	1	9%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	4	100%	1	6%	positive
<i>Breynia oblongifolia</i>	1	71%	1	29%	uninformative
<i>Carpobrotus glaucescens</i>	2	14%	1	1%	uninformative
<i>Casuarina glauca</i>	3	14%	2	7%	uninformative
<i>Cayratia clematidea</i>	2	43%	1	7%	uninformative
<i>Cissus antarctica</i>	1	14%	1	19%	uninformative
<i>Clerodendrum tomentosum</i>	1	14%	1	5%	uninformative
<i>Commelina cyanea</i>	2	57%	1	4%	positive
<i>Crinum pedunculatum</i>	1	43%	1	3%	uninformative
<i>Cryptocarya triplinervis</i>	3	29%	1	4%	uninformative
<i>Cupaniopsis anacardioides</i>	3	100%	1	10%	positive
<i>Cymbopogon refractus</i>	2	14%	2	6%	uninformative
<i>Cyperus eglobosus</i>	2	14%	0	0%	positive
<i>Cyperus enervis</i>	3	14%	2	0%	uninformative
<i>Cyperus gracilis</i>	2	14%	1	1%	uninformative
<i>Dianella caerulea</i>	2	43%	1	50%	uninformative
<i>Dianella congesta</i>	3	43%	1	1%	uninformative
<i>Digitaria parviflora</i>	1	14%	1	3%	uninformative
<i>Dodonaea triquetra</i>	1	14%	1	9%	uninformative
<i>Einadia hastata</i>	1	14%	1	0%	uninformative
<i>Elaeocarpus reticulatus</i>	1	14%	1	27%	uninformative
<i>Eragrostis leptostachya</i>	1	14%	1	0%	uninformative
<i>Excoecaria agallocha</i>	1	14%	0	0%	positive
<i>Ficinia nodosa</i>	1	71%	2	2%	uninformative
<i>Geitonoplesium cymosum</i>	2	29%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	14%	1	13%	uninformative
<i>Glycine clandestina</i>	2	29%	1	12%	uninformative
<i>Guioa semiglauca</i>	3	14%	1	28%	uninformative
<i>Hibbertia scandens</i>	2	57%	1	31%	positive
<i>Hydrocotyle peduncularis</i>	2	43%	1	5%	uninformative
<i>Imperata cylindrica</i>	3	86%	2	31%	positive
<i>Leptospermum variabile</i>	1	14%	0	0%	positive
<i>Leucopogon lanceolatus</i>	1	43%	1	19%	uninformative
<i>Leucopogon parviflorus</i>	1	29%	2	0%	uninformative
<i>Lomandra filiformis</i>	1	14%	1	12%	uninformative
<i>Lomandra longifolia</i>	2	71%	2	51%	constant
<i>Maclura cochinchinensis</i>	1	57%	1	6%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Melichrus procumbens</i>	1	14%	1	1%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	1	14%	2	3%	uninformative
<i>Monotoca elliptica</i>	1	43%	1	2%	uninformative
<i>Muellerina celastroides</i>	1	14%	1	0%	uninformative
<i>Myrsine variabilis</i>	2	29%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	14%	1	27%	uninformative
<i>Oplismenus imbecillis</i>	3	43%	2	21%	uninformative
<i>Persoonia stradbrokeensis</i>	1	29%	1	18%	uninformative
<i>Platycerium bifurcatum</i>	1	14%	1	16%	uninformative
<i>Platycerium superbum</i>	1	14%	1	5%	uninformative
<i>Polyscias elegans</i>	1	14%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	2	14%	1	16%	uninformative
<i>Pomax umbellata</i>	1	14%	1	6%	uninformative
<i>Pratia purpurascens</i>	2	29%	1	23%	uninformative
<i>Psychotria loniceroides</i>	1	14%	1	14%	uninformative
<i>Pteridium esculentum</i>	2	57%	2	31%	positive
<i>Rhodomyrtus psidioides</i>	3	14%	1	4%	uninformative
<i>Rubus parvifolius</i>	2	43%	1	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	14%	1	9%	uninformative
<i>Scaevola calendulacea</i>	2	14%	3	0%	uninformative
<i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>	2	14%	2	1%	uninformative
<i>Smilax australis</i>	2	100%	1	44%	positive
<i>Sophora tomentosa</i>	1	14%	0	0%	positive
<i>Spinifex sericeus</i>	1	14%	4	1%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	2	57%	1	21%	positive
<i>Syzygium australe</i>	2	43%	1	5%	uninformative
<i>Viola banksii</i>	2	43%	1	16%	uninformative
<i>Viola hederacea</i>	4	14%	2	2%	uninformative
<i>Zoysia macrantha</i>	3	43%	3	3%	uninformative

COAST WATTLE SHRUBLANDS

SCIENTIFIC NAME Coast Wattle (*Acacia longifolia* subsp. *sophorae*) shrublands

STATEWIDE CLASS Heathlands – Coastal Headland Heaths (Keith 2006)

PLANT COMMUNITY TYPE Coast Wattle shrubland on coastal foredunes in the South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-675)



Description

A heathland to shrubland commonly found on coastal foredunes throughout the Local Government Area. Coast Wattle (*Acacia longifolia* subsp. *sophorae*) is most abundant in the upper layer, with the exotic Bitou Bush (*Chrysanthemoides monilifera* subsp. *rotundata*) also occurring and forming mono-dominant stands in disturbed sites. Shrubs of Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) may also be present along with isolated occurrences of Horsetail She-oak (*Casuarina equisetifolia*). In less disturbed sites grasses such as *Zoysia macrantha*, Blady Grass (*Imperata cylindrica*) and Coastal Spinifex (*Spinifex sericeus*) form a dense ground layer. A range of coastal dune species *Dianella congesta*, *Oxalis rubens*, Club Rush (*Ficinia nodosa*) and Blue Fan Flower (*Scaevola calendulacea*) may also occur.

Floristic summary

Layer	Height	Cover	Dominant Species
Lower layer 1	0.3-1.5	70	<i>Acacia longifolia</i> subsp. <i>sophorae</i> .
Lower layer 2	0-0.4	60	<i>Spinifex sericeus</i> , <i>Imperata cylindrica</i> , <i>Zoysia macrantha</i> .

* Data collated from 3 of 3 full floristic sites

Structural and floristic variations

The community varies in the abundance and cover of Coast Wattle (*Acacia longifolia* subsp. *sophorae*) and Bitou Bush (*Chrysanthemoides monilifera* subsp. *rotundata*).

Exotics *Chrysanthemoides monilifera* subsp. *rotundata*

Species richness

Number of plots	2
Total native species	7
Average number of species	5 ±0

Conservation status

This community is reserved in Bongil Bongil National Park (33ha), Coffs Coast Regional Park (20ha), Moonee Beach Nature Reserve (33ha) Yuraygir National Park (97ha)

Tenure	Area (ha)
Crown Land	77
Freehold	3
National Park	132
Nature Reserve	34
Regional Park	28
TOTAL	273

Threatened and Rare plants: *Sophora tomentosa*

Relationship to other communities

Related to and often occurring adjacent to CH_G01 (Strandline Grassland), and CH_H01 (Coast Banksia Shrubland on Holocene Dunes). It also associates with CH_SW05 (Coastal Headland Twig Rush Sedgeland Soak).

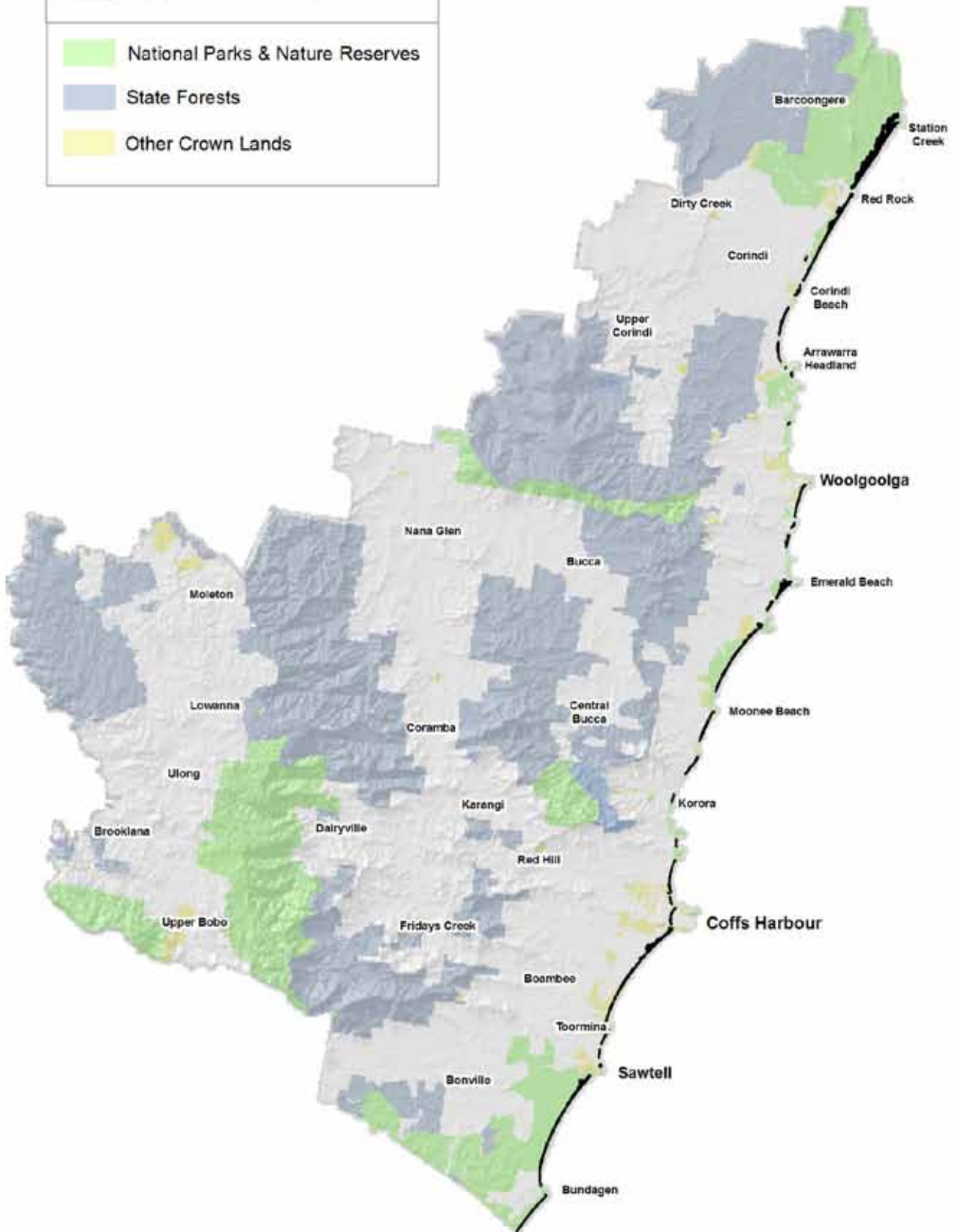
Equivalents

Biometric: NR151- Coastal headland heaths of the North Coast

Other: N75a - Foredune complex (Fisher et al. 1996); Community 3- Coast Wattle Shrublands (Cameron et al. 2011).

Locations

Bonville Beach; Boambee Beach; Sawtell Beach; Jetty Beach; Sapphire Beach; Safety Beach; Emerald Beach, Fiddaman's Beach, Woolgoolga Beach, Hearn's Lake, Ocean View Beach, Corindi Beach, Red Rock Surf Beach.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	5	100%	1	5%	positive
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	67%	1	8%	uninformative
<i>Carpobrotus glaucescens</i>	1	33%	2	1%	uninformative
<i>Crinum pedunculatum</i>	1	33%	1	4%	uninformative
<i>Dianella congesta</i>	1	33%	3	1%	uninformative
<i>Ficinia nodosa</i>	1	33%	2	3%	uninformative
<i>Hibbertia scandens</i>	1	33%	1	32%	uninformative
<i>Imperata cylindrica</i>	3	67%	2	32%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Monotoca elliptica</i>	1	33%	1	2%	uninformative
<i>Oxalis rubens</i>	2	33%	1	0%	uninformative
<i>Rhagodia candolleana</i> subsp. <i>candolleana</i>	1	33%	2	0%	uninformative
<i>Sarcopetalum harveyanum</i>	2	33%	1	9%	uninformative
<i>Scaevola calendulacea</i>	3	33%	3	0%	uninformative
<i>Spinifex sericeus</i>	4	67%	4	1%	positive
<i>Zoysia macrantha</i>	4	100%	3	3%	positive

KANGAROO GRASS HEADLAND GRASSLANDS

CH_H03

SCIENTIFIC NAME Kangaroo Grass (*Themeda australis*) Headland Grasslands

PLANT COMMUNITY TYPE Kangaroo Grass sod grassland of North Coast headlands, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-384)

STATEWIDE CLASS Heathlands – Coastal Headland Heaths (Keith 2006)



Description

A grassland in which Kangaroo Grass (*Themeda australis*) is clearly most abundant. Blue Couch (*Cynodon dactylon*) and Prickly Couch (*Zoysia macrantha*) may also occur. Abundant shrubs include the prostate *Pultenaea maritima*, Guinea Flower (*Hibbertia vestita*), and Rice Flower (*Pimelea linifolia*). Scattered Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) occurs as an emergent. Herbs include the twining *Polymeria calycina*, and succulent *Apium prostratum*, Fireweed (*Senecio pinnatifolius* subsp. *pinnatifolius*), *Melanthera biflora* and Everlasting Daisy (*Xerochrysum bracteatum*).

This community occurs on metasedimentary and volcanic geology on exposed locations on headlands with salt laden onshore winds.

Floristic summary

Layer	Height	Cover	Dominant Species
Ground	0-0.3	75-90	<i>Themeda australis</i> , <i>Pultenaea maritima</i> , <i>Cynodon dactylon</i> , <i>Zoysia macrantha</i> , <i>Hibbertia vestita</i> , <i>Melanthera biflora</i> .

* Data collated from 6 of 7 full floristic sites

Structural and floristic variations

There is variation in the abundance of grasses such as Prickly Couch (*Zoysia macrantha*) and Blue Couch (*Cynodon dactylon*) and shrubs such as Coastal Bush-pea (*Pultenaea maritima*).

Exotics *Chrysanthemoides monilifera* subsp. *rotundata*, *Conyza bonariensis*, *Gamochaeta spicata*, *Hypochaeris radicata*, *Paspalum mandiocanum*, *Pennisetum clandestinum*, *Plantago lanceolata*, *Poa annua*, *Polycarpon tetraphyllum*, *Senecio madagascariensis*, *Sporobolus africanus*, *Stenotaphrum secundatum*, *Taraxacum officinale*

Species richness

Number of plots	7
Total native species	53
Average number of species	16 ±2.0

Conservation status

This community is reserved in Coffs Coast Regional Park (20ha) and Moonee Beach Nature Reserve (12ha).

Tenure	Area (ha)
Crown Land	12
Freehold	1
Nature Reserve	12
Regional Park	21
TOTAL	46

Endangered Ecological Community: *Themeda* grassland on seacliffs and coastal headlands on the NSW North Coast, Sydney Basin and South East Corner bioregions EEC

Threatened and Rare plants: *Plectranthus cremnus*, *Pultenaea maritima*, *Thesium australe*, *Zieria prostrata*

Relationship to other communities

Related to CH_H06 (Coast Headland Banksia) and CH_SW05 (Twig Rush Headland Sedgeland Soaks).

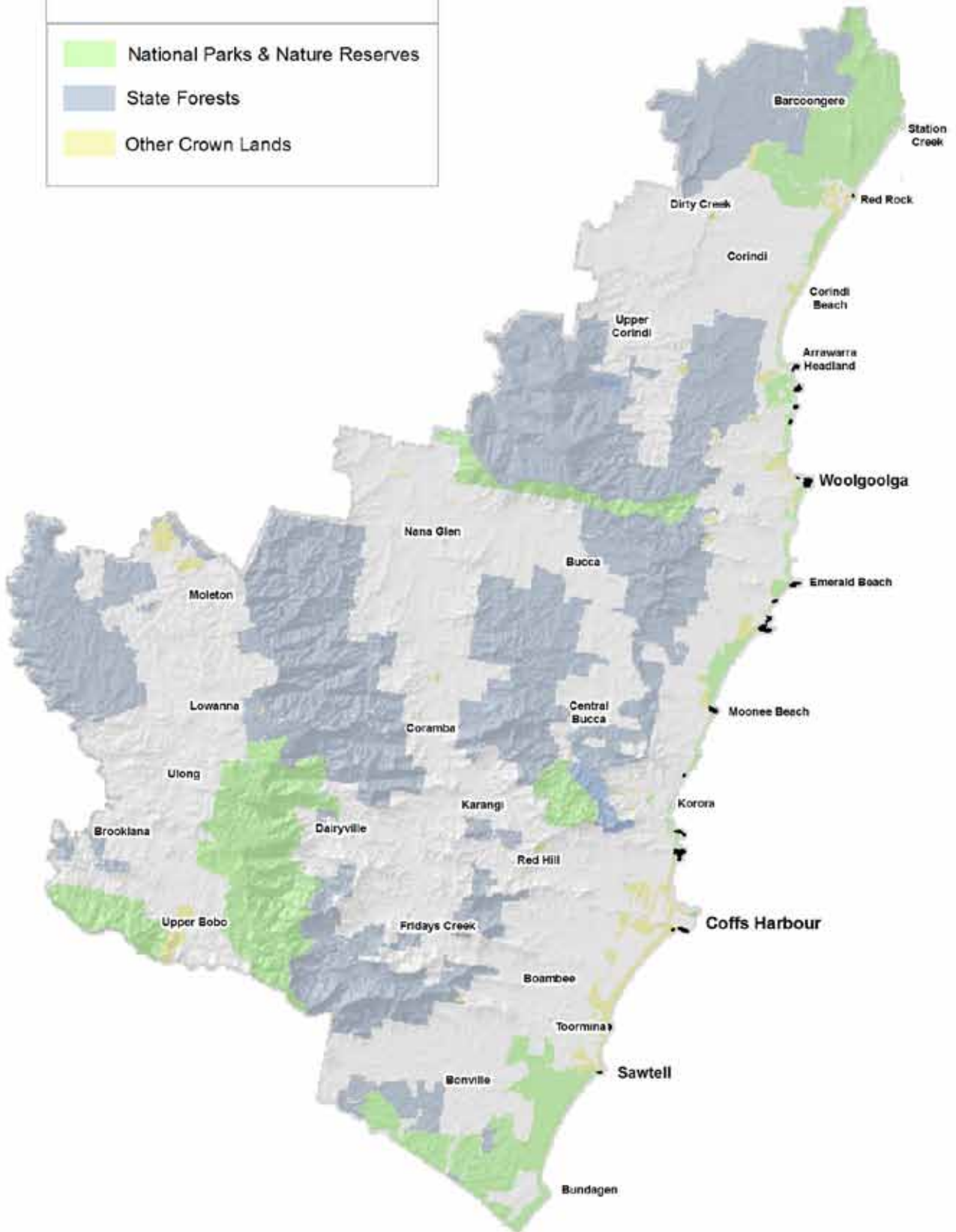
Equivalents

Biometric: NR271- *Themeda australis* sod tussock grassland of coastal areas of the North Coast

Other: SG6302 - 3513 Headland Heath and Grassland (Fisher et al. 1996).

Locations

Sawtell Headland, Boambee Headland, Corambirra Point, Macauley's Headland, Korora Headland, Green Bluff; Look-at-me-now Headland; Dammerels Headland, Diggers Point; Bare Bluff; Woolgoolga Headland; Mullaway Headland; Ocean View Headland; Arrawarra Headland; Red Rock Headland.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Apium prostratum</i>	2	14%	1	1%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	57%	2	7%	uninformative
<i>Carex breviculmis</i>	1	14%	0	0%	positive
<i>Carex pumila</i>	1	29%	3	1%	uninformative
<i>Carpobrotus glaucescens</i>	1	14%	2	1%	uninformative
<i>Cassytha glabella</i> f. <i>glabella</i>	1	14%	1	5%	uninformative
<i>Centella asiatica</i>	1	57%	1	2%	uninformative
<i>Commelina cyanea</i>	1	14%	1	5%	uninformative
<i>Cotula australis</i>	1	14%	0	0%	positive
<i>Cynodon dactylon</i>	3	29%	4	0%	uninformative
<i>Cyperus polystachyos</i>	1	14%	2	1%	uninformative
<i>Desmodium varians</i>	1	29%	1	6%	uninformative
<i>Dianella congesta</i>	1	14%	3	1%	uninformative
<i>Dichondra repens</i>	1	14%	1	5%	uninformative
<i>Einadia hastata</i>	1	29%	1	0%	uninformative
<i>Entolasia stricta</i>	1	14%	2	25%	uninformative
<i>Ficinia nodosa</i>	1	14%	2	3%	uninformative
<i>Gonocarpus tetragynus</i>	2	29%	1	3%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	2	29%	1	3%	uninformative
<i>Goodenia rotundifolia</i>	3	29%	1	4%	uninformative
<i>Hibbertia vestita</i>	2	71%	1	11%	positive
<i>Hybanthus stellarioides</i>	1	29%	1	4%	uninformative
<i>Hydrocotyle peduncularis</i>	1	43%	1	5%	uninformative
<i>Imperata cylindrica</i>	1	14%	2	32%	uninformative
<i>Lachnagrostis filiformis</i>	2	14%	0	0%	positive
<i>Lobelia anceps</i>	1	71%	1	4%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Melanthera biflora</i>	1	43%	0	0%	positive
<i>Oxalis exilis</i>	1	14%	1	2%	uninformative
<i>Oxalis radicata</i>	2	14%	1	1%	uninformative
<i>Oxalis rubens</i>	1	14%	2	0%	uninformative
<i>Pimelea linifolia</i>	2	71%	1	9%	positive
<i>Plectranthus cremnus</i>	1	14%	3	0%	uninformative
<i>Podolobium scandens</i>	1	14%	1	0%	uninformative
<i>Polymeria calycina</i>	1	86%	1	3%	uninformative
<i>Poranthera microphylla</i>	1	43%	1	1%	uninformative
<i>Pratia purpurascens</i>	1	29%	1	23%	uninformative
<i>Pultenaea maritima</i>	3	43%	1	0%	uninformative
<i>Pultenaea villosa</i>	3	14%	2	6%	uninformative
<i>Samolus repens</i>	1	14%	1	1%	uninformative
<i>Schoenus apogon</i>	1	14%	2	1%	uninformative
<i>Schoenus nitens</i>	1	14%	3	1%	uninformative
<i>Senecio pinnatifolius</i>	2	29%	2	0%	uninformative
<i>Sowerbaea juncea</i>	1	14%	0	0%	positive
<i>Stackhousia spathulata</i>	1	29%	1	0%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	14%	1	22%	uninformative
<i>Themeda australis</i>	5	100%	3	23%	positive
<i>Thysanotus tuberosus</i> subsp. <i>tuberosus</i>	1	14%	1	1%	uninformative
<i>Tricoryne elatior</i>	1	29%	1	2%	uninformative
<i>Viola banksii</i>	2	43%	1	16%	uninformative
<i>Viola hederacea</i>	2	14%	2	2%	uninformative
<i>Xerochrysum bracteatum</i>	2	86%	1	0%	positive
<i>Zoysia macrantha</i>	2	43%	3	3%	uninformative

COASTAL SHE-OAK – HAKEA CLAY HEATHLAND

CH_H04

SCIENTIFIC NAME Black She-oak (*Allocasuarina littoralis*) – Hakea (*laevipes* subsp. *laevipes*) – Horned Sedge (*Ptilothrix deusta*) Clay Heathland.

STATEWIDE CLASS Heathlands – Coastal Headland Heaths

PLANT COMMUNITY TYPE Fern-leaved Banksia – She-oak graminoid heathland on heavy clay soils of coastal hills in the NSW North Coast Bioregion and the South Eastern Queensland Bioregion (NSW1000-1490 or 1491)



Description

A shrubland often with a dense layer of Black She-oak (*Allocasuarina littoralis*), *Hakea laevipes* subsp. *laevipes* and Fern-leaved Banksia (*Banksia oblongifolia*). Emergent Pink Bloodwood (*Corymbia intermedia*) and Swamp Box (*Lophostemon suaveolens*) may also occur. The ground layer consists of Horned Sedge (*Ptilothrix deusta*) and *Aristida warburgii*.

This community is restricted to gently undulating plains and rises on clay soils derived from the Coffs Harbour Association. It is also associated with the Barcoongere soil landscape.



Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	0.3 – 0.9		<i>Banksia oblongifolia</i> , <i>Allocasuarina littoralis</i> , <i>Hakea laevipes</i> subsp. <i>laevipes</i> .

* Data collated from 1 of 1 full floristic site

Structural and floristic variations

Some examples of this community within Station Creek (Yuraygir National Park) have been subject to past clearing.

Species richness

Number of plots	2
Total species	29
Average number of species	30 ±4.2

Conservation status

This community is reserved in Yuraygir National Park (81 ha)

Tenure	Area (ha)
National Park	62
TOTAL	62

Relationship to other communities

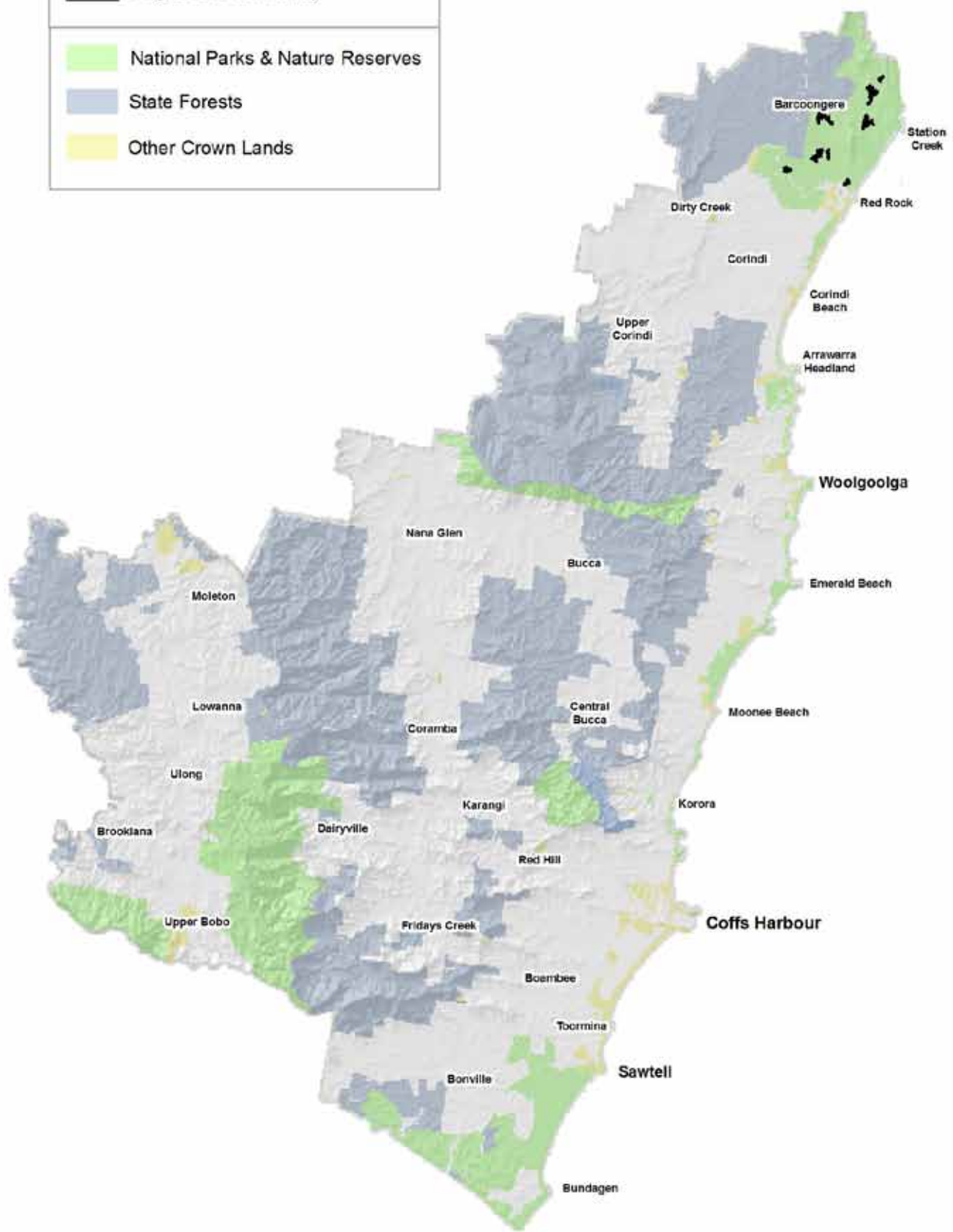
This community is related to CH_H05 (Coastal Dagger Hakea Heathland). In CH_H05, the Mullaway Needle-bush (*Hakea actites*) replaces *Hakea laevipes* subsp. *laevipes* found in CH_H04.

Equivalents

Biometric: 167 - Graminoid clay heaths of the coastal lowlands of the North Coast

Locations

Green Hills; Station Creek in Yuraygir National Park



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia brownii</i>	2	50%	1	0%	positive
<i>Acacia concurrens</i>	2	50%	2	0%	positive
<i>Allocasuarina littoralis</i>	4	100%	3	9%	positive
<i>Angophora costata</i>	4	50%	2	13%	positive
<i>Aristida warburgii</i>	4	50%	2	1%	positive
<i>Banksia oblongifolia</i>	4	100%	3	9%	positive
<i>Banksia spinulosa</i> var. <i>collina</i>	2	50%	2	5%	positive
<i>Baumea rubiginosa</i>	2	50%	4	1%	positive
<i>Burchardia umbellata</i>	2	50%	1	2%	positive
<i>Corymbia intermedia</i>	1	50%	2	20%	uninformative
<i>Dampiera stricta</i>	4	100%	2	7%	positive
<i>Dianella revoluta</i>	1	50%	2	0%	uninformative
<i>Entolasia stricta</i>	2	50%	2	25%	positive
<i>Fimbristylis cinnamometorum</i>	2	50%	0	0%	positive
<i>Gompholobium pinnatum</i>	3	100%	1	4%	positive
<i>Gonocarpus micranthus</i>	2	50%	2	2%	positive
<i>Gonocarpus tetragynus</i>	2	100%	1	3%	positive
<i>Goodenia bellidifolia</i>	2	50%	2	0%	positive
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	50%	1	3%	uninformative
<i>Haemodorum austroqueenslandicum</i>	1	50%	1	0%	uninformative
<i>Hakea florulenta</i>	3	100%	1	1%	positive
<i>Hakea laevipes</i> subsp. <i>laevipes</i>	4	50%	1	1%	positive
<i>Hibbertia vestita</i>	4	100%	1	11%	positive
<i>Ischaemum australe</i>	2	50%	2	1%	positive
<i>Lepidosperma laterale</i>	2	50%	1	17%	positive
<i>Leptocarpus tenax</i>	4	50%	2	2%	positive
<i>Leptospermum juniperinum</i>	3	50%	1	2%	positive
<i>Leptospermum polygalifolium</i>	2	50%	1	12%	positive
<i>Lindsaea linearis</i>	2	50%	1	3%	positive
<i>Lomandra longifolia</i>	3	50%	2	51%	constant
<i>Lomatia silaifolia</i>	2	50%	1	9%	positive
<i>Lophostemon suaveolens</i>	3	100%	2	8%	positive
<i>Melaleuca sieberi</i>	3	50%	3	4%	positive
<i>Melichrus procumbens</i>	2	50%	1	1%	positive
<i>Monotoca scoparia</i>	1	50%	1	3%	uninformative
<i>Notelaea ovata</i>	3	50%	1	3%	positive
<i>Patersonia sericea</i>	3	100%	2	4%	positive
<i>Persoonia stradbrokeensis</i>	2	50%	1	18%	positive
<i>Petrophile canescens</i>	1	50%	1	1%	uninformative
<i>Pimelea linifolia</i>	3	100%	1	9%	positive
<i>Ptilothrix deusta</i>	4	50%	3	2%	positive
<i>Pultenaea villosa</i>	4	50%	2	6%	positive
<i>Schoenus apogon</i>	4	50%	1	1%	positive
<i>Schoenus brevifolius</i>	2	50%	2	1%	positive
<i>Selaginella uliginosa</i>	2	50%	1	3%	positive
<i>Themeda australis</i>	4	100%	3	24%	positive
<i>Trachymene incisa</i> subsp. <i>incisa</i>	2	100%	1	2%	positive
<i>Xanthorrhoea fulva</i>	4	50%	3	6%	positive

*Fidelity table contains two sites. YUR116 is a clay heathland. YUR190 is a *Angophora costata* woodland with clay and wet heathland elements.

COASTAL DAGGER - HAKEA CLAY HEATHLAND

CH_H05

SCIENTIFIC NAME Coastal Dagger Hakea (*Hakea actites*) Clay Heathland

STATEWIDE CLASS Heathlands – Coastal Headland Heaths (Keith 2006)

PLANT COMMUNITY TYPE Fern-leaved Banksia –She-oak graminoid heathland on heavy clay soils of coastal hills in the NSW North Coast Bioregion and the South Eastern Queensland Bioregion (NSW1000-1490 or 1491)



Description

Dagger Hakea Clay Heathland/Shrubland is found on undulating low hills often associated with the Look-at-me-now soil landscape. The clay soils are derived from metasediments of the Coffs Harbour Association. The community is restricted to the Mullaway area in Coffs Harbour Regional Park and Garby Nature Reserve.

A shrubland or heathland with a dense upper layer of Mullaway Needlebush (*Hakea actites*) and Prickly-leaved Paperbark (*Melaleuca nodosa*). Other shrubs occur at lower abundance in the mid and lower layers and include Fern-leaved Banksia (*Banksia oblongifolia*), Mock Olive (*Notelaea ovata*), *Leptospermum semibaccatum* and Black She-oak (*Allocasuarina littoralis*). Horned sedge (*Ptilothrix deusta*) is abundant in the ground layer with Wiry Panic (*Entolasia stricta*), *Austrostipa pubescens*, *Epacris pulchella*, *Dampiera stricta*, Black Bog Rush (*Schoenus melanostachys*) and Screw Fern (*Lindsaea incisa*). Mullaway Needlebush (*Hakea actites*) is abundant and forms a dense shrub layer in unburnt sites.

Floristic summary

Layer	Height	Cover	Dominant Species
Mid	2-3m	35-95	<i>Melaleuca nodosa</i> , <i>Hakea actites</i> , <i>Leptospermum liversidgei</i> , <i>Leptospermum semibaccatum</i> .
Lower layer	0.1-1.5	35-70	<i>Ptilothrix deusta</i> , <i>Banksia oblongifolia</i> , <i>Notelaea ovata</i> , <i>Patersonia glabrata</i> , <i>Patersonia sericea</i> , <i>Schoenus melanostachys</i> , <i>Cassytha glabella</i> f. <i>glabella</i> , <i>Dampiera stricta</i> , <i>Epacris pulchella</i> .
Ground	0-0.5	5	<i>Lindsaea linearis</i> , <i>Gonocarpus teucroides</i> , <i>Austrostipa pubescens</i> .

* Data collated from 3 of 3 full floristic sites

Structural and floristic variations

Two structural variations were noted based on time since the last fire. Unburnt sites had a dense cover of Mullaway Needlebush (*Hakea actites*) which may develop a shrubland structure up to 3m in height, seen as a darker brown pattern on aerial photographs. More open areas occur where grasses and sedges dominate and *Hakea* is less common, and these areas are denoted as lighter colour on adjacent photograph.

Species richness

Number of plots	3
Total species	59
Average number of species	30 ±3.8

Conservation status

This community is reserved in Coffs Coast Regional Park (12ha) and Garby Nature Reserve (23ha)

Tenure	Area (ha)
Nature Reserve	23
Regional Park	11
TOTAL	34

Relationship to other communities

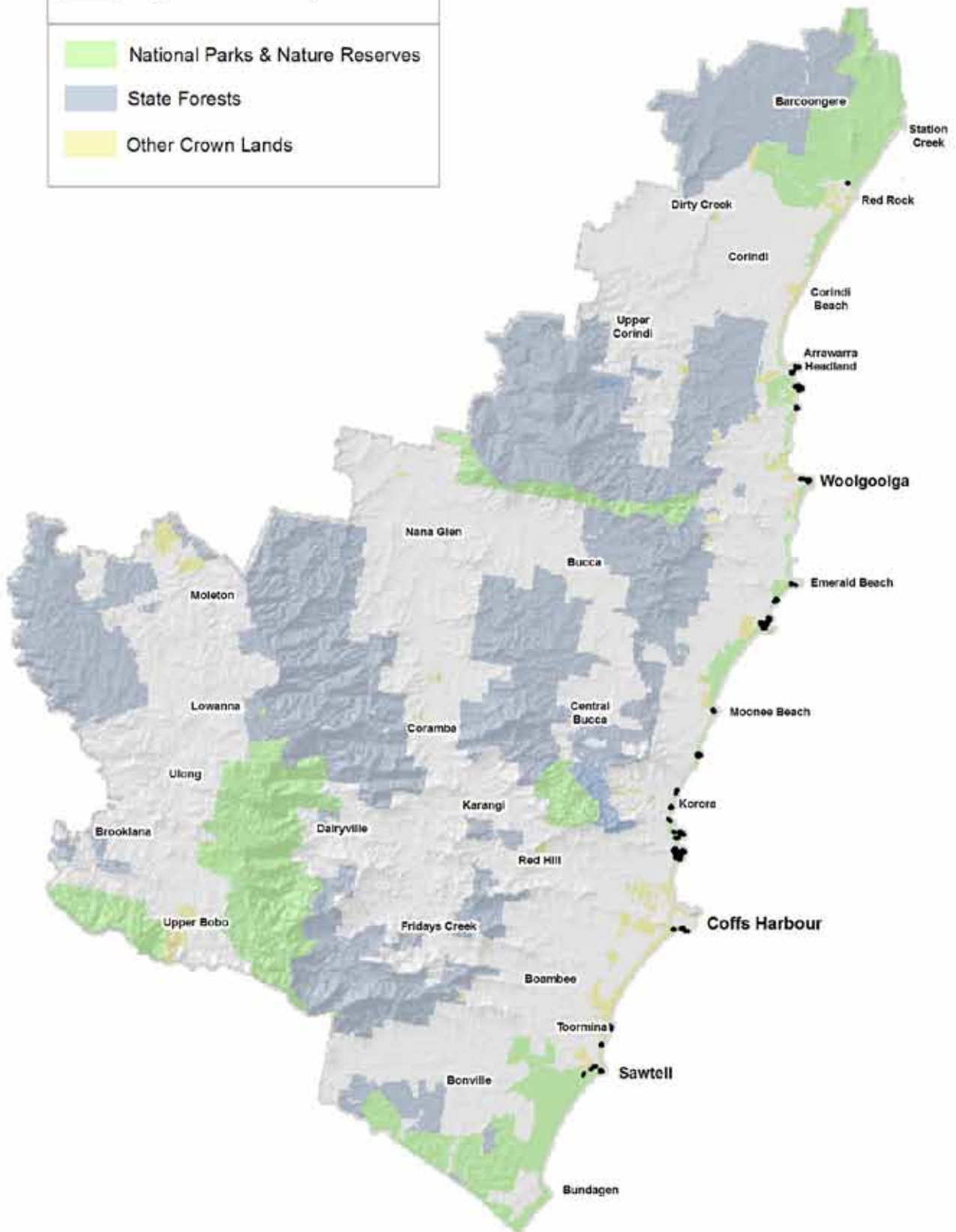
Related to and grades into CH_FW05 (Coastal Wallum Paperbark Wet Heathland), in wetter sites. Related to CH_H04 (Coastal She-oak – *Hakea* Clay Heathland), which is a clay heathland occurring in Yuraygir National Park where *Hakea actites* is replaced by *Hakea laevipes* subsp. *laevipes* in better drained sites.

Equivalentents

Biometric:	167- Graminoid clay heaths of the coastal lowlands of the North Coast
Other:	xSG 5502/ 6003/ 6004 Wet Heath/Shrubland (Fisher et al. 1996);

Locations

Mullaway, Garby Nature Reserve



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	1	33%	1	6%	uninformative
<i>Allocasuarina littoralis</i>	1	100%	3	9%	uninformative
<i>Austrostipa pubescens</i>	2	67%	2	1%	positive
<i>Banksia marginata</i>	1	33%	0	0%	positive
<i>Banksia oblongifolia</i>	3	100%	3	8%	positive
<i>Cassytha filiformis</i>	1	33%	1	3%	uninformative
<i>Cassytha glabella</i> f. <i>glabella</i>	2	67%	1	4%	positive
<i>Cassytha pubescens</i>	2	33%	1	2%	uninformative
<i>Cassytha racemosa</i>	2	33%	1	1%	uninformative
<i>Chorizema parviflorum</i>	1	33%	1	1%	uninformative
<i>Comesperma defoliatum</i>	1	33%	1	1%	uninformative
<i>Comesperma ericinum</i>	1	33%	1	1%	uninformative
<i>Corymbia intermedia</i>	1	33%	2	20%	uninformative
<i>Cryptostylis erecta</i>	2	33%	1	1%	uninformative
<i>Dampiera lanceolata</i> var. <i>lanceolata</i>	1	33%	1	0%	uninformative
<i>Dampiera stricta</i>	2	67%	2	7%	positive
<i>Entolasia stricta</i>	2	67%	2	24%	positive
<i>Epacris pulchella</i>	2	67%	2	3%	positive
<i>Gompholobium pinnatum</i>	1	33%	1	4%	uninformative
<i>Gonocarpus micranthus</i>	2	33%	2	2%	uninformative
<i>Gonocarpus tetragynus</i>	1	33%	1	4%	uninformative
<i>Gonocarpus teucrioides</i>	2	67%	1	1%	positive
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	33%	1	3%	uninformative
<i>Goodenia paniculata</i>	1	67%	1	2%	uninformative
<i>Hakea actites</i>	4	100%	3	1%	positive
<i>Hardenbergia violacea</i>	1	33%	1	8%	uninformative
<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>	1	33%	1	0%	uninformative
<i>Hibbertia vestita</i>	1	67%	1	11%	uninformative
<i>Lepidosperma gunnii</i>	1	33%	0	0%	positive
<i>Lepidosperma laterale</i>	1	33%	1	17%	uninformative
<i>Lepidosperma quadrangulatum</i>	1	33%	4	0%	uninformative
<i>Leptospermum liversidgei</i>	3	33%	3	3%	uninformative
<i>Leptospermum semibaccatum</i>	2	67%	1	0%	positive
<i>Lindsaea linearis</i>	2	100%	1	3%	positive
<i>Lomandra filiformis</i>	2	67%	1	12%	positive
<i>Lomandra longifolia</i>	1	33%	2	52%	negative
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	1	33%	1	5%	uninformative
<i>Melaleuca nodosa</i>	5	67%	3	3%	positive
<i>Melaleuca quinquenervia</i>	1	33%	2	12%	uninformative
<i>Melaleuca squamea</i>	1	33%	1	0%	uninformative
<i>Melaleuca thymifolia</i>	1	33%	1	1%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	2	33%	1	3%	uninformative
<i>Mirbelia rubiifolia</i>	1	33%	2	1%	uninformative
<i>Notelaea ovata</i>	2	67%	1	3%	positive
<i>Parsonsia straminea</i>	1	100%	1	27%	uninformative
<i>Patersonia glabrata</i>	3	33%	2	5%	uninformative
<i>Patersonia sericea</i>	2	100%	2	3%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Pimelea linifolia</i>	1	33%	1	9%	uninformative
<i>Ptilothrix deusta</i>	4	100%	3	2%	positive
<i>Pultenaea maritima</i>	1	33%	3	1%	uninformative
<i>Pultenaea retusa</i>	1	100%	2	6%	uninformative
<i>Pultenaea villosa</i>	1	33%	2	6%	uninformative
<i>Schoenus apogon</i>	1	33%	2	1%	uninformative
<i>Schoenus melanostachys</i>	3	33%	2	1%	uninformative
<i>Sporadanthus interruptus</i>	1	33%	3	3%	uninformative
<i>Stackhousia nuda</i>	2	33%	1	1%	uninformative
<i>Themeda australis</i>	1	100%	3	23%	uninformative
<i>Tricoryne elatior</i>	1	33%	1	2%	uninformative
<i>Viola banksii</i>	1	33%	1	16%	uninformative

COASTAL HEADLAND BANKSIA

CH_H06

SCIENTIFIC NAME Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) shrubland of Headlands

PLANT COMMUNITY TYPE Kangaroo Grass Sod Grassland of North Coast Headlands South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-384)

STATEWIDE CLASS Heathlands – Coastal Headland Heaths (Keith 2006)



Description

Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) is present in the upper layer. Littoral rainforest shrubs and small trees may also occur in the upper and mid layers such as Tuckeroo (*Cupaniopsis anacardioides*), Three-veined Laurel (*Cryptocarya triplinervis*) and Beach Acronychia (*Acronychia imperforata*). Swamp Oak (*Casuarina glauca*) and Black She-oak (*Allocasuarina littoralis*) occurring in the upper and mid layers were observed during rapid site assessments of this community. Vines such as Hairy Silkpod (*Parsonsia straminea*) and Sweet Morinda (*Morinda jasminoides*) are common. The ground layer consists of a dense layer of grasses with Kangaroo Grass (*Themeda australis*), Basket Grass (*Oplismenus aemulus*, *Oplismenus imbecillis*), Prickly couch (*Zoysia macrantha*) and *Ottochloa gracillima*. Sites are often weedy and steep slopes are subject to landslip and erosion.

This community is distributed on metasedimentary and Adamellite headlands along the coast where Coast Banksia shrubs have been able to recruit over a grassy lower layer.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	4-10	45-50	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i> , <i>Cryptocarya triplinervis</i> , <i>Acacia longifolia</i> subsp. <i>sophorae</i> .
Middle	0.3-6	20-35	<i>Parsonsia straminea</i> , <i>Morinda jasminoides</i> .
Ground	0-1	25-70	<i>Dichondra repens</i> , <i>Themeda australis</i> , <i>Viola banksii</i> .

* Data collated from 3 of 3 full floristic sites

Structural and floristic variations

The proportion of cover between shrubs versus grasses varies across this mapping unit. It can vary from an open to dense shrubland or low open forest. *Banksia* shrubs are often recruited over a dense cover of Kangaroo Grass.

Exotics *Ageratina adenophora*, *Araujia sericifera*, *Asparagus aethiopicus*, *Bidens subalternans*, *Bidens pilosa*, *Chrysanthemoides monilifera* subsp. *rotundata*, *Cirsium vulgare*, *Conyza bonariensis*, *Crassocephalum crepidioides*, *Eugenia uniflora*, *Gomphocarpus physocarpus*, *Ipomoea cairica*, *Ipomoea indica*, *Lantana camara*, *Ochna serrulata*, *Passiflora edulis*, *Paspalum mandiocanum*, *Paspalum urvillei*, *Passiflora suberosa*, *Senna pendula*, *Solanum mauritianum*, *Verbena rigida*

Species richness

Number of plots	3
Total species	51
Average number of species	27 ±8

Conservation status

This community is reserved in Coffs Coast RP (20ha), Moonee Beach Nature Reserve (9ha), Yuraygir NP (<1ha)

Tenure	Area (ha)
Crown Land	12
Freehold	3
Nature Reserve	10
Regional Park	21
TOTAL	46

Endangered Ecological Community: *Themeda Grassland on Seacliffs and Coastal Headlands in the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC

Threatened and Rare plants: *Alexfloydia repens*, *Polygala linariifolia*

Relationship to other communities

Related to CH_H03 (Kangaroo Grass Headland Grasslands) as these grassland areas can merge into areas of CH_H06 where Coast *Banksia* (*Banksia integrifolia* subsp. *integrifolia*) dominates the tallest stratum.

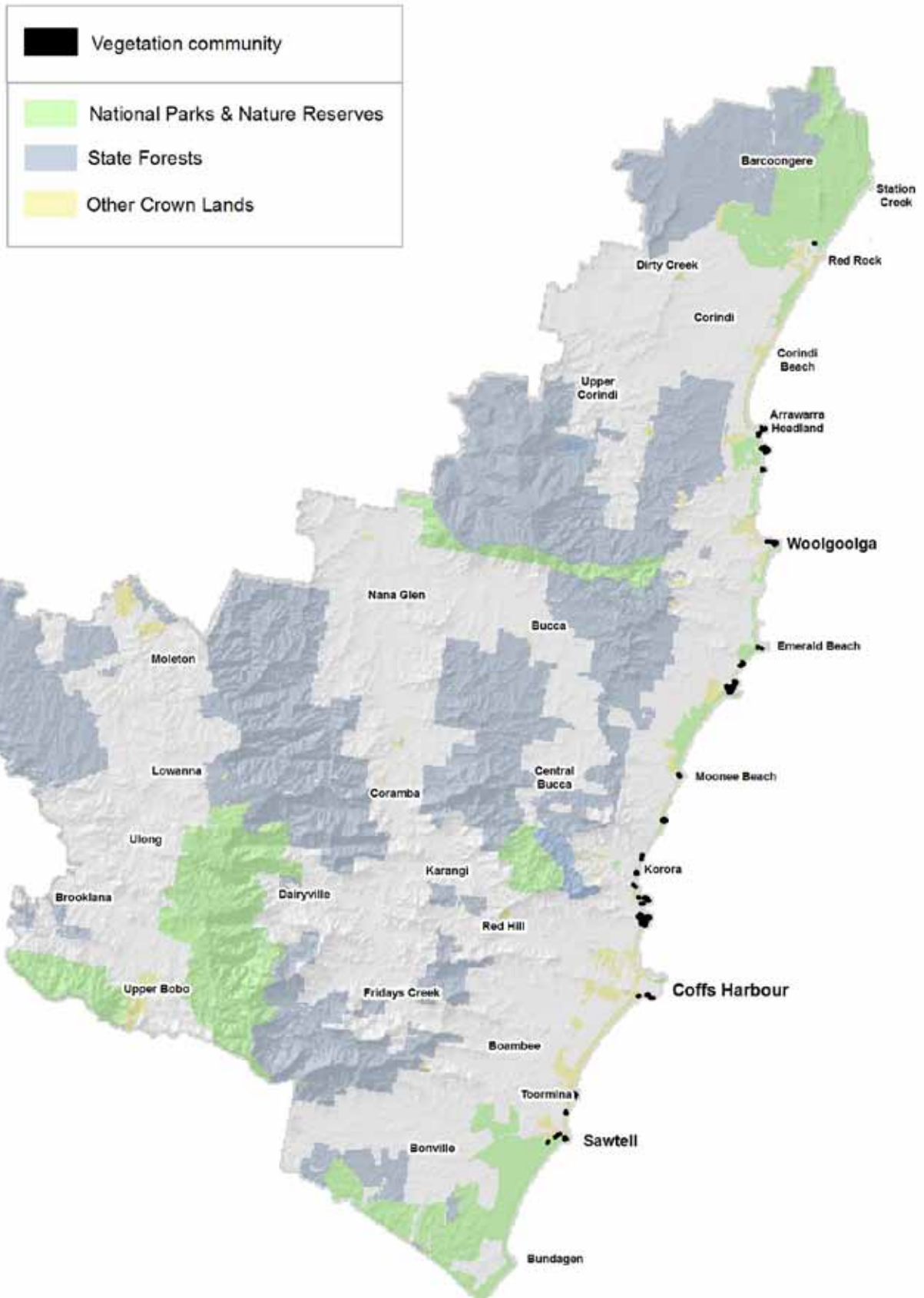
Equivalentents

Biometric: NR151- Coastal headland heaths of the North Coast

Other: N75a - Fore dune complex (Fisher et al. 1996).

Locations

Dolman's Point, Sawtell Headland, Boambee Headland, Corambirra Point, Macauley's Headland, Korora Headland, Opal Cove, White Bluff, Green Bluff, Look-at-me-now Headland, Bare Bluff, Woolgoolga Headland, Ocean View Headland and Arrawarra Headland.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	1	100%	1	5%	uninformative
<i>Acronychia imperforata</i>	1	33%	1	4%	uninformative
<i>Alectryon coriaceus</i>	2	33%	2	3%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	67%	1	32%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	4	100%	1	7%	positive
<i>Cayratia clematidea</i>	1	33%	1	8%	uninformative
<i>Centella asiatica</i>	2	33%	1	3%	uninformative
<i>Convolvulus erubescens</i>	1	33%	0	0%	positive
<i>Cryptocarya triplinervis</i>	1	67%	1	4%	uninformative
<i>Cupaniopsis anacardioides</i>	1	100%	1	10%	uninformative
<i>Desmodium varians</i>	2	33%	1	6%	uninformative
<i>Dianella congesta</i>	1	33%	3	1%	uninformative
<i>Dichondra repens</i>	2	67%	1	5%	positive
<i>Elaeocarpus reticulatus</i>	1	33%	1	27%	uninformative
<i>Entolasia marginata</i>	1	33%	1	9%	uninformative
<i>Eustrephus latifolius</i>	2	33%	1	29%	uninformative
<i>Ficus coronata</i>	3	33%	1	13%	uninformative
<i>Ficus macrophylla</i> subsp. <i>macrophylla</i>	1	33%	0	0%	positive
<i>Geitonoplesium cymosum</i>	1	67%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	33%	1	13%	uninformative
<i>Imperata cylindrica</i>	2	33%	2	32%	uninformative
<i>Lomandra longifolia</i>	1	67%	2	51%	negative
<i>Mallotus discolor</i>	1	33%	1	0%	uninformative
<i>Marsdenia rostrata</i>	1	33%	1	8%	uninformative
<i>Melia azedarach</i>	1	33%	0	0%	positive
<i>Melicope hayesii</i>	1	33%	1	4%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	2	33%	1	3%	uninformative
<i>Morinda jasminoides</i>	2	67%	1	36%	positive
<i>Muellerina celastroides</i>	1	33%	1	0%	uninformative
<i>Notelaea longifolia</i>	1	67%	1	26%	uninformative
<i>Oplismenus aemulus</i>	2	100%	2	12%	positive
<i>Oplismenus imbecillis</i>	2	67%	2	21%	positive
<i>Ottochloa gracillima</i>	3	33%	2	10%	uninformative
<i>Parsonsia straminea</i>	2	100%	1	27%	positive
<i>Paspalidium distans</i>	1	33%	2	1%	uninformative
<i>Pimelea latifolia</i>	1	33%	1	1%	uninformative
<i>Pittosporum undulatum</i>	1	67%	1	10%	uninformative
<i>Polygala linariifolia</i>	1	33%	0	0%	positive
<i>Polymeria calycina</i>	1	33%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	1	33%	1	16%	uninformative
<i>Pratia purpurascens</i>	1	100%	1	23%	uninformative
<i>Psychotria loniceroides</i>	1	67%	1	14%	uninformative
<i>Rhodomyrtus psidioides</i>	1	33%	1	4%	uninformative
<i>Rubus parvifolius</i>	1	33%	1	4%	uninformative
<i>Sarcopetalum harveyanum</i>	2	33%	1	9%	uninformative
<i>Smilax australis</i>	1	100%	1	44%	uninformative
<i>Smilax glycyphylla</i>	1	33%	1	29%	uninformative



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Stephania japonica</i> var. <i>discolor</i>	2	67%	1	21%	positive
<i>Themeda australis</i>	4	33%	3	24%	uninformative
<i>Trema tomentosa</i> var. <i>aspera</i>	1	33%	1	3%	uninformative
<i>Viola banksii</i>	2	100%	1	15%	positive
<i>Wikstroemia indica</i>	1	33%	1	1%	uninformative
<i>Zoysia macrantha</i>	4	33%	3	3%	uninformative

COASTAL HEADLAND SWAMP OAK SHRUBLAND

CH_H07

SCIENTIFIC NAME Swamp Oak (*Casuarina glauca*) - Broad-leaved
Paperbark (*Melaleuca quinquenervia*) Headland shrubland

PLANT COMMUNITY TYPE Swamp Oak shrublands on coastal
headlands, NSW North Coast Bioregion (NSW700-383)

STATEWIDE CLASS Heathlands – Coastal Headland Heaths (Keith 2006)



Description

Swamp Oak (*Casuarina glauca*) and/or Broad-leaved Paperbark (*Melaleuca quinquenervia*) form a shrubland to low open forest cover. Coast Banksia (*Banksia integrifolia* subsp. *integrifolia*) and Forest Red Gum (*Eucalyptus tereticornis*) may also occur. There is a sparse mid layer of Cheese Tree (*Glochidion ferdinandi* var. *ferdinandi*). The ground layer contains Kangaroo Grass (*Themeda australis*), Creeping Beard Grass (*Oplismenus imbecillis*), Wattle Mat-rush (*Lomandra filiformis*) and Native Violet (*Viola banksii*). Common vines occurring in this community are Lawyer Vine (*Smilax australis*), Wombat Berry (*Eustrephus latifolius*) and Common Silkpod (*Parsonia straminea*).

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	2-5	35	<i>Casuarina glauca</i> , <i>Melaleuca quinquenervia</i> .
Lower	1-2	55	<i>Smilax glycyphylla</i> , <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> .
Ground	0-1	60	<i>Viola banksii</i> , <i>Themeda australis</i> , <i>Oplismenus imbecillis</i> , <i>Lomandra filiformis</i> .

* Data collated from 1 of 1 full floristic site

Structural and floristic variations

This community can vary from a shrubland to open forest. Areas may be dominated by Swamp Oak (*Casuarina glauca*) or Broad-leaved Paperbark (*Melaleuca quinquenervia*) or a combination of both.

Species richness

Number of plots	1
Total species	39
Average number of species	n/a

Conservation status

This community is reserved in Bongil Bongil National Park (<1ha), Coffs Coast Regional Park (8ha), Moonee Beach Nature Reserve (<1ha), and Yuraygir National Park (1ha).

Tenure	Area (ha)
Crown Land	1
Freehold	2
National Park	1
Regional Park	8
TOTAL	12

Relationship to other communities

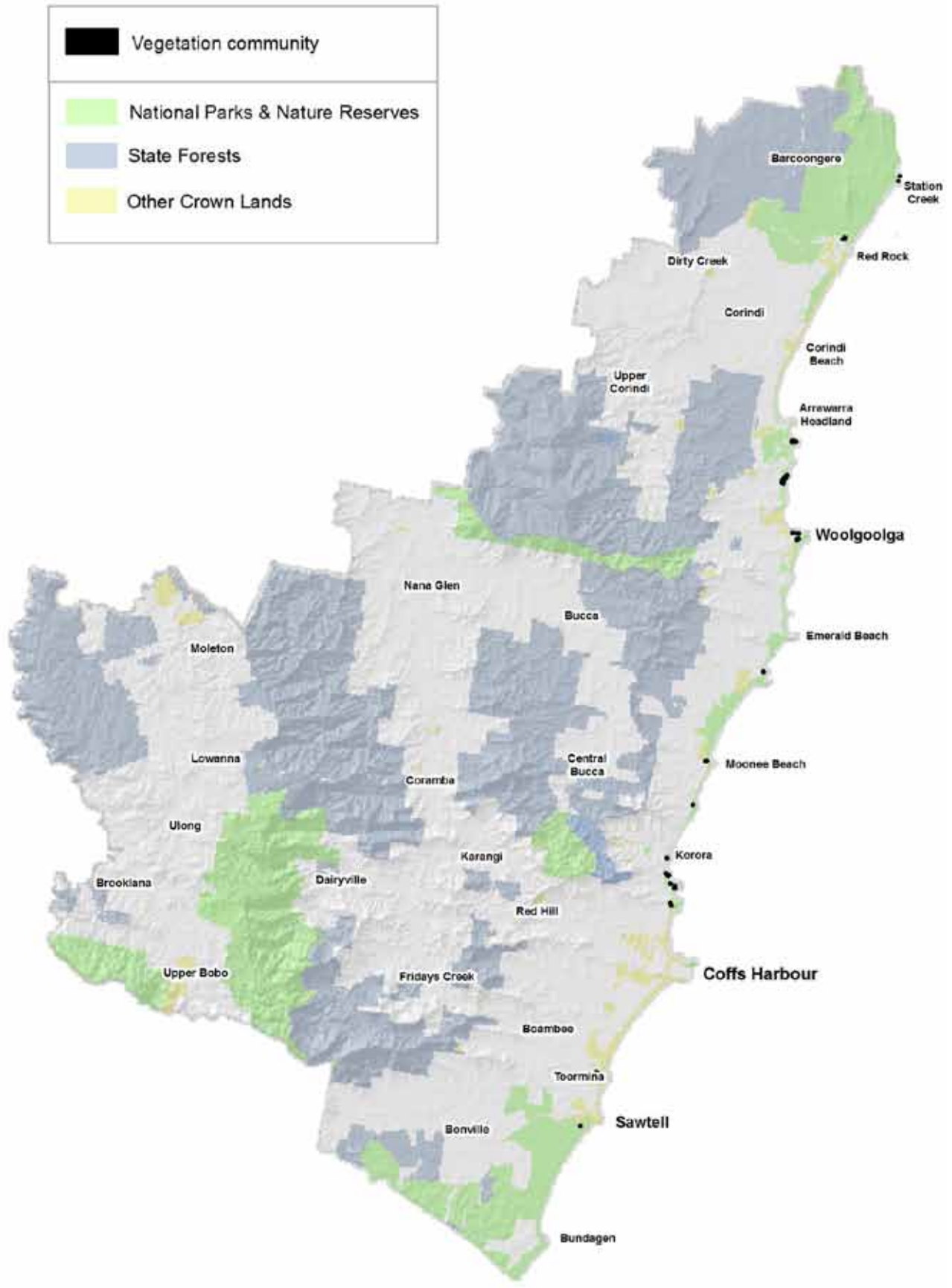
Related to a suite of communities on metasedimentary headlands including CH_WSF14 (Coastal Headland Red Gum Forest) and CH_H03 (Kangaroo Grass Headland Grasslands). CH_H07 occurs within a complex of vegetation types where Forest Red Gum (*Eucalyptus tereticornis*), Swamp Oak (*Casuarina glauca*), Broad-leaved Paperbark (*Melaleuca quinquenervia*) and Grey Ironbark (*Eucalyptus siderophloia*) are associated with each other, and occur over a grassy lower layer.

Equivalents

Biometric:	No equivalent.
Other:	No equivalent

Locations

Dolman's Point, Boambee Headland, Macauley's Headland, Diggers Beach, Charlesworth Bay, White Bluff, Green Bluff, Dammerel's Headland, Woolgoolga Headland, Safety Beach, Ocean View Headland, Station Creek Headland.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia irrorata</i>	1	100%	1	8%	uninformative
<i>Acacia longifolia</i>	1	100%	1	6%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	2	100%	1	8%	positive
<i>Cassythia glabella</i> f. <i>glabella</i>	1	100%	1	4%	uninformative
<i>Casuarina glauca</i>	3	100%	2	7%	positive
<i>Cryptocarya triplinervis</i>	1	100%	1	4%	uninformative
<i>Cupaniopsis anacardioides</i>	1	100%	1	11%	uninformative
<i>Dianella caerulea</i>	1	100%	1	50%	uninformative
<i>Echinostephia aculeata</i>	1	100%	1	3%	uninformative
<i>Eustrephus latifolius</i>	2	100%	1	29%	positive
<i>Gahnia aspera</i>	1	100%	1	14%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	2	100%	1	13%	positive
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	100%	1	3%	uninformative
<i>Guioa semiglauca</i>	1	100%	1	28%	uninformative
<i>Hibbertia vestita</i>	1	100%	1	12%	uninformative
<i>Imperata cylindrica</i>	1	100%	2	32%	uninformative
<i>Lomandra filiformis</i>	2	100%	1	12%	positive
<i>Lomandra longifolia</i>	1	100%	2	51%	negative
<i>Morinda jasminoides</i>	1	100%	1	36%	uninformative
<i>Oplismenus aemulus</i>	1	100%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	3	100%	2	22%	positive
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	100%	1	12%	uninformative
<i>Parsonsia straminea</i>	1	100%	1	27%	uninformative
<i>Pittosporum undulatum</i>	1	100%	1	10%	uninformative
<i>Platyserium superbum</i>	1	100%	1	5%	uninformative
<i>Polymeria calycina</i>	1	100%	1	4%	uninformative
<i>Pratia purpurascens</i>	1	100%	1	23%	uninformative
<i>Psychotria loniceroides</i>	1	100%	1	14%	uninformative
<i>Pultenaea retusa</i>	1	100%	2	6%	uninformative
<i>Pyrrosia rupestris</i>	1	100%	2	3%	uninformative
<i>Sarcopetalum harveyanum</i>	1	100%	1	9%	uninformative
<i>Smilax australis</i>	3	100%	1	44%	positive
<i>Smilax glycyphylla</i>	1	100%	1	28%	uninformative
<i>Themeda australis</i>	3	100%	3	24%	positive
<i>Trema tomentosa</i> var. <i>aspera</i>	1	100%	1	3%	uninformative
<i>Tricoryne elatior</i>	1	100%	1	2%	uninformative
<i>Viola banksii</i>	2	100%	1	16%	positive
<i>Wikstroemia indica</i>	1	100%	1	1%	uninformative
<i>Xerochrysum bracteatum</i>	1	100%	2	1%	uninformative

WALLUM BANKSIA - BLACK SHE-OAK SHRUBLAND

CH_H08

SCIENTIFIC NAME Wallum Banksia (*Banksia aemula*) – Black She-oak (*Allocasuarina littoralis*) Shrubland of Pleistocene dunes

STATEWIDE CLASS Heathlands – Coastal Wallum Heaths (Keith 2006)

PLANT COMMUNITY TYPE Black She-oak – Wallum Banksia – Blueberry Ash dry heath on coastal sands, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-342)



Description

A dry shrubland community that grows on well drained Pleistocene sand dunes of varying relief and slightly raised and well-drained areas on sandplains. This community is best developed in the study area in Yuraygir National Park, where it occurs on large transgressive barrier dunes up to 20 metres in relief. The community is uncommon south of Corindi where it occurs as small isolated patches. Wallum Banksia (*Banksia aemula*), Black She-oak (*Allocasuarina littoralis*) and Blueberry Ash (*Elaeocarpus reticulatus*) dominate the dense mid stratum layer. A lower layer of shrubs including Prickly-leaved Paperbark (*Melaleuca nodosa*) and *Homoranthus virgatus* may also occur. Curly Wig (*Caustis flexuosa*), Spiny-headed Mat-rush (*Lomandra longifolia*), Bracken Fern (*Pteridium esculentum*) and *Xanthosia pilosa* are common in the ground layer.

Floristic summary

Layer	Height	Cover	Dominant Species
Mid	2-6	50	<i>Banksia aemula</i> , <i>Allocasuarina littoralis</i> , <i>Elaeocarpus reticulatus</i> .
Lower	0.5-1.5	20	<i>Melaleuca nodosa</i> , <i>Homoranthus virgatus</i> .
Ground	0 - 1	15	<i>Caustis flexuosa</i> , <i>Lomandra longifolia</i> , <i>Pteridium esculentum</i> , <i>Xanthosia pilosa</i> .

* *Strata information derived from only one sample site. The structure and floristics of this community is more variable across the study area.*

Structural and floristic variations Varies from a heathland to a tall shrubland.

Exotics *Asparagus aethiopicus*, *Senna pendula*

Species richness

Number of plots	1
Total species	38

Conservation status

This community is reserved Coffs Coast Regional Park (2ha), Moonee Beach Nature Reserve (2ha), Yuraygir National Park (63ha).

Tenure	Area (ha)
Crown Land	7
Freehold	16
National Park	87
Nature Reserve	2
Regional Park	2
TOTAL	113

Relationship to other communities

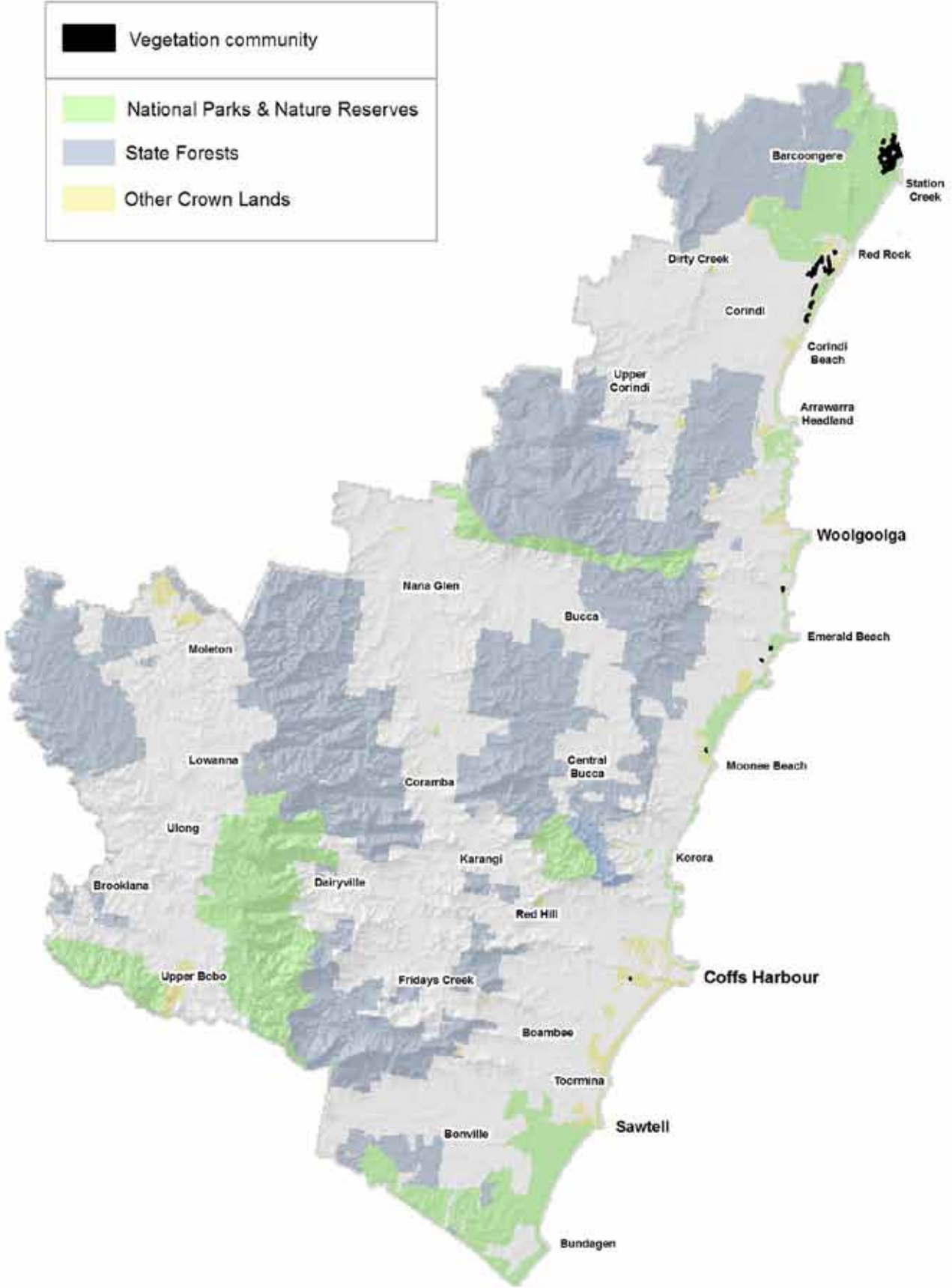
Related to four other communities including CH_FW05 (Coastal Wallum Paperbark Wet Shrubland), CH_FW06 (Coastal Wallum Teatree Tall Wet Shrubland), CH_FW01 (Coastal Wallum Teatree - Banksia Wet Heathland) and CH_FW02 (Coastal Wallum Paperbark - Banksia - Grass Tree Wet Heathland). CH_H08 occurs in more well drained positions on Pleistocene sands.

Equivalentents

Biometric:	Banksia dry shrubland on coastal sands of the North Coast
Other:	SG5502 Wet Heath/Shrubland (Fisher et al. 1996)

Locations

Hearns Lake, Coffs Regional Park; Aviation Drive. Also occurs between Corindi and Red Rock and the Station Creek area in Yuraygir National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia suaveolens</i>	1	100%	1	3%	uninformative
<i>Acacia ulicifolia</i>	1	100%	1	2%	uninformative
<i>Allocasuarina littoralis</i>	2	100%	3	9%	positive
<i>Banksia aemula</i>	3	100%	3	2%	positive
<i>Billardiera scandens</i>	1	100%	1	10%	uninformative
<i>Caustis flexuosa</i>	2	100%	2	1%	positive
<i>Dampiera stricta</i>	1	100%	2	7%	uninformative
<i>Dodonaea triquetra</i>	1	100%	1	9%	uninformative
<i>Elaeocarpus reticulatus</i>	2	100%	1	27%	positive
<i>Entolasia stricta</i>	1	100%	2	25%	uninformative
<i>Gahnia sieberiana</i>	1	100%	2	6%	uninformative
<i>Hibbertia vestita</i>	1	100%	1	12%	uninformative
<i>Hypolaena fastigiata</i>	1	100%	1	1%	uninformative
<i>Lepidosperma laterale</i>	1	100%	1	17%	uninformative
<i>Leptospermum liversidgei</i>	1	100%	3	3%	uninformative
<i>Leptospermum polygalifolium</i>	1	100%	1	12%	uninformative
<i>Leptospermum trinervium</i>	1	100%	3	3%	uninformative
<i>Leucopogon lanceolatus</i>	1	100%	1	19%	uninformative
<i>Lomandra longifolia</i>	2	100%	2	51%	constant
<i>Marsdenia rostrata</i>	1	100%	1	8%	uninformative
<i>Melaleuca nodosa</i>	2	100%	3	3%	positive
<i>Micrantheum ericoides</i>	1	100%	1	1%	uninformative
<i>Monotoca elliptica</i>	1	100%	1	2%	uninformative
<i>Notelaea ovata</i>	1	100%	1	3%	uninformative
<i>Notelaea venosa</i>	1	100%	1	1%	uninformative
<i>Oplismenus aemulus</i>	1	100%	2	12%	uninformative
<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	1	100%	1	12%	uninformative
<i>Panicum simile</i>	1	100%	1	4%	uninformative
<i>Patersonia sericea</i>	1	100%	2	4%	uninformative
<i>Persoonia stradbrokeensis</i>	1	100%	1	18%	uninformative
<i>Polyscias sambucifolia</i>	1	100%	1	16%	uninformative
<i>Pomax umbellata</i>	1	100%	1	6%	uninformative
<i>Pteridium esculentum</i>	2	100%	2	32%	positive
<i>Ptilothrix deusta</i>	1	100%	4	2%	uninformative
<i>Schizaea dichotoma</i>	1	100%	1	1%	uninformative
<i>Smilax glycyphylla</i>	1	100%	1	28%	uninformative
<i>Xanthorrhoea fulva</i>	1	100%	3	6%	uninformative
<i>Xanthosia pilosa</i>	1	100%	0	0%	positive

PLATEAU TEA-TREE ROCK OUTCROP SHRUBLAND

CH_H09

SCIENTIFIC NAME New England Tea-tree (*Leptospermum novae-angliae*) PLANT COMMUNITY TYPE No equivalent
open shrubland on rocky outcrops of the Dorrigo Escarpment

STATEWIDE CLASS Heathlands – Northern Montane Heaths (Keith 2006)



Description

A shrubland in which New England Tea-tree (*Leptospermum novae-angliae*) dominates. Other shrubs present include *Phebalium elatius* subsp. *beckleri*, *Persoonia media* and *Pimelea linifolia*. The ground layer contains *Lepidosperma urophorum*, *Lepidosperma elatius* and *Carex inversa*.

The community occurs on metasedimentary/felsic volcanic rock outcrops on steep upper slopes in exposed aspects on the Dorrigo Escarpment between 800 and 1000 metres above sea level. It is most prominent at Mount Moombil and Mount Goobergooberyam in Dorrigo National Park.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	3-6	80	<i>Leptospermum novae-angliae</i> , <i>Acrotriche aggregata</i> , <i>Acacia melanoxylon</i> .
Middle	0.3-3	15	<i>Leptospermum variable</i> , <i>Zieria southwellii</i> , <i>Phebalium elatius</i> subsp. <i>beckleri</i> .
Lower	0-0.5	20	<i>Lepidosperma urophorum</i> , <i>Lepidosperma elatius</i> , <i>Carex inversa</i> .

* Data collated from 2 of 2 full floristic sites

Exotics *Solanum mauritianum*

Species richness

Number of plots	2
Total species	42
Average number of species	27 ±8.5

Conservation status

This community is reserved in Dorrigo National Park (14ha)

Tenure	Area (ha)
National Park	16
TOTAL	16

Threatened and Rare plants: *Phebalium elatius* subsp. *beckleri* (2EC)

Relationship to other communities

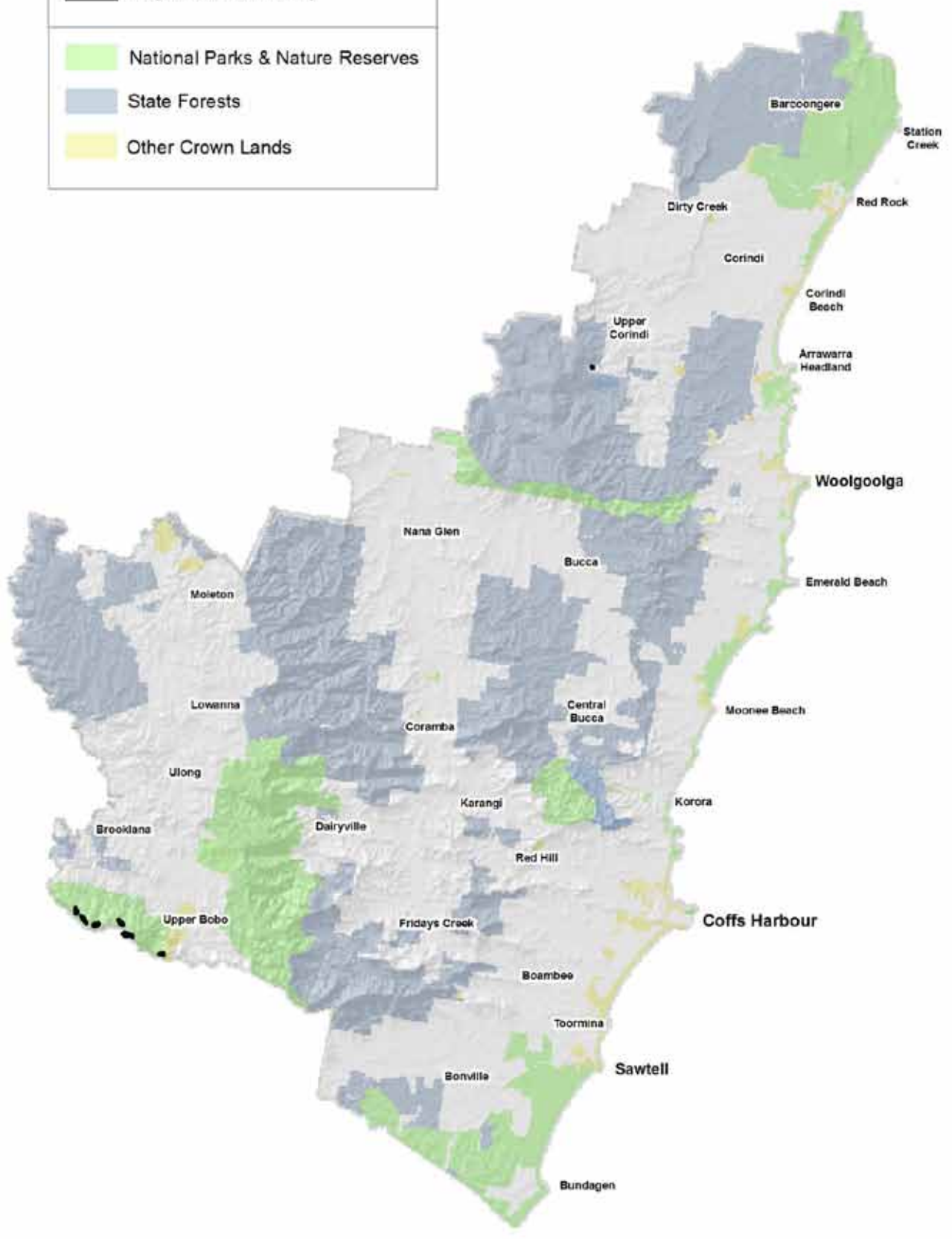
Related to CH_H10 (Escarpment Tea-tree Rock Outcrop Shrubland).

Equivalents

Biometric: No equivalent

Locations

Mount Moombil and Mount Goobergooberyam.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	1	50%	2	18%	uninformative
<i>Acrotriche aggregata</i>	1	50%	1	1%	uninformative
<i>Alyxia ruscifolia</i>	1	50%	1	1%	uninformative
<i>Carex inversa</i>	3	50%	1	0%	positive
<i>Cissus hypoglauca</i>	1	50%	1	38%	uninformative
<i>Coronidium elatum</i>	1	50%	1	0%	uninformative
<i>Dendrobium falcorostrum</i>	1	50%	0	0%	positive
<i>Deyeuxia gunniana</i>	1	50%	0	0%	positive
<i>Dianella caerulea</i>	1	50%	1	50%	uninformative
<i>Duboisia myoporoides</i>	1	50%	1	5%	uninformative
<i>Epacris longiflora</i>	1	50%	0	0%	positive
<i>Gahnia clarkei</i>	1	50%	2	14%	uninformative
<i>Geitonoplesium cymosum</i>	1	50%	1	23%	uninformative
<i>Gonocarpus oreophilus</i>	1	100%	2	0%	uninformative
<i>Grammitis billardiieri</i>	1	50%	1	0%	uninformative
<i>Hibbertia scandens</i>	1	100%	1	31%	uninformative
<i>Histiopteris incisa</i>	1	100%	2	1%	uninformative
<i>Hydrocotyle peduncularis</i>	1	100%	1	5%	uninformative
<i>Hymenophyllum cupressiforme</i>	1	50%	2	0%	uninformative
<i>Lepidosperma elatius</i>	3	100%	2	1%	positive
<i>Lepidosperma urophorum</i>	4	50%	0	0%	positive
<i>Leptospermum novae-angliae</i>	6	100%	0	0%	positive
<i>Lomandra longifolia</i>	1	100%	2	51%	negative
<i>Myrsine howittiana</i>	1	50%	1	2%	uninformative
<i>Notelaea</i> sp. A	1	50%	2	0%	uninformative
<i>Oplismenus imbecillis</i>	1	50%	2	22%	uninformative
<i>Parsonsia purpurascens</i>	1	50%	1	1%	uninformative
<i>Parsonsia straminea</i>	1	50%	1	27%	uninformative
<i>Persoonia media</i>	1	100%	2	7%	uninformative
<i>Phebalium elatius</i> subsp. <i>beckleri</i>	3	100%	0	0%	positive
<i>Pimelea linifolia</i>	1	100%	1	9%	uninformative
<i>Pittosporum undulatum</i>	1	50%	1	10%	uninformative
<i>Platycerium bifurcatum</i>	1	50%	1	16%	uninformative
<i>Plectranthus parviflorus</i>	1	100%	1	2%	uninformative
<i>Pomaderris nitidula</i>	1	50%	0	0%	positive
<i>Psychotria loniceroides</i>	1	50%	1	14%	uninformative
<i>Pyrrosia rupestris</i>	1	50%	2	3%	uninformative
<i>Rubus moluccanus</i> var. <i>moluccanus</i>	1	100%	1	1%	uninformative
<i>Rubus rosifolius</i>	1	50%	2	4%	uninformative
<i>Sarcochilus falcatus</i>	1	50%	2	1%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	50%	1	27%	uninformative
<i>Zieria southwellii</i>	1	50%	1	1%	uninformative

ESCARPMENT TEA-TREE SHRUBLAND

CH_H10

SCIENTIFIC NAME Tea-tree (*Leptospermum petersonii*) shrubland of the Orara Escarpment

PLANT COMMUNITY TYPE No equivalent

STATEWIDE CLASS Heathlands – Northern Montane Heaths (Keith 2006)



Description

A dry rock outcrop shrubland of steep escarpment slopes with emergent Grey Gum (*Eucalyptus biturbinata*) and Thick-leaved Mahogany (*Eucalyptus carnea*). The lower layer consists of a shrubland of Lemon-scented Teatree (*Leptospermum petersonii*) over a dense cover of Kangaroo Grass (*Themeda australis*).

This community is located in Bindarri National Park and Orara West State Forest on very steep mid to upper dry exposed slopes on soils derived from meta-sediments less than about 500 metres below sea level.



Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Emergent	4-12	10	<i>Eucalyptus biturbinata</i> , <i>Eucalyptus carnea</i> .
Tallest	1-4	35	<i>Leptospermum petersonii</i> .
Ground			<i>Themeda australis</i> .

* structure and floristic data in this table is recorded from 1 rapid data sampling site.

Structural and floristic variations

This mapping unit varies from areas of shrubland to woodland/open forest structure. The areas mapped as this community also contain areas of CH_DOF05 (Foothills Grey Gum - Ironbark - Mahogany Dry Forest). In addition, some polygons labelled as CH_DOF05 contain small areas of CH_H10.

Conservation status

This community is reserved in Bindarri National Park (4ha) and Dorrigo National Park (2ha).

Tenure	Area (ha)
Freehold	3
National Park	5
NSW State Forest	7
TOTAL	16

Relationship to other communities

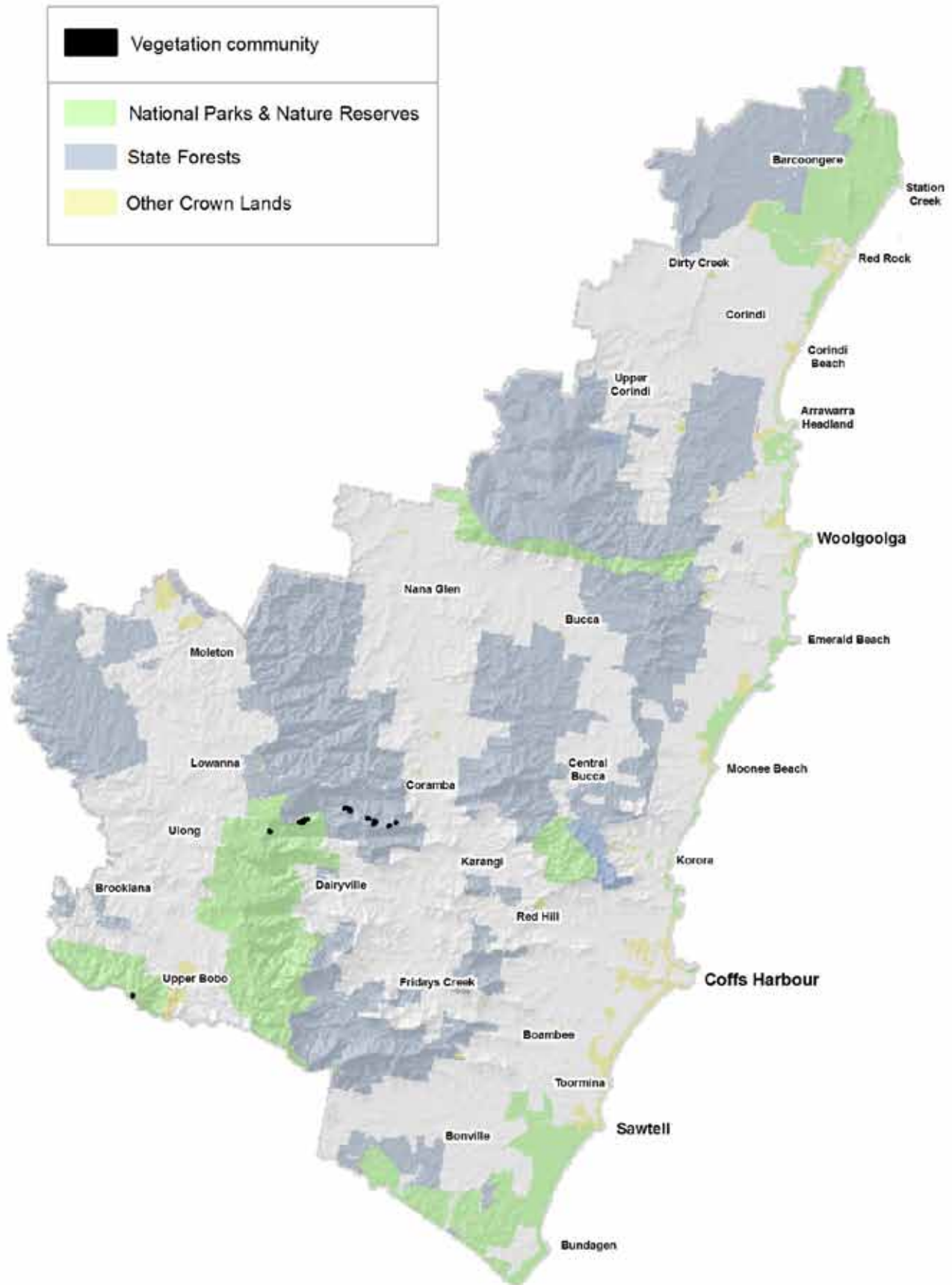
Related to CH_DOF05 (Foothills Grey Gum - Ironbark - Mahogany Dry Forest) and CH_H09 (New England Tea-tree Rock Outcrop Shrubland).

Equivalents

Biometric: No equivalent

Locations

Dry Creek trail, Orara West State Forest



TALL TEA-TREE – CRABAPPLE MONTANE CLOSED FOREST

CH_H11

SCIENTIFIC NAME Tall Montane Tea-tree (*Leptospermum polygalifolium* subsp. *montanum*) – Crabapple (*Schizomeria ovata*) closed forest of the Dorrigo Escarpment

STATEWIDE CLASS Heathlands – Northern Montane Heaths (Keith 2006)

PLANT COMMUNITY TYPE Lemon-scented Tea-tree – Port Jackson Pine – Grass Tree tall shrubland of steep rocky hills of the eastern Dorrigo plateau, NSW North Coast Bioregion (NSW700-434 in part) Lilly Pilly – Tea-tree shrubland of trachyte outcrops in rainforest of the eastern ranges, NSW North Coast and South Eastern Queensland Bioregion (NSW40-31 in part)



Description

A high altitude moist tall shrubland of Tooton Tea-tree (*Leptospermum polygalifolium* subsp. *montanum*) with a dense cover rainforest species such as Crabapple (*Schizomeria ovata*), Hill Kanuka (*Tristaniopsis collina*) and Sassafras (*Doryphora sassafras*). Brush Box (*Lophostemon confertus*) is present. There is a sparse mid layer of Brush Pepperbush (*Tasmannia insipida*) and Macleay Laurel (*Anopterus macleayanus*). A very sparse ground layer of *Tripladenia cunninghamii* and *Lomandra spicata* is present.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	15-30	60	<i>Leptospermum polygalifolium</i> subsp. <i>montanum</i> , <i>Schizomeria ovata</i> , <i>Doryphora sassafras</i> , <i>Tristaniopsis collina</i> .
Middle	1-3	15	<i>Tasmannia insipida</i> .
Lower	0-1	2	<i>Tripladenia cunninghamii</i> , <i>Lomandra spicata</i> .

* Data collated from 1 of 1 full floristic site.

Species richness

Number of plots	1
Total species	47
Average number of species	

Conservation status

This community is reserved in Dorrigo National Park (1ha) within the Local Government Area

Tenure	Area (ha)
Freehold	2
National Park	3
NSW State Forest	1
TOTAL	6

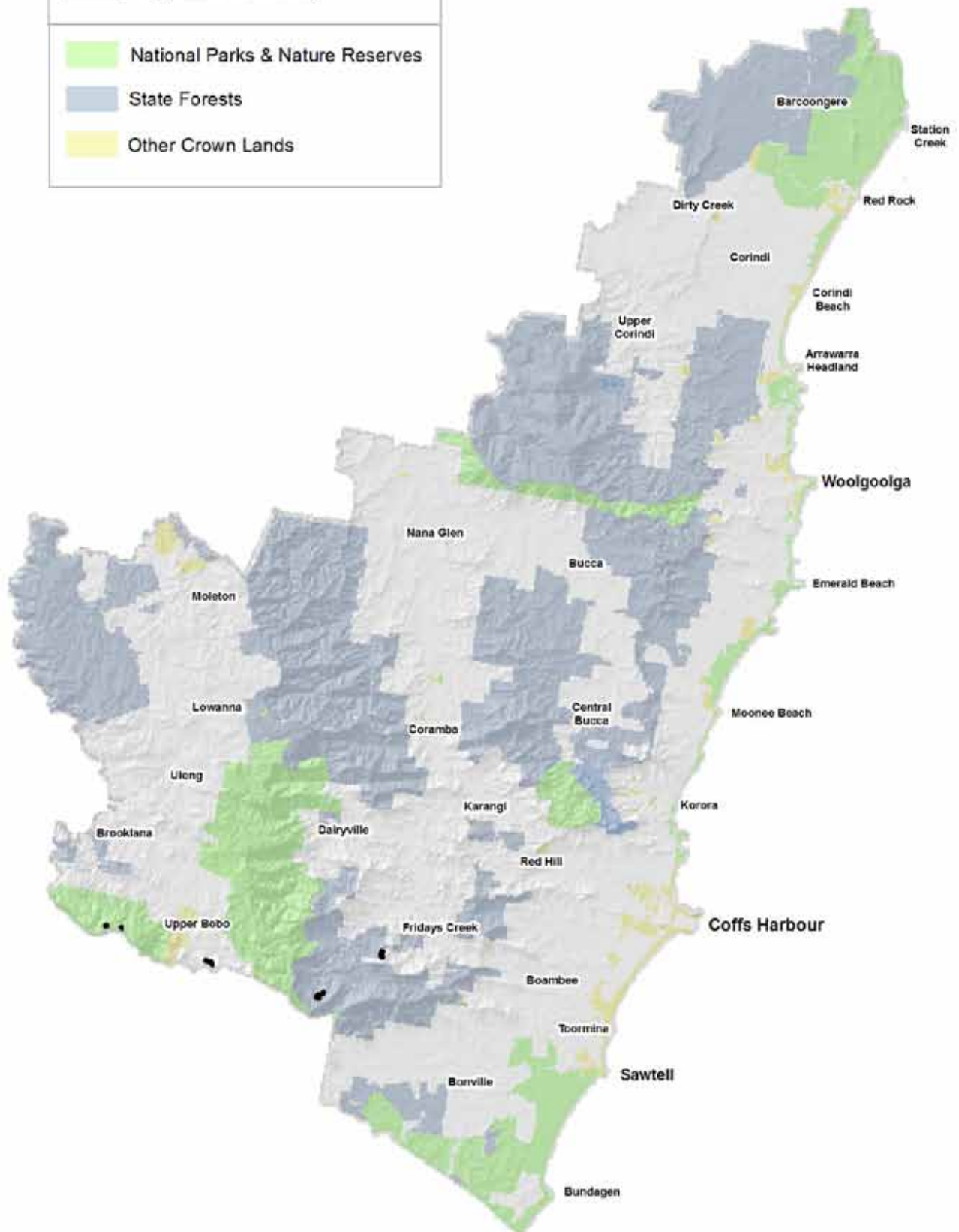
Threatened and Rare plants: *Hakea ochroptera*

Relationship to other communities

The occurrences on the Dorrigo Escarpment have affinities with the adjoining warm temperate rainforest communities including CH_RF11 (Escarpment and Lowland Bangalow – Carabeen – Black Booyong – Palm Gully Rainforest) and cool temperate rainforest including CH_RF02 (Plateau Beech Coachwood Cool Temperate Rainforest)

Locations

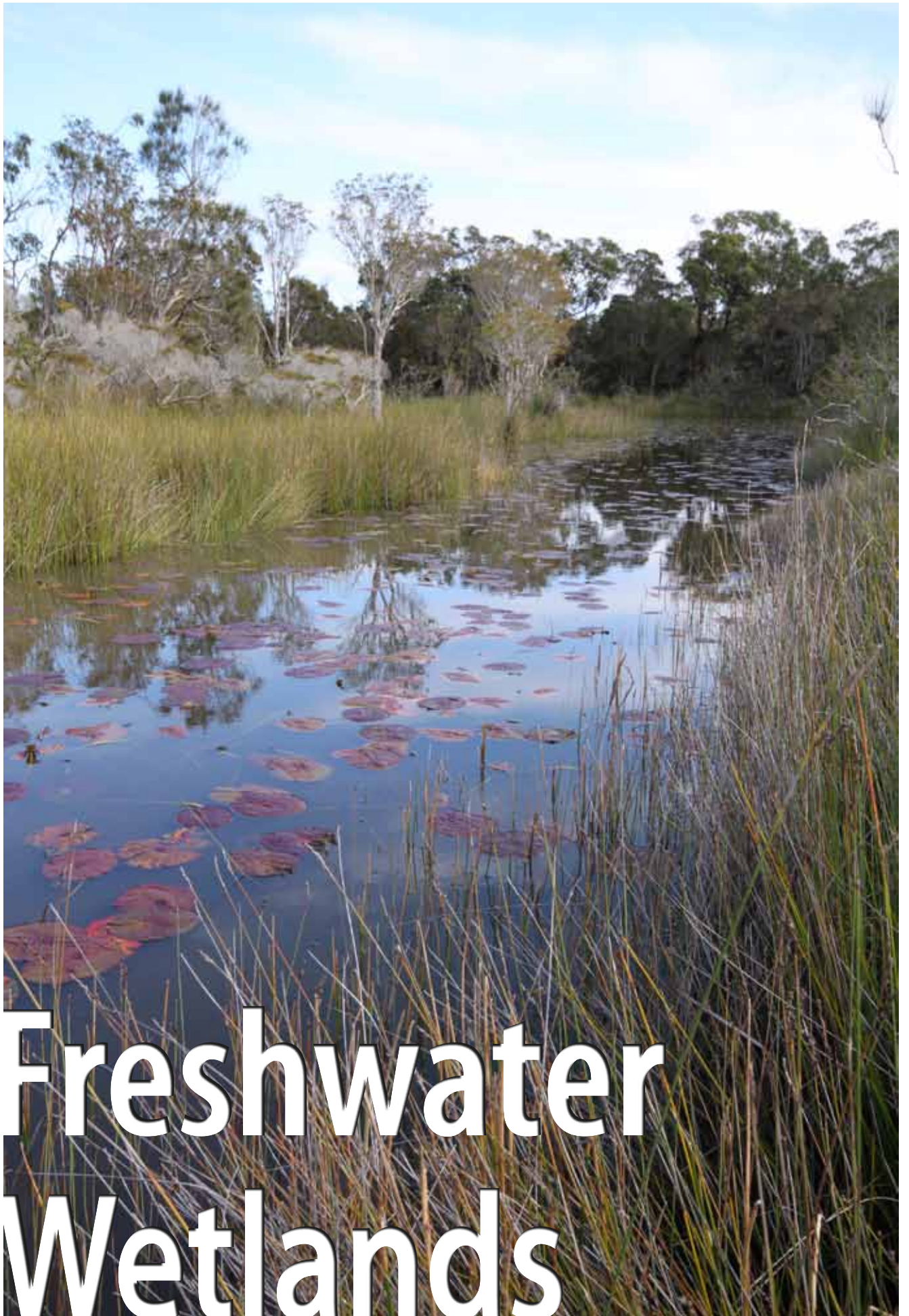
This community is located in moist areas on upper slopes to mountain summits over 900 metres above sea level on soils derived from metasediments around Mt Moombil in Dorrigo National Park.



Diagnostic species

Species Name	Cover abundance
<i>Acmena smithii</i>	1
<i>Acrotriche aggregata</i>	1
<i>Alyxia ruscifolia</i>	1
<i>Anopterus macleayanus</i>	2
<i>Atractocarpus benthamianus</i>	1
<i>Calamus muelleri</i>	1
<i>Cephalalaria cephalobotrys</i>	1
<i>Cinnamomum oliveri</i>	1
<i>Cordyline stricta</i>	1
<i>Cryptocarya meisnerana</i>	2
<i>Dendrobium aemulum</i>	1
<i>Dendrobium falcorostrum</i>	1
<i>Dianella caerulea</i>	1
<i>Diploglottis australis</i>	1
<i>Doryphora sassafras</i>	2
<i>Embelia australiana</i>	1
<i>Geitonoplesium cymosum</i>	1
<i>Gymnostachys anceps</i>	1
<i>Hakea ochroptera</i>	1
<i>Hibbertia scandens</i>	1
<i>Lastreopsis decomposita</i>	1
<i>Leptospermum polygalifolium</i> subsp. <i>montanum</i>	3
<i>Linospadix monostachya</i>	1
<i>Lomandra spicata</i>	1
<i>Lophostemon confertus</i>	2
<i>Morinda jasminoides</i>	1
<i>Myrsine howittiana</i>	1
<i>Notelaea</i> sp. A	1
<i>Orites excelsus</i>	1
<i>Palmeria scandens</i>	1
<i>Parsonsia purpurascens</i>	1
<i>Persoonia media</i>	1
<i>Pittosporum multiflorum</i>	1
<i>Pittosporum undulatum</i>	1
<i>Polyosma cunninghamii</i>	1
<i>Ripogonum discolor</i>	1
<i>Ripogonum fawcettianum</i>	1
<i>Sarcopteryx stipata</i>	1
<i>Schizomeria ovata</i>	4
<i>Stenocarpus salignus</i>	1
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1
<i>Tasmania insipida</i>	2
<i>Tripladenia cunninghamii</i>	1
<i>Tristaniopsis collina</i>	2
<i>Triunia youngiana</i>	1
<i>Trochocarpa laurina</i>	1
<i>Wilkiea huegeliana</i>	1
<i>Zieria southwellii</i>	1

*Community only represented by one site, fidelity not calculated



Freshwater Wetlands

COASTAL WALLUM TEA-TREE – BANKSIA WET HEATHLAND SHRUBLAND

CH_FW01

SCIENTIFIC NAME Coastal Wallum White's Tea-tree (*Leptospermum whitei*) – Olive Tea-tree (*Leptospermum liversidgei*) – Fern-leaved Banksia (*Banksia oblongifolia*) wet heathland to shrubland of coastal sandplains

STATEWIDE CLASS Freshwater Wetlands – Coastal Heath Swamps (Keith 2006)

PLANT COMMUNITY TYPE *Xanthorrhoea fulva* - Olive Teatree - *Sporadanthus interruptus* wallum heath on sandy near-coastal areas, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-605)



Description

A heath or shrub land dominated by an open cover of White's Tea-tree (*Leptospermum whitei*), Olive Tea-tree (*Leptospermum liversidgei*), Grass Tree (*Xanthorrhoea fulva*) and Fern-leaved Banksia (*Banksia oblongifolia*). A dense cover of the sedge *Sporadanthus interruptus* is present in the lower layer, along with Red-fruit Saw Sedge (*Gahnia sieberiana*). A diversity of sclerophyllous shrubs are present in the lower layer including Blunt-leaf Heath (*Epacris obtusifolia*), Common Aotus (*Aotus ericoides*), Dog Rose (*Bauera capitata*) and Wallum Boronia (*Boronia falcifolia*). Devil's Twine (*Cassytha filiformis*) is frequently encountered as tangles among the branches of shrubs. The Spoon-leaved Sundew (*Drosera spatulata*) and Swamp Selaginella (*Selaginella uliginosa*) grow in the moist sandy soil. Other species indicative of this community include Branched Goodenia (*Goodenia paniculata*), Milkmaids (*Burchardia umbellata*), Milkwort (*Comesperma defoliatum*), Slender Twig Rush (*Baumea gunnii*) and *Stackhousia nuda*. The community occurs in disjunct localities from the Eastern Peninsula Trail in Bongil Bongil National Park north to Station Creek in Yuraygir National Park. It is located in moderately waterlogged areas in freshwater swamps on Pleistocene back barrier sands.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	1 – 5	45	<i>Leptospermum whitei</i> , <i>Leptospermum liversidgei</i> .
Middle 1	1 – 5	35 - 70	<i>Leptospermum whitei</i> , <i>Leptospermum liversidgei</i> , <i>Xanthorrhoea fulva</i> , <i>Banksia oblongifolia</i> .
Lower 1	0.5 - 2	15 - 60	<i>Epacris obtusifolia</i> , <i>Aotus ericoides</i> , <i>Bauera capitata</i> , <i>Boronia falcifolia</i> , <i>Cassytha filiformis</i> , <i>Sporadanthus interruptus</i> , <i>Gahnia sieberiana</i> .
Lower 2	0 – 0.5	15 - 70	<i>Drosera spatulata</i> , <i>Selaginella uliginosa</i> , <i>Goodenia paniculata</i> , <i>Burchardia umbellata</i> , <i>Comesperma defoliatum</i> , <i>Baumea gunnii</i> , <i>Stackhousia nuda</i> .

* Data collated from 6 of 6 full floristic sites

Structural and floristic variations

In Yuraygir National Park this community occurs as a variation with Prickly Tea-tree (*Leptospermum juniperinum*) and Olive Tea-tree (*L. liversidgei*) as dominates or co-dominates in the upper strata with a lower strata dominated by *Baumea teretifolia*. These species are clearly recorded in the Fidel data

Species richness

Number of plots	6
Total species	54
Average number of species	22 ±4

Conservation status

This community is reserved in Bongil Bongil National Park (21ha), Coffs Coast Regional Park (6ha), Yuraygir National Park (12ha) and Moonee Beach Nature Reserve (46ha).

Tenure	Area (ha)
Crown Land	14
Freehold	29
National Park	31
Nature Reserve	45
Regional Park	6
TOTAL	125

Relationship to other communities

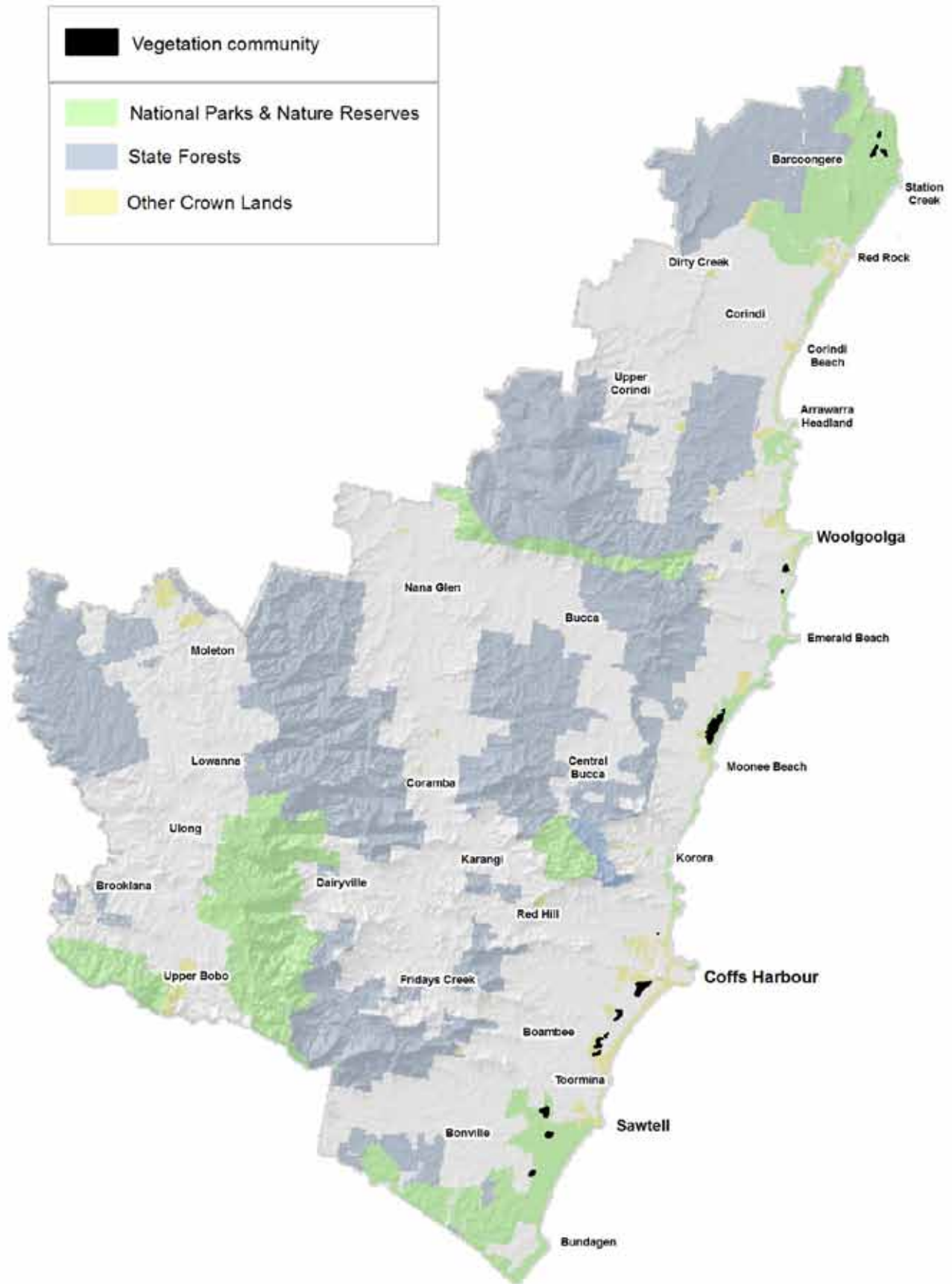
Related to CH_FW06 (Coastal Wallum Teatree Tall Wet Shrubland). The heathland shrubland structure and dominance of White's Tea-tree (*Leptospermum whitei*) in the canopy and increased abundance of Olive Tea-tree (*Leptospermum liversidgei*) and *Sporadanthus interruptus* are key diagnostics for CH_FW01.

Equivalents

Biometric:	(NR152) Coastal heath on sands of the North Coast
Other:	nil

Locations

Eastern Peninsula Trail, Bongil Bongil National Park; Boambee Creek, Newport's Creek; Airport Drive – Coffs Harbour; Christmas Bells Road; Moonee Beach Nature Reserve; Hearn's Lake; Woolgoolga, Coffs Regional Park; Station Creek, Yuraygir National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia suaveolens</i>	2	17%	1	3%	uninformative
<i>Adrastaea salicifolia</i>	1	50%	1	0%	uninformative
<i>Aotus ericoides</i>	2	83%	2	0%	positive
<i>Baekkea frutescens</i>	3	67%	2	2%	positive
<i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i>	1	33%	2	3%	uninformative
<i>Banksia aemula</i>	1	50%	3	2%	uninformative
<i>Banksia oblongifolia</i>	3	100%	3	8%	positive
<i>Bauera capitata</i>	3	67%	2	0%	positive
<i>Baumea muelleri</i>	1	83%	1	1%	uninformative
<i>Boronia falcifolia</i>	1	67%	1	1%	uninformative
<i>Burchardia umbellata</i>	2	67%	1	2%	positive
<i>Caesia parviflora</i>	1	17%	1	1%	uninformative
<i>Callistemon pachyphyllus</i>	1	17%	2	3%	uninformative
<i>Cassytha filiformis</i>	1	83%	1	2%	uninformative
<i>Cassytha glabella</i> f. <i>glabella</i>	1	17%	1	5%	uninformative
<i>Cassytha racemosa</i>	1	17%	1	1%	uninformative
<i>Caustis flexuosa</i>	1	17%	2	1%	uninformative
<i>Caustis recurvata</i>	1	17%	3	0%	uninformative
<i>Comesperma defoliatum</i>	2	33%	1	0%	uninformative
<i>Cryptostylis erecta</i>	1	17%	2	1%	uninformative
<i>Dampiera stricta</i>	2	17%	2	7%	uninformative
<i>Dianella caerulea</i>	1	17%	1	51%	uninformative
<i>Drosera spatulata</i>	2	33%	1	1%	uninformative
<i>Epacris obtusifolia</i>	2	83%	1	1%	positive
<i>Eucalyptus grandis</i>	1	17%	3	17%	uninformative
<i>Eurychorda complanata</i>	1	17%	2	1%	uninformative
<i>Gahnia sieberiana</i>	2	83%	2	5%	positive
<i>Goodenia paniculata</i>	1	67%	1	1%	uninformative
<i>Leptospermum liversidgei</i>	3	100%	3	2%	positive
<i>Leptospermum polygalifolium</i>	2	17%	1	12%	uninformative
<i>Leptospermum whitei</i>	4	83%	2	1%	positive
<i>Leucopogon juniperinus</i>	2	33%	1	2%	uninformative
<i>Leucopogon margarodes</i>	1	17%	1	3%	uninformative
<i>Lomandra longifolia</i>	1	17%	2	52%	negative
<i>Melaleuca nodosa</i>	1	17%	3	3%	uninformative
<i>Melaleuca sieberi</i>	1	17%	3	4%	uninformative
<i>Micrantheum ericoides</i>	1	33%	1	1%	uninformative
<i>Mitrasacme polymorpha</i>	2	33%	2	1%	uninformative
<i>Monotoca elliptica</i>	1	33%	1	2%	uninformative
<i>Olox stricta</i>	1	17%	1	0%	uninformative
<i>Persoonia stradbrokeensis</i>	1	17%	1	18%	uninformative
<i>Pimelea linifolia</i>	1	50%	1	9%	uninformative
<i>Ricinocarpos pinifolius</i>	1	17%	1	2%	uninformative
<i>Schizaea bifida</i>	1	17%	1	2%	uninformative
<i>Selaginella uliginosa</i>	2	83%	1	3%	positive
<i>Smilax glycyphylla</i>	1	17%	1	29%	uninformative
<i>Sporadanthus interruptus</i>	4	100%	3	2%	positive
<i>Sprengelia sprengelioides</i>	1	33%	1	1%	uninformative
<i>Stackhousia nuda</i>	2	33%	1	1%	uninformative
<i>Trachymene incisa</i> subsp. <i>incisa</i>	1	17%	2	2%	uninformative
<i>Utricularia uniflora</i>	1	50%	0	0%	positive
<i>Woollsia pungens</i>	1	17%	0	0%	positive
<i>Xanthorrhoea fulva</i>	4	100%	3	5%	positive
<i>Xyris gracilis</i>	1	17%	1	1%	uninformative

COASTAL WALLUM PAPERBARK - BANKSIA - GRASS TREE WET HEATHLAND

CH_FW02

SCIENTIFIC NAME Prickly-leaved Paperbark (*Melaleuca nodosa*)
– Fern-leaved Banksia (*Banksia oblongifolia*) – Swamp Grass Tree
(*Xanthorrhoea fulva*) wet Heathland of coastal sandplains

PLANT COMMUNITY TYPE Prickly-leaved Paperbark - *Hakea actites*
- Zig-zag Bog-rush graminoid shrubland of low hills and plains, South
Eastern Queensland Bioregion (NSW70-22)

STATEWIDE CLASS Freshwater Wetlands – Coastal Heath Swamps
(Keith 2006)



Description

Low to mid-high open to closed heath or shrubland occurring on unconsolidated backbarrier sand deposits in moderately wet sandy soils. There is rarely an emergent cover of scattered low trees of Pink Bloodwood (*Corymbia intermedia*), Needlebark Stringybark (*Eucalyptus planchoniana*) or Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*). The shrub layer is dense and diverse, with characteristic frequent species including Prickly-leaved Paperbark (*Melaleuca nodosa*), Mullaway Needle Bush (*Hakea actites*), Tooton Tea-tree (*Leptospermum polygalifolium*), Sieber's Paperbark (*Melaleuca sieberi*), Fern-leaved Banksia (*Banksia oblongifolia*), Hairpin Banksia (*Banksia spinulosa* var. *collina*), *Pultenaea myrtoidea* and Hairy Bush-pea (*Pultenaea villosa*). The ground layer is open to mid-dense and comprises a mix of Graminoid and Forb species including Zig-zag Bog-rush (*Schoenus brevifolius*), Wiry Panic (*Entolasia stricta*), Horned Sedge (*Ptilothrix deusta*), Creeping Raspwort (*Gonocarpus micranthus*), Daisy-leaved Goodenia (*Goodenia bellidifolia* subsp. *bellidifolia*) and Swamp Grass Tree (*Xanthorrhoea fulva*). This community is located north of Moonee Creek and is best developed on the coastal sandplains from Corindi to Station Creek in Yuraygir National Park and adjoining freehold land. There is an isolated occurrence on the Red Range Road.

Floristic summary

Layer	Height	Cover	Dominant Species
Emergent	8 – 20 (estimate)	5 – 15 (estimate)	<i>Corymbia intermedia</i> , <i>Eucalyptus planchoniana</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> .
Middle	1 - 5	35 - 70	<i>Melaleuca nodosa</i> , <i>Hakea actites</i> , <i>Leptospermum polygalifolium</i> , <i>Melaleuca sieberi</i> , <i>Banksia oblongifolia</i> , <i>Banksia spinulosa</i> var. <i>collina</i> .
Lower 1	0.2 - 2	15 - 60	<i>Pultenaea myrtooides</i> , <i>Pultenaea villosa</i> , <i>Xanthorrhoea fulva</i> .
Lower 2	0 – 0.5	15 - 70	<i>Schoenus brevifolius</i> , <i>Entolasia stricta</i> , <i>Ptilothrix deusta</i> , <i>Gonocarpus micranthus</i> , <i>Goodenia bellidifolia</i> subsp. <i>bellidifolia</i> .

* Data collated from 6 of 7 full floristic sites

Structural and floristic variations

This community sometimes occurs with a sparse emergent overstorey of low trees of Pink Bloodwood (*Corymbia intermedia*), Needlebark Stringybark (*Eucalyptus planchoniana*) or Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*).

Species richness

Number of plots	7
Total species	106
Average number of species	39 ±7

Conservation status

This community is reserved in Coffs Coast Regional Park (1ha), Yuraygir National Park (128ha) and Moonee Beach Nature Reserve (15ha). This community is threatened on freehold land by vegetation clearing on the Coast Range, Sherwood Plateau.

Tenure	Area (ha)
Crown Land	17
Freehold	104
National Park	132
Nature Reserve	35
Regional Park	1
TOTAL	290

Relationship to other communities

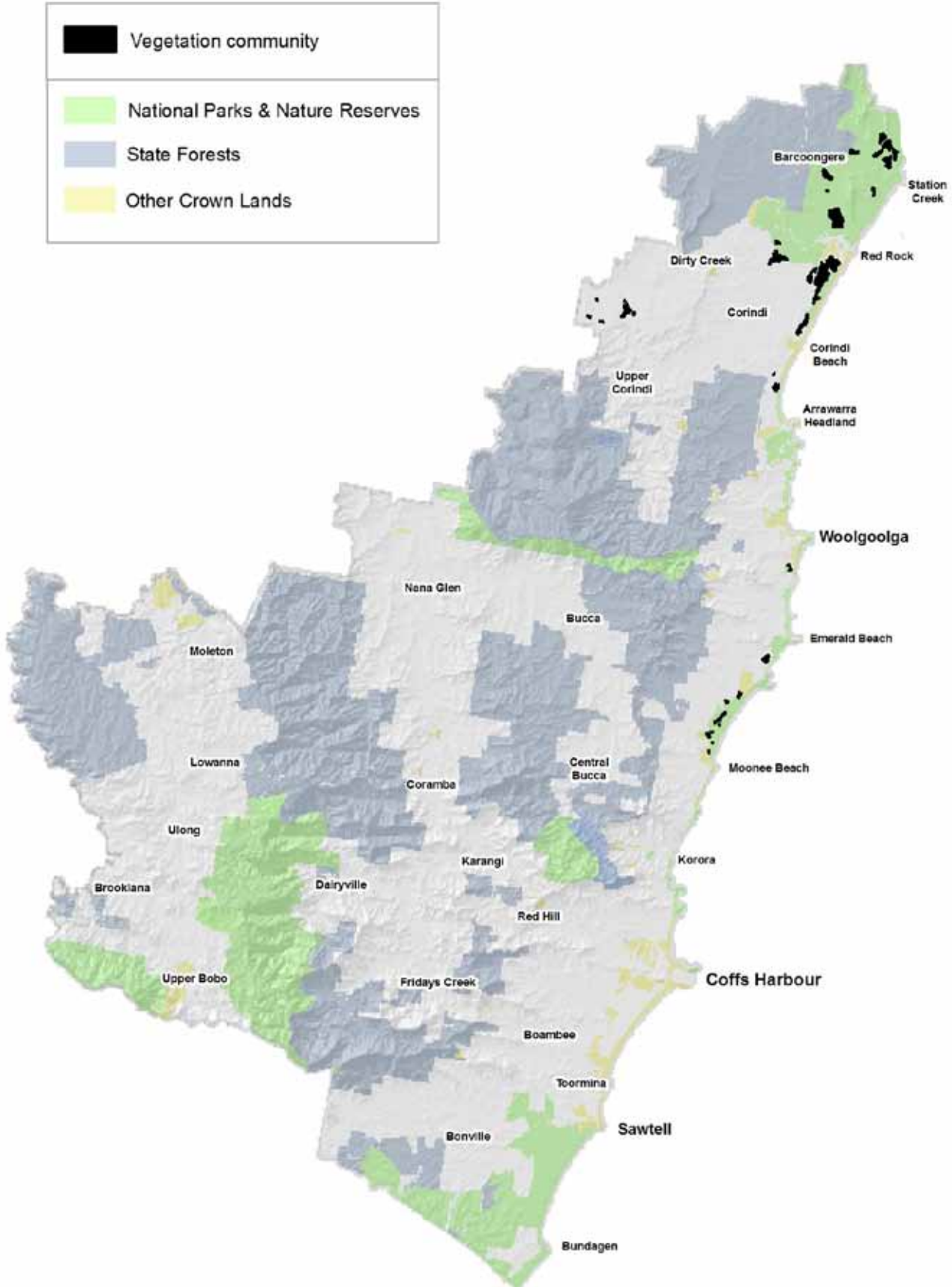
Related to CH_FW03 (Coastal Wallum Slender Twine Rush Sedgeland). CH_FW03 occurs in deeper and wetter swamps than CH_FW02. CH_FW02 shares many species in common with CH_FW05 (Coastal Wallum Paperbark Wet Shrubland). CH_FW05 also has a dominance of Prickly-leaved Melaleuca (*Melaleuca nodosa*) and a lower cover of Sieber's Paperbark (*Melaleuca sieberi*) and Mullaway Needlebush (*Hakea actites*).

Equivalents

Biometric:	(NR152) Coastal heath on sands of the North Coast
Other:	SG5502 Wet Heath/Shrubland (Fisher et al. 1996)

Locations

Moonee Beach Nature Reserve; Emerald Beach; Woolgoolga; Corindi – Red Rock; Corindi River, Cabbage Tree Creek Yuraygir National Park; Red Range.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	1	14%	1	6%	uninformative
<i>Acacia suaveolens</i>	1	57%	1	2%	uninformative
<i>Acacia ulicifolia</i>	1	43%	1	2%	uninformative
<i>Adrastaea salicifolia</i>	1	14%	1	1%	uninformative
<i>Agiortia pedicellata</i>	1	14%	0	0%	positive
<i>Aotus ericoides</i>	2	14%	2	1%	uninformative
<i>Baeckea frutescens</i>	2	71%	2	2%	positive
<i>Baeckea imbricata</i>	2	29%	0	0%	positive
<i>Banksia aemula</i>	3	57%	2	2%	positive
<i>Banksia oblongifolia</i>	3	100%	3	8%	positive
<i>Bauera capitata</i>	2	29%	3	1%	uninformative
<i>Baumea muelleri</i>	1	43%	1	1%	uninformative
<i>Baumea teretifolia</i>	1	14%	0	0%	positive
<i>Billardiera scandens</i>	1	14%	1	10%	uninformative
<i>Blandfordia grandiflora</i>	1	14%	1	1%	uninformative
<i>Boronia falcifolia</i>	1	57%	1	1%	uninformative
<i>Boronia safrolifera</i>	3	14%	3	0%	uninformative
<i>Bossiaea ensata</i>	1	29%	0	0%	positive
<i>Burchardia umbellata</i>	1	57%	1	2%	uninformative
<i>Caesia parviflora</i>	1	14%	1	1%	uninformative
<i>Callistemon pachyphyllus</i>	2	86%	2	2%	positive
<i>Cassytha glabella</i> f. <i>glabella</i>	1	71%	1	4%	uninformative
<i>Cassytha pubescens</i>	2	14%	1	2%	uninformative
<i>Cassytha racemosa</i>	1	29%	1	1%	uninformative
<i>Caustis recurvata</i> var. <i>recurvata</i>	3	29%	2	0%	uninformative
<i>Conospermum taxifolium</i>	2	14%	0	0%	positive
<i>Corymbia intermedia</i>	1	14%	2	21%	uninformative
<i>Dampiera stricta</i>	2	86%	2	6%	positive
<i>Dampiera sylvestris</i>	1	14%	1	1%	uninformative
<i>Dianella caerulea</i>	1	43%	1	50%	uninformative
<i>Dillwynia floribunda</i>	3	57%	0	0%	positive
<i>Dillwynia glaberrima</i>	1	14%	0	0%	positive
<i>Dillwynia retorta</i>	1	14%	1	1%	uninformative
<i>Drosera auriculata</i>	2	43%	1	0%	uninformative
<i>Drosera spatulata</i>	1	29%	2	1%	uninformative
<i>Elaeocarpus reticulatus</i>	1	14%	1	27%	uninformative
<i>Empodisma minus</i>	3	29%	2	0%	uninformative
<i>Entolasia stricta</i>	1	29%	2	25%	uninformative
<i>Epacris obtusifolia</i>	1	57%	2	2%	uninformative
<i>Epacris pulchella</i>	2	57%	2	3%	positive
<i>Eragrostis brownii</i>	1	14%	2	0%	uninformative
<i>Eriachne glabrata</i>	3	29%	4	0%	uninformative
<i>Eucalyptus robusta</i>	1	14%	2	7%	uninformative
<i>Eurychorda complanata</i>	2	43%	1	0%	uninformative
<i>Gahnia sieberiana</i>	1	14%	2	6%	uninformative
<i>Gompholobium pinnatum</i>	1	86%	1	3%	uninformative
<i>Gonocarpus micranthus</i>	1	43%	2	1%	uninformative
<i>Haemodorum planifolium</i>	1	14%	1	0%	uninformative
<i>Hakea actites</i>	3	14%	4	1%	uninformative
<i>Hibbertia fasciculata</i>	1	14%	0	0%	positive
<i>Hibbertia vestita</i>	3	86%	1	11%	positive
<i>Hypolaena fastigiata</i>	2	29%	1	1%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Ischaemum australe</i>	2	14%	2	1%	uninformative
<i>Kunzea capitata</i>	2	71%	0	0%	positive
<i>Laxmannia gracilis</i>	1	14%	3	0%	uninformative
<i>Lepidosperma laterale</i>	1	14%	1	17%	uninformative
<i>Leptocarpus tenax</i>	2	86%	4	1%	positive
<i>Leptomeria acida</i>	1	29%	2	2%	uninformative
<i>Leptospermum juniperinum</i>	1	43%	2	1%	uninformative
<i>Leptospermum liversidgei</i>	3	57%	3	2%	positive
<i>Leptospermum polygalifolium</i>	1	86%	1	11%	uninformative
<i>Leptospermum semibaccatum</i>	1	14%	2	0%	uninformative
<i>Lepyrodia scariosa</i>	3	14%	4	0%	uninformative
<i>Lepyrodia</i> sp. A	1	14%	1	1%	uninformative
<i>Leucopogon lanceolatus</i>	1	29%	1	19%	uninformative
<i>Leucopogon leptospermoides</i>	2	43%	1	0%	uninformative
<i>Lindsaea linearis</i>	2	14%	1	3%	uninformative
<i>Lomandra longifolia</i>	2	14%	2	52%	negative
<i>Lycopodium deuterodensum</i>	1	14%	4	0%	uninformative
<i>Melaleuca nodosa</i>	3	100%	3	2%	positive
<i>Melaleuca sieberi</i>	3	14%	3	4%	uninformative
<i>Melaleuca thymifolia</i>	2	29%	1	1%	uninformative
<i>Micrantheum ericoides</i>	1	29%	1	1%	uninformative
<i>Mirbelia rubiifolia</i>	1	14%	2	1%	uninformative
<i>Mitrasacme paludosa</i>	1	14%	2	0%	uninformative
<i>Mitrasacme polymorpha</i>	2	57%	2	0%	positive
<i>Monotoca elliptica</i>	1	14%	1	2%	uninformative
<i>Monotoca scoparia</i>	2	29%	1	2%	uninformative
<i>Olax stricta</i>	1	14%	1	0%	uninformative
<i>Panicum simile</i>	1	29%	1	4%	uninformative
<i>Parsonia straminea</i>	1	14%	1	28%	uninformative
<i>Patersonia glabrata</i>	2	14%	2	5%	uninformative
<i>Persoonia levis</i>	1	14%	2	2%	uninformative
<i>Persoonia stradbrokeensis</i>	1	43%	1	18%	uninformative
<i>Persoonia virgata</i>	1	43%	1	0%	uninformative
<i>Phyllota phyllicoides</i>	1	14%	4	1%	uninformative
<i>Pimelea linifolia</i>	2	100%	1	8%	positive
<i>Platysace ericoides</i>	2	86%	0	0%	positive
<i>Ptilothrix deusta</i>	1	14%	4	2%	uninformative
<i>Pultenaea myrtoides</i>	2	14%	3	1%	uninformative
<i>Pultenaea rostrata</i>	1	14%	3	0%	uninformative
<i>Pultenaea villosa</i>	1	14%	2	6%	uninformative
<i>Ricinocarpus pinifolius</i>	1	86%	3	0%	uninformative
<i>Schizaea dichotoma</i>	1	14%	1	1%	uninformative
<i>Schoenus brevifolius</i>	2	14%	2	1%	uninformative
<i>Schoenus paludosus</i>	3	14%	0	0%	positive
<i>Selaginella uliginosa</i>	2	71%	1	3%	positive
<i>Sporadanthus interruptus</i>	3	71%	3	2%	positive
<i>Sprengelia sprengelioides</i>	1	57%	1	1%	uninformative
<i>Stackhousia nuda</i>	1	43%	2	1%	uninformative
<i>Styphelia viridis</i>	1	29%	1	1%	uninformative
<i>Themeda australis</i>	3	29%	3	24%	uninformative
<i>Trachymene incisa</i> subsp. <i>incisa</i>	1	100%	2	1%	uninformative
<i>Xanthorrhoea fulva</i>	3	86%	3	5%	positive
<i>Xyris gracilis</i>	1	57%	1	1%	uninformative
<i>Xyris operculata</i>	1	14%	0	0%	positive

COASTAL WALLUM SLENDER TWINE RUSH SEDGELAND

CH_FW03

SCIENTIFIC NAME Slender Twine Rush (*Leptocarpus tenax*) Wallum Sedgeland of coastal sandplains

PLANT COMMUNITY TYPE Slender Twine-rush – Pale Cord-rush Sedgeland of North Coast Wallum Swamps, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW888-11)

STATEWIDE CLASS Freshwater Wetlands – Coastal Heath Swamps (Keith 2006)



Description

A dense sedgeland dominated by Slender Twine Rush (*Leptocarpus tenax*), with a sparse emergent layer of Broad-leaved Paperbark (*Melaleuca quinquenervia*). A sparse mid layer of Grass Tree (*Xanthorrhoea fulva*), Fern-leaved Banksia (*Banksia oblongifolia*) and Wallum bottlebrush (*Callistemon pachyphyllus*) is sometimes present. Other shrubs and herbs characteristic of very wet habitats are present, and these include Yellow-eye (*Xyris gracilis*), Leafless Globe-pea (*Sphaerolobium vimineum*), Bladderwort (*Utricularia australis*) and Milkmaids (*Burchardia umbellata*). This community is found in very wet areas on sandy coastal backbarrier flats and is restricted in area between Corindi and Red Rock in the study area.

Floristic summary

Layer	Height	Cover	Dominant Species
Emergent	0.5-3	5	<i>Melaleuca quinquenervia</i> , <i>Banksia oblongifolia</i> .
Mid layer	0-1	30	<i>Xanthorrhoea fulva</i> , <i>Callistemon pachyphyllus</i> .
Ground	0-0.5	75-100	<i>Leptocarpus tenax</i> , <i>Xyris gracilis</i> .

* Data collated from 2 of 2 full floristic sites

Species richness

Number of plots	2
Total species	21
Average Number of Species	13 ±0.7

Conservation status

This community is reserved in Yuraygir National Park (14ha)

Tenure	Area (ha)
Crown Land	4
Freehold	15
National Park	14
TOTAL	33

Relationship to other communities

Adjoins community CH_FW02 (Coastal Wallum Paperbark - Banksia - Grass Tree Wet Heathland) which is the wet heath variant of this community. CH_FW03 also occurs in deeper and wetter swamps than CH_FW02. CH_FW03 is also related to CH_FW04 (Coastal Wallum *Baumea* Sedgeland), which is also a wallum sedgeland but is instead dominated by *Baumea rubiginosa*.

Equivalents

Biometric: (NR276) Wallum sedgeland and rushland of near coastal lowlands of the North Coast.

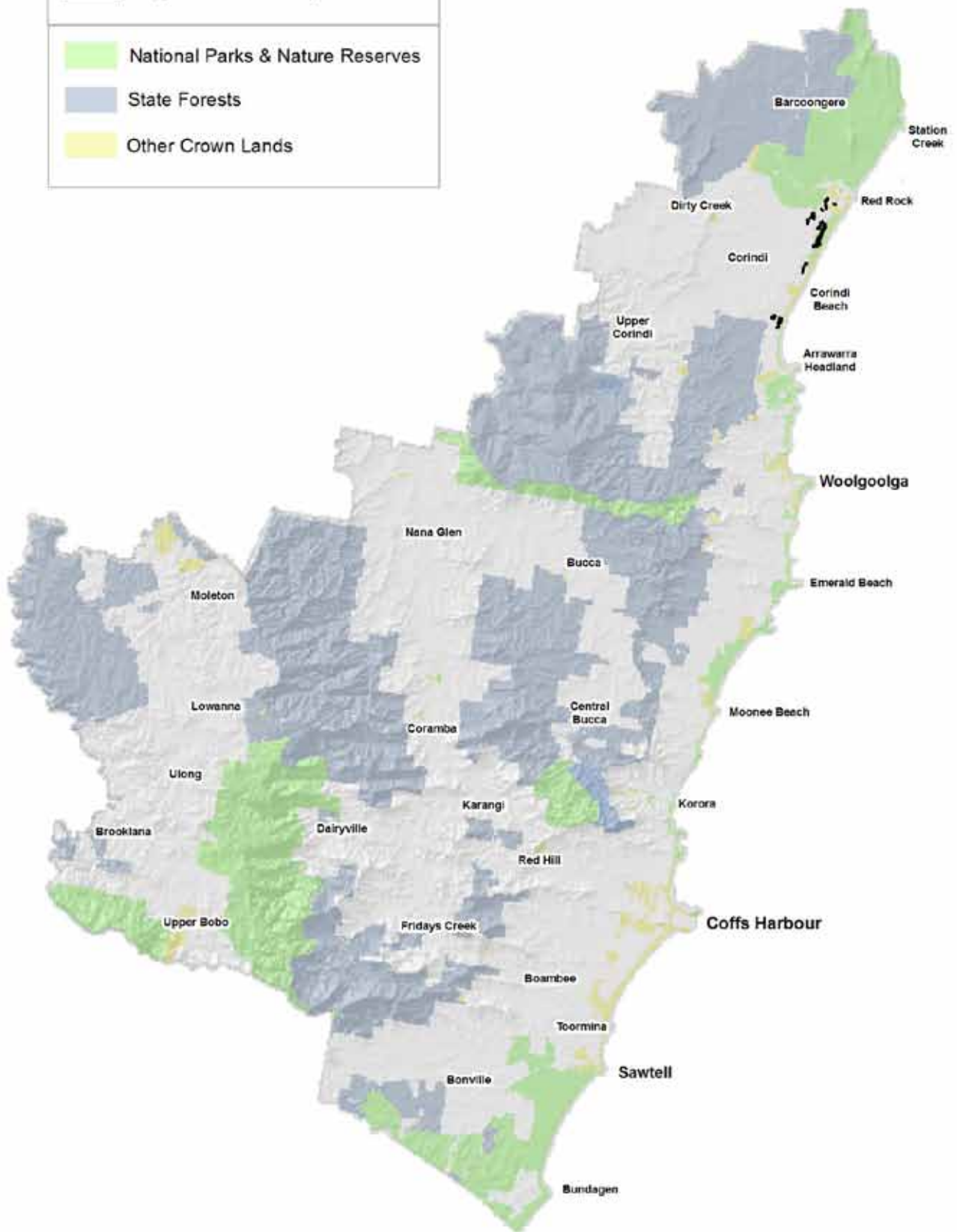
Other: SG6402 Sedgeland / Rushland Complex (Fisher et al. 1996); Community No. 11: *Leptocarpus tenax*– *Baloskion pallens* sedgeland (Griffith et al. 2007)

Locations

On the coastal fringe between Corindi and Red Rock.



	Vegetation community
	National Parks & Nature Reserves
	State Forests
	Other Crown Lands



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	2	50%	1	6%	positive
<i>Banksia oblongifolia</i>	2	50%	3	9%	positive
<i>Burchardia umbellata</i>	1	50%	1	2%	uninformative
<i>Caesia parviflora</i>	1	50%	1	1%	uninformative
<i>Callistemon pachyphyllus</i>	3	100%	2	3%	positive
<i>Epaltes australis</i>	1	50%	2	0%	uninformative
<i>Haemodorum planifolium</i>	1	50%	1	0%	uninformative
<i>Hakea eriantha</i>	2	50%	0	0%	positive
<i>Hibbertia vestita</i>	1	50%	1	12%	uninformative
<i>Leptocarpus tenax</i>	5	100%	2	2%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Melaleuca quinquenervia</i>	2	100%	2	12%	positive
<i>Melaleuca thymifolia</i>	2	50%	1	1%	positive
<i>Pimelea linifolia</i>	1	50%	1	9%	uninformative
<i>Pultenaea villosa</i>	1	50%	2	6%	uninformative
<i>Selaginella uliginosa</i>	1	50%	1	3%	uninformative
<i>Sphaerolobium vimineum</i>	1	50%	0	0%	positive
<i>Themeda australis</i>	2	50%	3	24%	positive
<i>Utricularia australis</i>	2	50%	0	0%	positive
<i>Xanthorrhoea fulva</i>	4	100%	3	6%	positive
<i>Xyris gracilis</i>	2	50%	1	1%	positive



COASTAL WALLUM BAUMEA SEDGELAND

CH_FW04

SCIENTIFIC NAME Soft Twig Rush (*Baumea rubiginosa*) – Bristle Rush (*Chorizandra*) – Scale Rush (*Lepyrodia scariosa*) wallum sedgeland

PLANT COMMUNITY TYPE Soft Twig Rush - Swamp Water Fern - Common Reed swamp and marshland on coastal sand and alluvial floodplain, NSW North Coast Bioregion (NSW1000-1950)

STATEWIDE CLASS Freshwater Wetlands – Coastal Heath Swamps (Keith 2006)



Description

A wallum sedgeland characterised by *Baumea rubiginosa*, Roundhead Bristle-sedge (*Chorizandra sphaerocephala*) and *Lepyrodia scariosa* sometimes with emergent Wallum Bottlebrush (*Callistemon pachyphyllus*) and Broad-leaved Paperbark (*Melaleuca quinquenervia*).

Floristic summary

Layer	Height	Cover	Dominant Species
Emergent	2-4	15	<i>Callistemon pachyphyllus</i> , <i>Melaleuca quinquenervia</i> .
Ground	0-1.8	80	<i>Baumea rubiginosa</i> , <i>Chorizandra sphaerocephala</i> , <i>Lepyrodia scariosa</i> , <i>Leptocarpus tenax</i> , <i>Philydrum lanuginosum</i> .

* Data collated from 2 of 2 full floristic sites

Structural and floristic variations

Sometimes a dense shrub layer of Wallum Bottlebrush (*Callistemon pachyphyllus*) forms over the top of a dense sedgeland layer.

Species richness

Number of plots	2
Total species	17
Average number of species	10 ±2.1

Conservation status

This community is reserved in Coffs Coast Regional Park (1ha), Garby Nature Reserve (2ha) and Yuraygir National Park (9ha)

Tenure	Area (ha)
Freehold	1
National Park	1
Nature Reserve	2
TOTAL	5

Relationship to other communities

Related to several wet wallum sedgeland communities including CH_FW03 (Coastal Wallum Baumea Sedgeland), and CH_FW07 (Jointed Twig Rush Freshwater Wetland). It adjoins the wet shrubland community CH_FW02 (Coastal Wallum Paperbark Banksia Grass Tree Wet Heathland).

Equivalents

Biometric: (NR276) Wallum sedgeland and rushland of near coastal lowlands of the North Coast

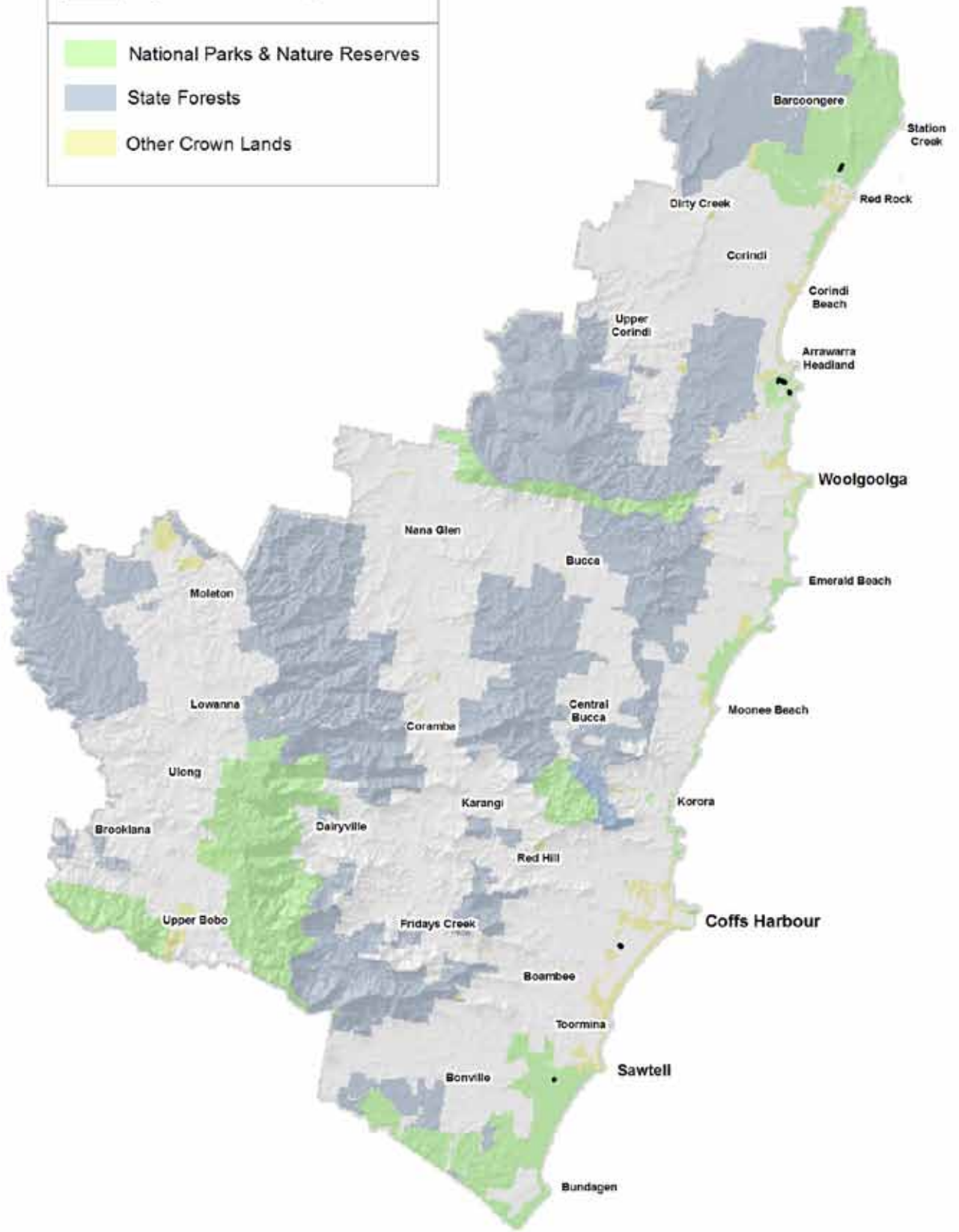
Other: Community No. 1: *Baumea rubiginosa* sedgeland (Griffith et al. 2003)

Locations

Airport Drive; Garby Nature Reserve; Yuraygir National Park.



	Vegetation community
	National Parks & Nature Reserves
	State Forests
	Other Crown Lands



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Baumea rubiginosa</i>	4	100%	3	1%	positive
<i>Callistemon pachyphyllus</i>	5	100%	2	3%	positive
<i>Cassytha glabella</i> f. <i>glabella</i>	1	50%	1	4%	uninformative
<i>Chorizandra sphaerocephala</i>	4	50%	0	0%	positive
<i>Dendrophthoe vitellina</i>	1	50%	0	0%	positive
<i>Gonocarpus teucroides</i>	1	50%	1	1%	uninformative
<i>Hemarthria uncinata</i>	3	50%	4	1%	positive
<i>Ischaemum australe</i>	3	50%	2	1%	positive
<i>Lepidosperma quadrangulatum</i>	4	50%	1	0%	positive
<i>Leptocarpus tenax</i>	2	50%	3	2%	positive
<i>Lepyrodia scariosa</i>	4	50%	3	0%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Melaleuca quinquenervia</i>	2	50%	2	12%	positive
<i>Melaleuca squamea</i>	1	50%	1	0%	uninformative
<i>Paspalum orbiculare</i>	2	50%	2	0%	positive
<i>Philydrum lanuginosum</i>	3	50%	1	1%	positive
<i>Schoenus melanostachys</i>	1	50%	3	1%	uninformative
<i>Villarsia exaltata</i>	3	50%	2	0%	positive

COASTAL WALLUM PAPERBARK WET SHRUBLAND

CH_FW05

SCIENTIFIC NAME Sieber's Paperbark (*Melaleuca sieberi*) – Prickly-leaved Paperbark (*Melaleuca nodosa*) – Wallum Heathland to tall shrubland of coastal sandplains

STATEWIDE CLASS Freshwater Wetlands – Coastal Heath Swamps (Keith 2006)

PLANT COMMUNITY TYPE Swamp Mahogany – Sieber's Paperbark (*Melaleuca sieberi*) shrub/sedge swamp forest on low lying sandy areas, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-334)



Description

A very tall heathland to shrubland dominated by Sieber's Paperbark (*Melaleuca sieberi*), Mullaway Needle Bush (*Hakea actites*), Prickly-leaved Paperbark (*Melaleuca nodosa*) and Black She-oak (*Allocasuarina littoralis*). There is sometimes emergent Swamp Mahogany (*Eucalyptus robusta*) or Swamp Box (*Lophostemon suaveolens*). A mid stratum of smaller shrubs is present including Hairpin Banksia (*Banksia spinulosa* var. *collina*), Fern-leaved Banksia (*Banksia oblongifolia*), *Notelaea ovata*, Wallum Bottlebrush (*Callistemon pachyphyllus*), *Pultenaea villosa*, Prickly-leaved Paperbark and Mullaway Needle Bush. The ground layer comprised Swamp Grass Tree (*Xanthorrhoea fulva*), Rice Flower (*Pimelea linifolia*), *Epacris microphylla*, Coral Fern (*Gleichenia dicarpa*) and Sieber's Paperbark. Spoon-leaved Sun Dew (*Drosera spatulata*) sometimes occurs as a sparse ground layer.

This community occurs on moderately waterlogged sandy soils on coastal wallum sand in separate localities within Bongil Bongil National Park, near Coffs Harbour Airport, Moonee Beach Nature Reserve, Arrawarra and also in Yuraygir National Park

Floristic summary

Layer	Height	Cover %	Dominant Species
Tallest	2 – 5	10 - 50	<i>Melaleuca sieberi</i> , <i>Melaleuca nodosa</i> , <i>Allocasuarina littoralis</i> , <i>Lophostemon suaveolens</i> .
Middle	0.6 – 2	40 - 70	<i>Hakea actites</i> , <i>Banksia spinulosa</i> var <i>collina</i> , <i>Gahnia sieberiana</i> , <i>Pultenaea villosa</i> .
Lower	0.01 - .6	60 - 100	<i>Ptilothrix deusta</i> , <i>Drosera spatulata</i> , <i>Xanthorrhoea fulva</i> .

* Data collated from 3 of 3 full floristic sites

Structural and floristic variations

Mullaway Needle Bush (*Hakea actites*) is a dominant shrub in unburnt heath and shrublands at Moonee Beach Nature Reserve and Garby Nature Reserve. Kangaroo Grass (*Themeda australis*) may be abundant in areas where this community grades into clay heath. Structurally, this community can vary from a heathland or a shrubland to an open woodland or forest. Some of the polygons for this community map areas of open forest.

Species richness

Number of plots	3
Total species	18
Average number of species	26 ±12

Conservation status

This community is reserved in Bongil Bongil National Park (9ha) Coffs Coast Regional Park (7ha), Garby Nature Reserve (17ha), Moonee Beach Nature Reserve (34ha) and Yuraygir National Park (45ha).

Tenure	Area (ha)
Crown Land	3
Freehold	39
National Park	54
Nature Reserve	30
NSW State Forest	12
Regional Park	7
TOTAL	145

Relationship to other communities

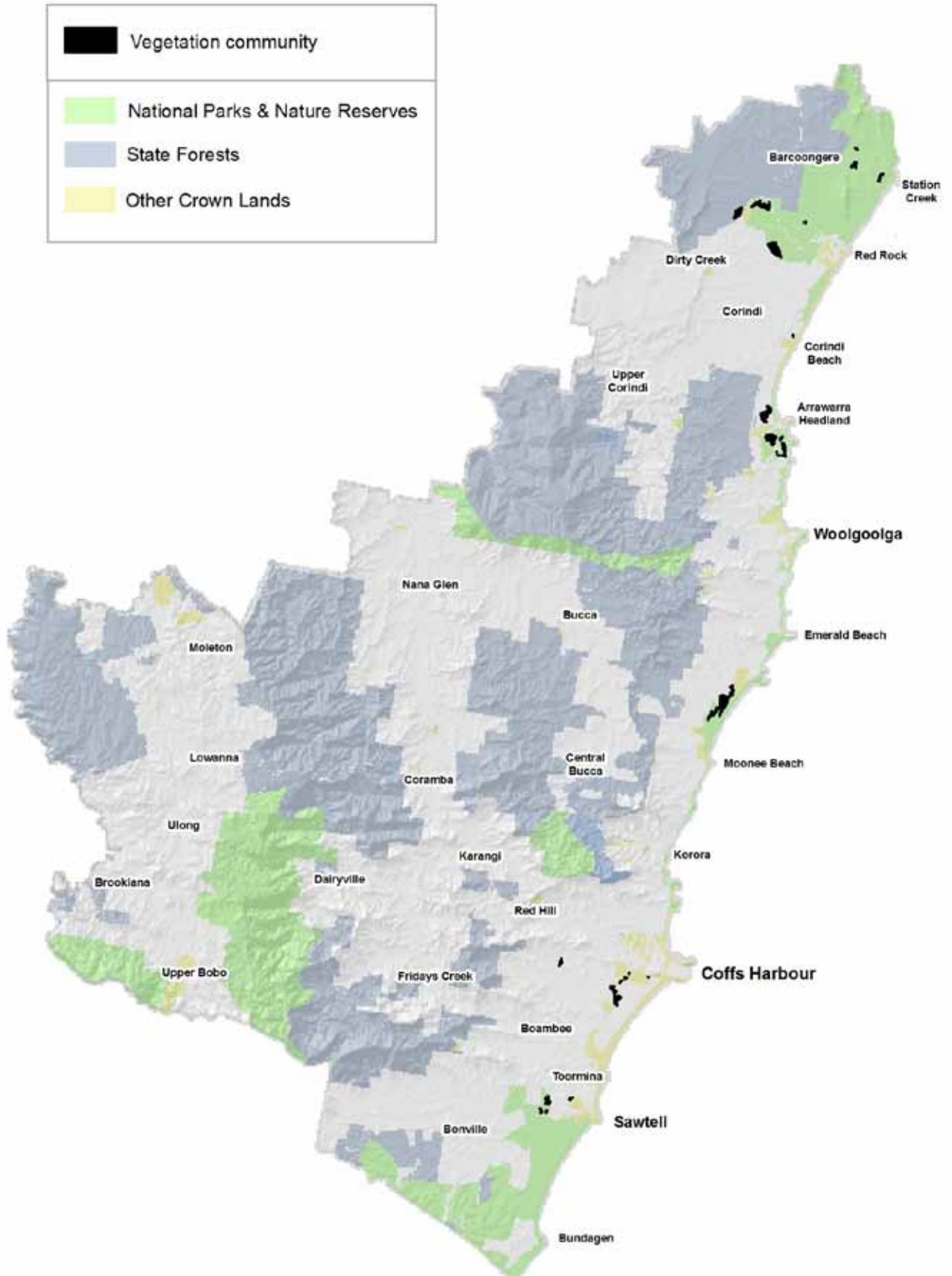
Some polygons contain a mix of CH_FW05 and CH_FrW09 (Coastal Wallum Swamp Mahogany Sieber's Paperbark Forest). CH_FrW09 is floristically very similar to CH_FW05 and was mapped to delineate areas of woodland to open forest overstorey of Swamp Mahogany (*Eucalyptus robusta*) or Red Mahogany (*E. resinifera* subsp. *hemilampra*) whereas CH_FW05 was mapped to delineate shrubland to heathland areas. CH_FW05 shares many species in common with CH_FW02 (Coastal Wallum Paperbark Banksia Grass Tree Wet Heathland), but CH_FW05 differs in having a co-dominance of Sieber's Paperbark (*Melaleuca sieberi*), Mullaway Needlebush (*Hakea actites*) and Prickly-leaved Melaleuca (*Melaleuca nodosa*).

Equivalents

Biometric:	(NR278) Wet heathland and shrubland of coastal lowlands of the North Coast
Other:	SG5502 Wet Heath/Shrubland (Fisher et al. 1996)

Locations

Bongil Bongil National Park; Airport Drive – Coffs Harbour, Arrawarra Beach Road – Arrawarra, Station Creek – Yuraygir National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Allocasuarina littoralis</i>	3	33%	3	9%	uninformative
<i>Aristida warburgii</i>	2	33%	2	1%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	33%	1	8%	uninformative
<i>Banksia oblongifolia</i>	3	100%	3	8%	positive
<i>Banksia spinulosa</i> var. <i>collina</i>	3	67%	2	5%	positive
<i>Baumea juncea</i>	4	67%	3	4%	positive
<i>Billardiera scandens</i>	2	33%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	2	33%	2	38%	uninformative
<i>Burchardia umbellata</i>	1	33%	1	2%	uninformative
<i>Caesia parviflora</i>	1	33%	1	1%	uninformative
<i>Callistemon pachyphyllus</i>	2	100%	2	3%	positive
<i>Cassytha glabella</i> f. <i>glabella</i>	2	67%	1	4%	positive
<i>Cassytha pubescens</i>	2	33%	1	2%	uninformative
<i>Casuarina glauca</i>	1	33%	3	7%	uninformative
<i>Dampiera stricta</i>	2	33%	2	7%	uninformative
<i>Dodonaea triquetra</i>	2	67%	1	9%	positive
<i>Dodonaea viscosa</i>	2	33%	0	0%	positive
<i>Drosera auriculata</i>	1	33%	2	1%	uninformative
<i>Drosera spatulata</i>	2	33%	1	1%	uninformative
<i>Epacris microphylla</i>	2	67%	1	1%	positive
<i>Epacris obtusifolia</i>	1	33%	2	2%	uninformative
<i>Eucalyptus robusta</i>	2	33%	2	7%	uninformative
<i>Gahnia clarkei</i>	2	33%	2	14%	uninformative
<i>Gahnia sieberiana</i>	2	33%	2	6%	uninformative
<i>Gleichenia dicarpa</i>	3	33%	1	0%	uninformative
<i>Gompholobium pinnatum</i>	1	33%	1	4%	uninformative
<i>Gonocarpus micranthus</i>	2	33%	2	2%	uninformative
<i>Gonocarpus tetragynus</i>	2	33%	1	4%	uninformative
<i>Hakea actites</i>	5	67%	4	1%	positive
<i>Hibbertia aspera</i>	1	33%	1	10%	uninformative
<i>Hibbertia vestita</i>	2	67%	1	11%	positive
<i>Hovea linearis</i>	2	33%	1	1%	uninformative
<i>Hovea longifolia</i>	1	33%	2	0%	uninformative
<i>Imperata cylindrica</i>	2	33%	2	32%	uninformative
<i>Leptocarpus tenax</i>	4	33%	2	2%	uninformative
<i>Leptomeria acida</i>	1	33%	1	2%	uninformative
<i>Leptospermum polygalifolium</i>	2	33%	1	12%	uninformative
<i>Leucopogon lanceolatus</i>	1	33%	1	19%	uninformative
<i>Lomandra longifolia</i>	2	33%	2	52%	negative
<i>Lophostemon suaveolens</i>	2	33%	2	9%	uninformative
<i>Melaleuca nodosa</i>	4	67%	3	3%	positive
<i>Melaleuca quinquenervia</i>	2	33%	2	12%	uninformative
<i>Melaleuca sieberi</i>	4	100%	3	4%	positive
<i>Melaleuca thymifolia</i>	1	33%	1	1%	uninformative
<i>Mirbelia rubiifolia</i>	2	33%	1	1%	uninformative
<i>Notelaea ovata</i>	2	67%	1	3%	positive
<i>Olax stricta</i>	1	33%	1	0%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Persoonia stradbrogensis</i>	1	33%	1	18%	uninformative
<i>Persoonia virgata</i>	1	33%	1	1%	uninformative
<i>Phyllota phylloides</i>	3	33%	4	1%	uninformative
<i>Pimelea linifolia</i>	2	67%	1	9%	positive
<i>Pteridium esculentum</i>	3	33%	2	32%	uninformative
<i>Ptilothrix deusta</i>	4	33%	3	2%	uninformative
<i>Pultenaea retusa</i>	2	33%	1	6%	uninformative
<i>Pultenaea villosa</i>	3	67%	2	5%	positive
<i>Schoenus brevifolius</i>	3	33%	2	1%	uninformative
<i>Sprengelia sprengelioides</i>	1	33%	1	1%	uninformative
<i>Themeda australis</i>	3	33%	3	24%	uninformative
<i>Xanthorrhoea fulva</i>	3	67%	3	6%	positive

COASTAL WALLUM TEA-TREE TALL WET SHRUBLAND

CH_FW06

SCIENTIFIC NAME Tantoon Tea-tree (*Leptospermum polygalifolium*)
– White's Tea-tree (*Leptospermum whitei*) tall shrubland of coastal sandplains

PLANT COMMUNITY TYPE Tea-tree Tall shrubland of coastal freshwater sand swamps of the NSW North Coast and South Eastern Queensland bioregions (NSW70-64)

STATEWIDE CLASS Freshwater Wetlands – Coastal Heath Swamps (Keith 2006)



Description

A very tall shrubland or an open forest dominated by Tantoon Tea-tree (*Leptospermum polygalifolium* subsp. *cismontanum*), White's Tea-tree (*Leptospermum whitei*), Satinwood (*Nematolepis squamea* subsp. *squamea*), Swamp Mahogany (*Eucalyptus robusta*) and Scribbly Gum (*Eucalyptus signata*). A mid stratum is often present also including Satinwood (*Nematolepis squamea* subsp. *squamea*), and White's Tea-tree (*Leptospermum whitei*). A lower layer of shrubs also occurs, with Pearl Beard Heath (*Leucopogon margarodes*) Blueberry Ash (*Elaeocarpus reticulatus*) and Lance Beard-heath (*Leucopogon lanceolatus*) present. A second lower layer is characterised by Saw Sedge (*Gahnia sieberiana*), Tassel Rush (*Baloskion tetraphyllum* subsp. *meiostachyum*), Swamp Grass Tree (*Xanthorrhoea fulva*) and Curly Wig (*Caustis recurvata*). This community occurs on the outer edge of coastal heath freshwater swamps which are less-waterlogged. It has a localised distribution in the study area between Bongil Bongil National Park and Coffs Harbour.

Floristic summary

Layer	Height	Cover	Dominant Species
Emergent	8 – 22	20 – 25	<i>Eucalyptus robusta</i> , <i>Eucalyptus signata</i> .
Middle	2 - 8	45 - 55	<i>Leptospermum polygalifolium</i> , <i>Leptospermum whitei</i> .
Lower 1	1 - 5	30 - 60	<i>Nematolepis squamea</i> subsp. <i>squamea</i> , <i>Elaeocarpus reticulatus</i> , <i>Gahnia clarkei</i> , <i>Leucopogon lanceolatus</i> , <i>Leucopogon margarodes</i> , <i>Gahnia sieberiana</i> .
Lower 2	0 - 1	10 - 30	<i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i> , <i>Xanthorrhoea fulva</i> , <i>Caustis recurvata</i> .

* Data collated from 3 of 3 full floristic sites

Structural and floristic variations

This community varies from a tall open forest to shrubland and grades into a more open heathland as moisture increases. It also grades into CH_FrW06 – Coastal Wallum Swamp Mahogany – Paperbark - Satinwood Forest with decreasing soil moisture.

Species richness

Number of plots	3
Total species	37
Average number of species	20 ±0.6

Conservation status

This community is reserved in Bongil Bongil National Park (4ha).

Tenure	Area (ha)
Crown Land	14
Freehold	22
National Park	4
Total	39

Relationship to other communities

This community is related to other wallum forested wetlands and shrubland communities, including CH_FrW06 (Coastal Wallum Swamp Mahogany - Paperbark - Satinwood Forest) and CH_FW01 (Coastal Wallum Teatree - Banksia Wet Heathland Shrubland)

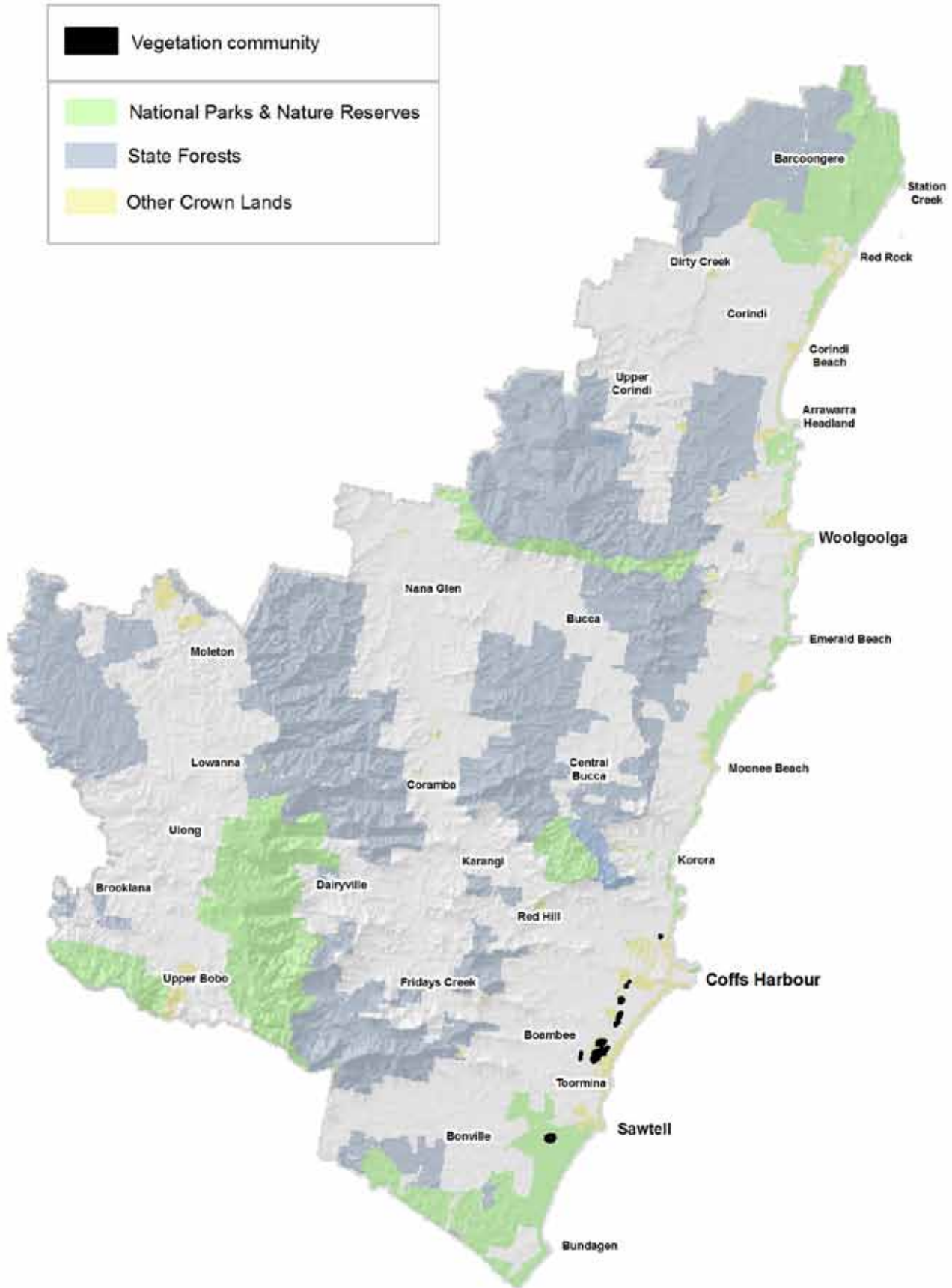
Equivalents

Biometric: (NR278) Wet heathland and shrubland of coastal lowlands of the North Coast

Other: SG6003 - *Leptospermum juniperinum* mid-high to tall heathland and closed heathland and 6004 - (*Xanthorrhoea fulva* mid-high closed heathland (Griffith and Wilson, 2007) Community 9-Tantoon Tea-tree Shrublands (Cameron et al. 2011)

Locations

Eastern Peninsula Trail, Bongil Bongil National Park; Boambee Creek, Newport's Creek; Airport Drive – Coffs Harbour; Christmas Bells Road; Hogbin Drive, Coffs Harbour.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia ulicifolia</i>	1	67%	1	2%	uninformative
<i>Acmena smithii</i>	1	33%	1	26%	uninformative
<i>Amperea xiphioclada</i> var. <i>xiphioclada</i>	1	33%	0	0%	positive
<i>Baeckea frutescens</i>	1	67%	2	3%	uninformative
<i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i>	3	100%	1	3%	positive
<i>Banksia aemula</i>	2	33%	3	2%	uninformative
<i>Banksia oblongifolia</i>	1	33%	3	9%	uninformative
<i>Blechnum indicum</i>	1	33%	1	2%	uninformative
<i>Callicoma serratifolia</i>	1	33%	2	17%	uninformative
<i>Cassytha filiformis</i>	2	33%	1	3%	uninformative
<i>Caustis recurvata</i>	3	33%	1	0%	uninformative
<i>Elaeocarpus reticulatus</i>	2	67%	1	27%	positive
<i>Endiandra sieberi</i>	1	33%	1	9%	uninformative
<i>Eucalyptus pilularis</i>	1	33%	3	27%	uninformative
<i>Eucalyptus robusta</i>	2	100%	2	6%	positive
<i>Eucalyptus signata</i>	3	33%	3	2%	uninformative
<i>Gahnia clarkei</i>	4	33%	2	14%	uninformative
<i>Gahnia sieberiana</i>	3	67%	2	6%	positive
<i>Goodenia paniculata</i>	2	33%	1	2%	uninformative
<i>Hypolaena fastigiata</i>	2	33%	1	1%	uninformative
<i>Leptospermum polygalifolium</i>	3	100%	1	12%	positive
<i>Leptospermum trinervium</i>	3	33%	3	3%	uninformative
<i>Leptospermum whitei</i>	4	67%	4	2%	positive
<i>Leucopogon lanceolatus</i>	1	100%	1	19%	uninformative
<i>Leucopogon margarodes</i>	3	67%	1	3%	positive
<i>Livistona australis</i>	1	33%	1	3%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Mitrasacme paludosa</i>	2	33%	1	0%	uninformative
<i>Nematolepis squamea</i> subsp. <i>squamea</i>	2	100%	2	1%	positive
<i>Oxylobium robustum</i>	2	67%	2	1%	positive
<i>Patersonia fragilis</i>	1	33%	2	0%	uninformative
<i>Pimelea linifolia</i>	1	67%	1	9%	uninformative
<i>Pteridium esculentum</i>	1	67%	2	32%	uninformative
<i>Selaginella uliginosa</i>	1	33%	1	3%	uninformative
<i>Smilax glycyphylla</i>	2	67%	1	28%	positive
<i>Sporadanthus interruptus</i>	1	33%	3	3%	uninformative
<i>Syncarpia glomulifera</i>	1	33%	3	39%	uninformative
<i>Xanthorrhoea fulva</i>	2	100%	3	6%	positive

COASTAL JOINTED TWIG RUSH FRESHWATER WETLAND

CH_FW07

SCIENTIFIC NAME Coastal Jointed Twig Rush (*Baumea articulata*)
Freshwater Wetland

PLANT COMMUNITY TYPE Giant Sedge sedgeland of frequently inundated areas of sandy alluvium of the lower and mid north coasts, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-643)

STATEWIDE CLASS Freshwater Wetlands – Coastal Freshwater Lagoons (Keith 2006)



Description

A freshwater wetland of coastal lagoons with permanently inundated deep standing water, occurring adjacent to Holocene dunes. At times there is a sparse emergent layer of Broad-leaved Paper-bark (*Melaleuca quinquenervia*). The dominant sedge is Jointed Twig Rush (*Baumea articulata*) that grows over two metres high. Other sedges may include *Baumea rubiginosa*, Spike - rushes (*Eleocharis* spp.) and Giant Sedge (*Lepironia articulata*). There may be a lower layer of *Carex gaudichaudiana* and *Enydra fluctuans* particularly if standing water is present.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Emergent	2 - 5	10	<i>Melaleuca quinquenervia</i> .
Lower 1	1 - 3	40 - 65	<i>Baumea articulata</i> , <i>Baumea rubiginosa</i> , <i>Schoenus melanostachys</i> , <i>Blechnum indicum</i> .
Lower 2	0 – 0.5	15	<i>Carex gaudichaudiana</i> , <i>Enydra fluctuans</i> .

* Data collated from 2 of 2 full floristic sites

Exotics *Baccharis halimifolia*, *Cinnamomum camphora*, *Ochna serrulata*, *Schefflera actinophylla*,
Paspalum mandiocanum

Species richness

Number of plots	2
Total species	24
Average number of species	15 ±10

Conservation status

Coffs Coast Regional Park (1ha), Moonee Beach Nature Reserve (4ha), Yuraygir National Park (16ha)

Tenure	Area (ha)
Freehold	5
National Park	17
Nature Reserve	4
Regional Park	1
TOTAL	27

Endangered Ecological Community: *Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC

Relationship to other communities

Related to CH_FrW04 (Coastal Paperbark Sedgeland Dominated Forest). CH_FW07 is distinguished by having a simple floristic composition dominated by Jointed Twig Rush (*Baumea articulata*) with *Eleocharis acuta*, whereas CH_FrW04 has a canopy of Broadleaved Paperbark (*Melaleuca quinquenervia*) and/or Sieber's Paperbark (*Melaleuca sieberi*) with a more complex ground layer.

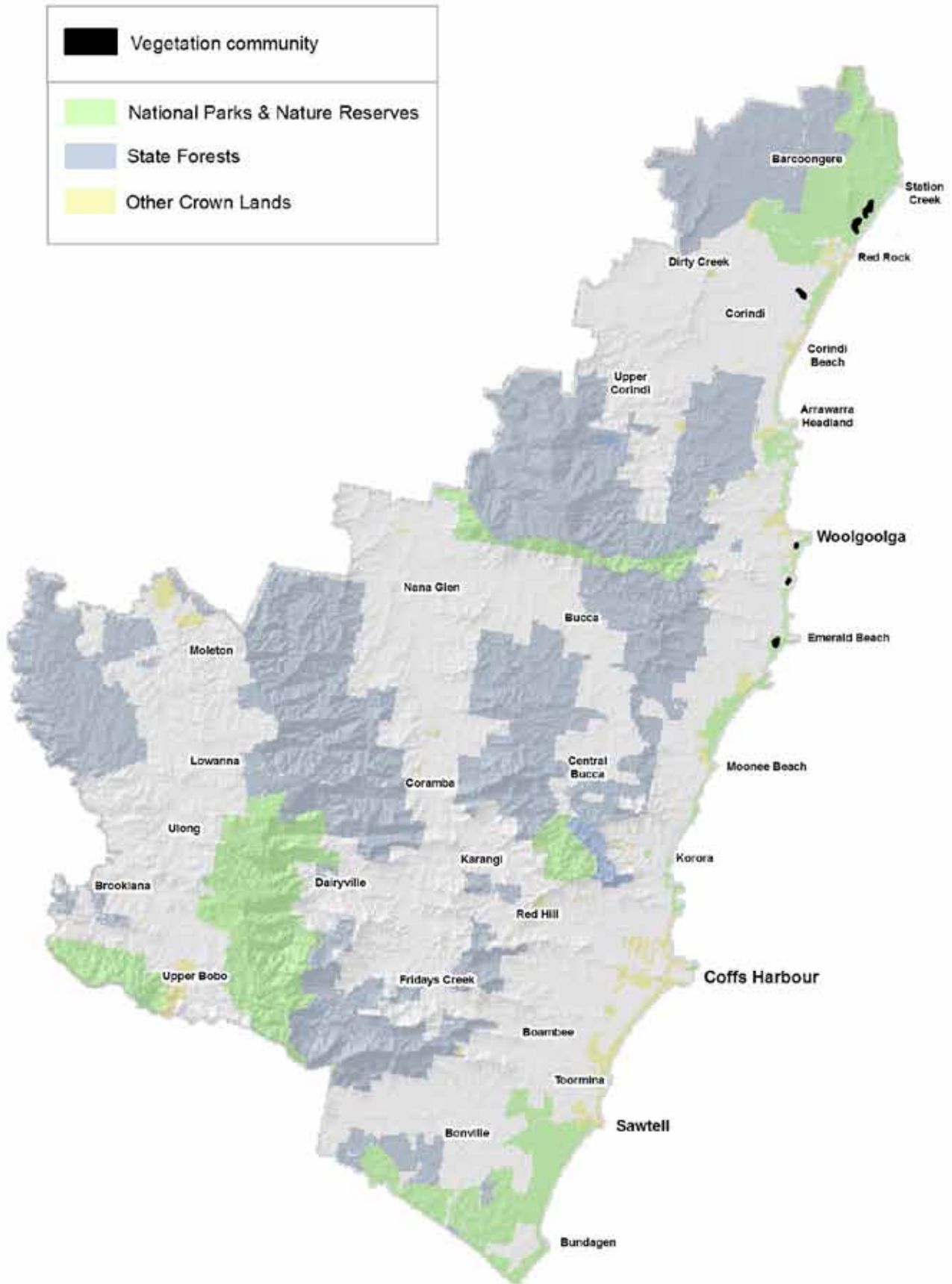
Equivalentents

Biometric: (NR150) Coastal freshwater meadows and forblands of lagoons and wetlands

Other: nil

Locations

North of Red Rock in Yuraygir National Park, Behind Dunes of Fidderman's Beach in Moonee Beach Nature Reserve



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Baumea articulata</i>	4	100%	2	2%	positive
<i>Baumea rubiginosa</i>	3	100%	4	1%	positive
<i>Blechnum indicum</i>	4	100%	1	2%	positive
<i>Carex appressa</i>	2	50%	2	1%	positive
<i>Carex gaudichaudiana</i>	2	50%	0	0%	positive
<i>Dianella caerulea</i>	1	50%	1	50%	uninformative
<i>Enydra fluctuans</i>	3	50%	0	0%	positive
<i>Ficus coronata</i>	1	50%	1	13%	uninformative
<i>Goodenia paniculata</i>	1	50%	1	2%	uninformative
<i>Hypolepis muelleri</i>	1	50%	1	3%	uninformative
<i>Lobelia anceps</i>	1	50%	1	5%	uninformative
<i>Lomandra longifolia</i>	1	100%	2	51%	negative
<i>Melaleuca quinquenervia</i>	4	100%	2	12%	positive
<i>Oplismenus aemulus</i>	1	50%	2	12%	uninformative
<i>Oplismenus imbecillis</i>	1	50%	2	22%	uninformative
<i>Ottochloa gracillima</i>	1	50%	2	10%	uninformative
<i>Parsonsia straminea</i>	2	50%	1	27%	positive
<i>Persicaria decipiens</i>	2	50%	0	0%	positive
<i>Persicaria strigosa</i>	2	100%	1	0%	positive
<i>Philydrum lanuginosum</i>	1	50%	1	1%	uninformative
<i>Phragmites australis</i>	1	50%	2	1%	uninformative
<i>Schoenus melanostachys</i>	4	50%	2	1%	positive
<i>Villarsia exaltata</i>	1	50%	3	0%	uninformative
<i>Viola banksii</i>	1	50%	1	16%	uninformative

COASTAL FRESHWATER WETLAND

CH_FW08

SCIENTIFIC NAME Spike Rush (*Eleocharis sphacelata*, *Eleocharis acuta*)
– Broadleaf Cumbungi (*Typha orientalis*) Freshwater Wetland

STATEWIDE CLASS Freshwater Wetlands – Coastal Freshwater Lagoons
(Keith 2006)

PLANT COMMUNITY TYPE Lagoon forbland of permanent wetlands on the coastal floodplains, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW500-3). Giant Sedge sedgeland of frequently inundated areas of sandy alluvium of the lower and mid north coasts, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-643)



Description

This community potentially contains a range of other sedges, rushes, grasses and aquatic herbs than described below, as this information is based on limited sampling of sites in dams within Bongil Bongil National Park. The mapping unit represents the occurrence of freshwater wetlands including ephemeral wetlands, and those wetlands of farm dams, and also creeklines derived from clearing. In the sample sites common species include Giant Sedge (*Lepironia articulata*), Tall Spike Rush (*Eleocharis sphacelata*) Common Spike Rush (*Eleocharis acuta*), *Cyperus haspan* subsp. *juncooides*, Water Ribbons (*Triglochin procera*) and Broadleaf Cumbungi (*Typha orientalis*). At times this community may have a sparse emergent layer of Broad-leaved Paperbark (*Melaleuca quinquenervia*). The exotic Cape Water Lily (*Nymphaea capensis*) is also common in these wetlands.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Emergent	0.1 – 5	5 - 25	<i>Melaleuca quinquenervia</i> .
Lower 1	0- 2	25 - 40	<i>Eleocharis acuta</i> , <i>Pericaria strigosa</i> , <i>Eleocharis sphacelata</i> .

* This information collated from 2 of 3 full floristic sites

Exotics *Nymphaea capensis*

Species richness

Number of plots	3
Total species	11
Average number of species	±1

Conservation status

This community is reserved in Bongil Bongil National Park (13ha).

Tenure	Area (ha)
Crown Land	1
Freehold	167
National Park	13
NSW State Forest	8
Regional Park	0
TOTAL	189

Endangered Ecological Community: Ephemeral natural freshwater wetlands do occur in the study area and these are difficult to differentiate from the large majority of wetlands that are derived from clearing or artificially created in water impoundments. Natural occurring freshwater wetlands where they do occur are considered highly likely to be *Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC.

Relationship to other communities

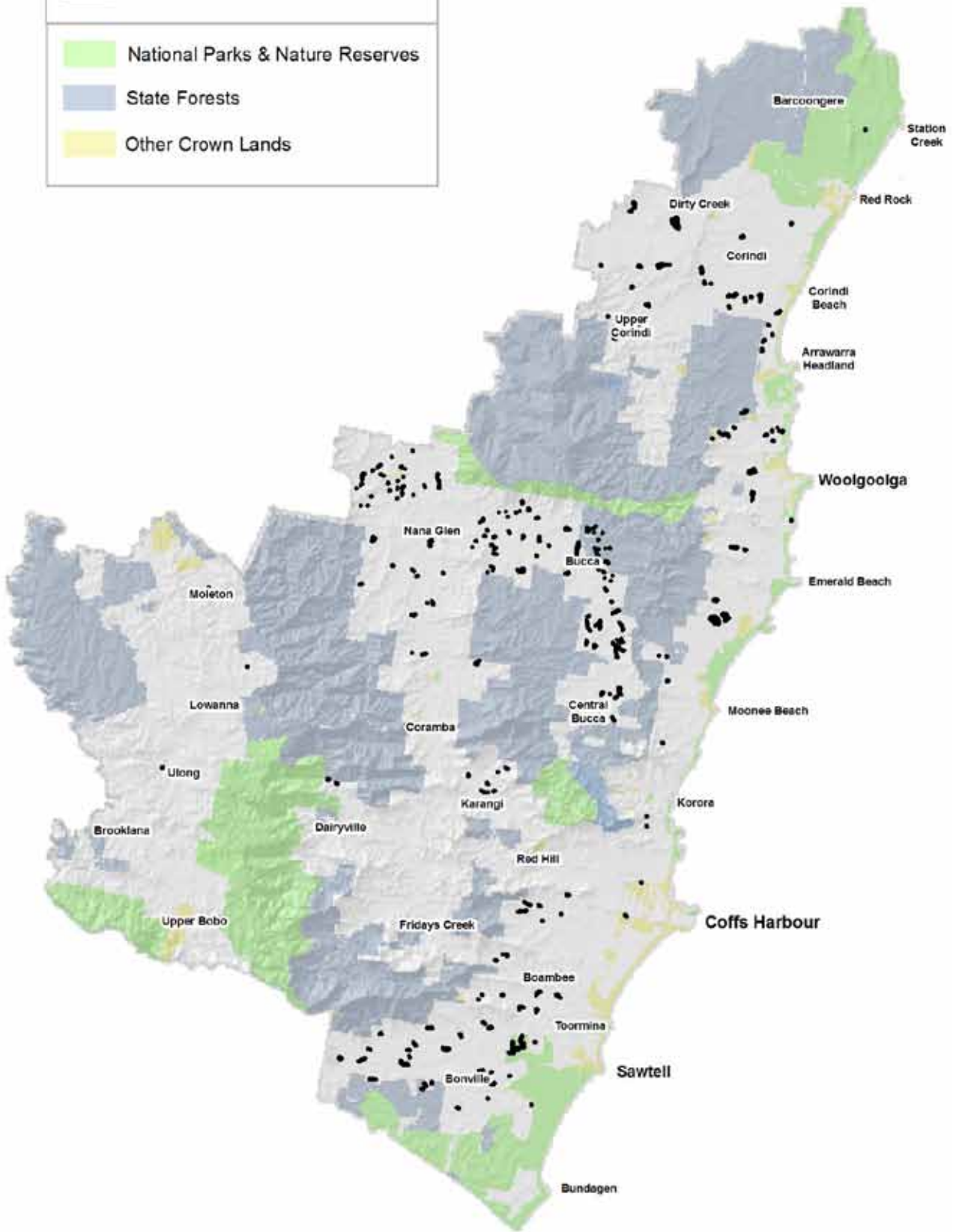
No closely related communities. *Eleocharis sphacelata* and Broadleaf Cumbungi (*Typha orientalis*) are key diagnostics for this community.

Equivalents

Biometric: (NR150) Coastal freshwater meadows and forblands of lagoons and wetlands

Locations

Williams Road on Bongil Bongil National Park, west of Corindi Beach, and North of Hearn's Lake.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Claoxylon australe</i>	1	33%	1	6%	uninformative
<i>Cyperus haspan</i>	2	33%	0	0%	positive
<i>Eleocharis acuta</i>	3	100%	0	0%	positive
<i>Eleocharis sphacelata</i>	5	33%	0	0%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Marsilea mutica</i>	1	33%	0	0%	positive
<i>Melaleuca quinquenervia</i>	1	33%	2	12%	uninformative
<i>Persicaria strigosa</i>	1	33%	2	1%	uninformative
<i>Philydrum lanuginosum</i>	1	33%	1	1%	uninformative
<i>Triglochin procera</i>	1	33%	0	0%	positive
<i>Typha orientalis</i>	3	33%	0	0%	positive

COASTAL WALLUM FERNLAND

CH_FW09

SCIENTIFIC NAME Coral Fern (*Gleichenia mendellii*) – Saw Sedge (*Gahnia sieberiana*) Freshwater Wetland

PLANT COMMUNITY TYPE Red-fruit Saw-sedge - Coral Fern sedgeland of swamps of the NSW North Coast Bioregion (NSW70-70)

STATEWIDE CLASS Freshwater Wetlands – Coastal Heath Swamp (Keith 2006)



Description

A sedgeland community with a dense layer of ferns, sedges and rushes. It occurs in freshwater swamps, swales and dune deflation hollows in poorly-drained sandy to peaty loams on Pleistocene backbarrier sands. Shrubs are mostly uncommon except for Olive Tea-tree (*Leptospermum livesidgei*). Large clumps of Red-fruit Saw-sedge (*Gahnia sieberiana*) are usually scattered throughout the community while beneath these is an often dense layer of Coral Fern (*Gleichenia mendellii*), Slender Twig Rush (*Baumea teretifolia*) and *Sporadanthus interruptus*.

* Profile information is based on community NSW VCA 70-70: Red-fruit Saw-sedge - Coral Fern sedgeland of swamps of the NSW North Coast Bioregion. (OEH, 2012)

Floristic summary

Layer	Height	Cover	Dominant Species
Emergent	No data	No data	<i>Leptospermum liversidgei</i> .
Lower 1	No data	No data	<i>Gahnia sieberiana</i> .
Lower 2	No data	No data	<i>Gleichenia mendellii</i> , <i>Gleichenia mendellii</i> , <i>Baumea teretifolia</i> , <i>Sporadanthus interruptus</i> .

* Data based on previous studies of the community.

Species richness

Number of plots 0

Total species

Average Number of Species

Conservation status

This community is reserved in Yuraygir National Park (25ha)

Tenure	Area (ha)
National Park	24
TOTAL	24

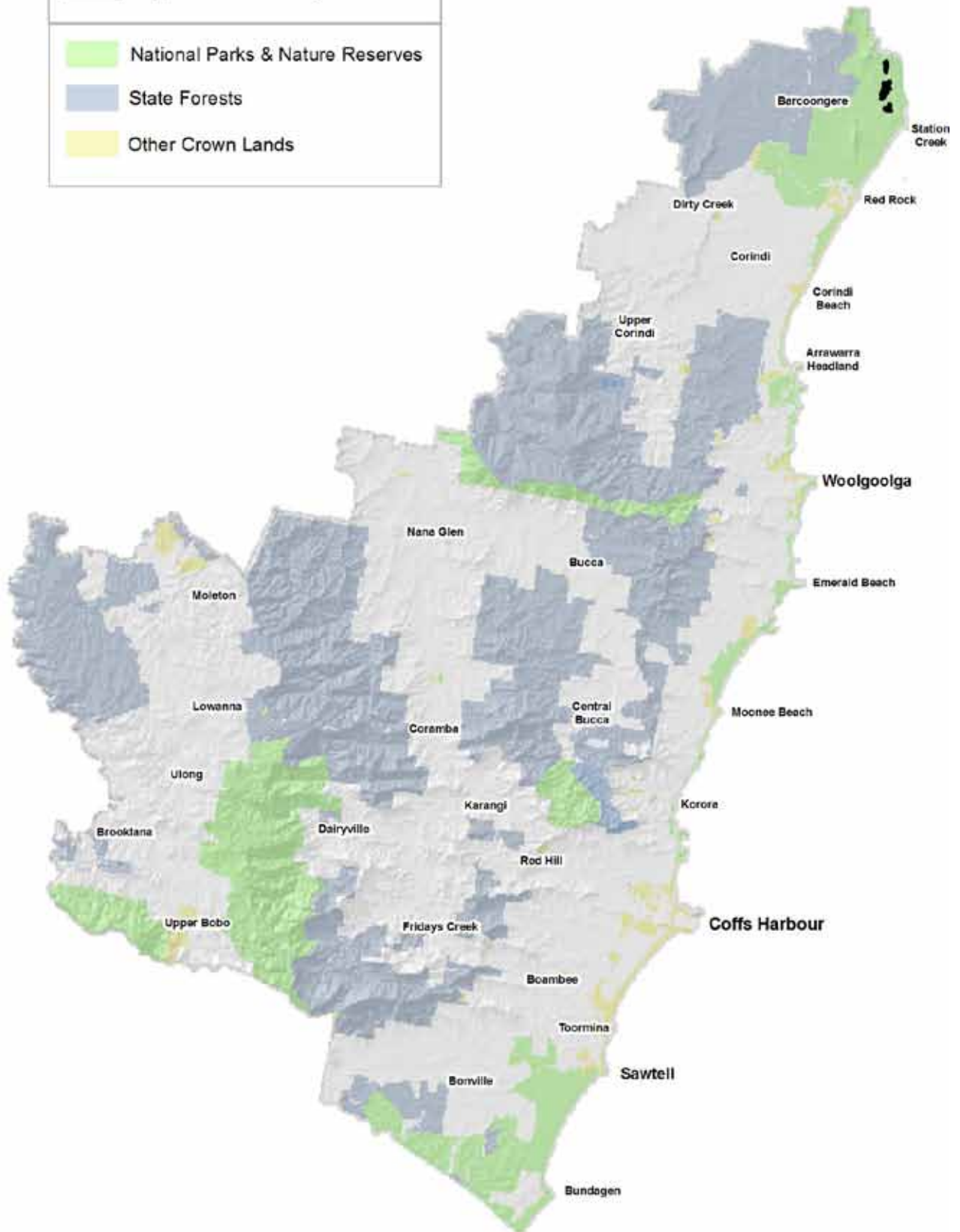
Equivalentents

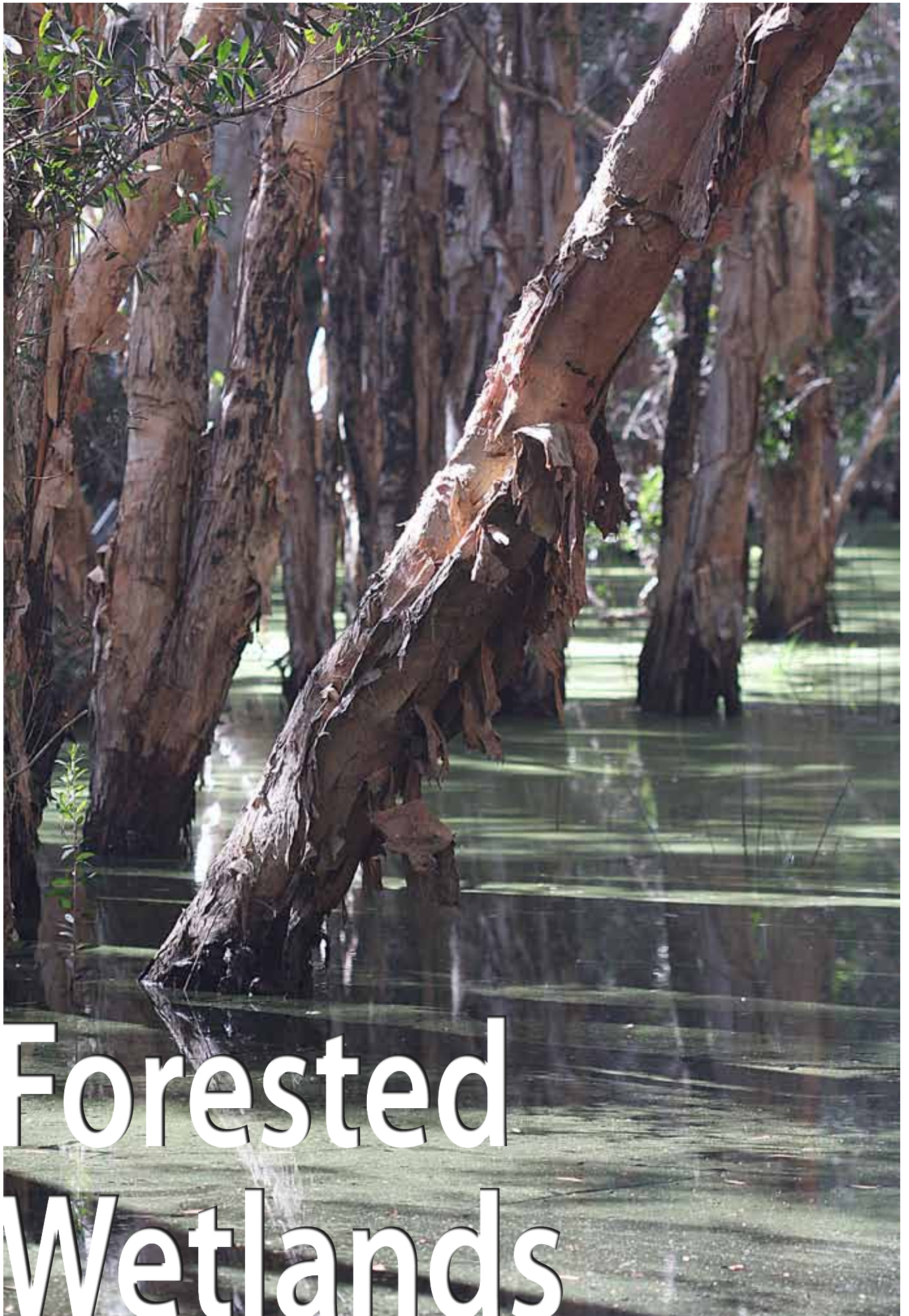
Biometric: (NR276) Wallum sedgeland and rushland of near coastal lowlands of the North Coast.

Other: Community 6408: *Gahnia sieberiana* - *Gleichenia mendellii* tall to very tall closed sedgeland (Griffith and Wilson, 2003)

Locations

Yuraygir National Park in the swamps around Station Creek.





Forested Wetlands

COASTAL PAPERBARK - SWAMP OAK FLOODPLAIN FOREST

CH_FrW01

SCIENTIFIC NAME Broad-leaved Paperbark (*Melaleuca quinquenervia*)
– Swamp Oak (*Casuarina glauca*) – Willow Bottlebrush (*Callistemon salignus*) floodplain Forested Wetland

STATEWIDE CLASS Forested Wetlands – Coastal Swamp Forests (Keith 2006)

PLANT COMMUNITY TYPE Red-fruit Saw-sedge – Coral Fern
Sedgeland of North Coast Wallum duneslopes and open depressions,
South Eastern Queensland Bioregion and NSW North Coast Bioregion
(NSW888-10)



Description

A forested wetland in which Broad-leaved Paperbark (*Melaleuca quinquenervia*) dominates and occurs with Swamp Oak (*Casuarina glauca*) and Willow Bottlebrush (*Callistemon salignus*). A mid layer of Prickly Paperbark (*Melaleuca styphelioides*) is sometimes present. The lower layer is variable comprising of Saw Sedge (*Gahnia clarkei*), *Ottochloa gracillima*, Floyd's Grass (*Alexfloydia repens*), Native Violet (*Viola banksii*) and *Leptinella longipes*. In inundated sites *Azolla filiculoides* forms floating mats.

This community occurs on floodplains, levees and backswamps of near coastal creeks and rivers in slightly elevated areas inundated less regularly by flood events and tides than similar communities CH_FrW03 (Coastal Paperbark - Bottlebrush Channel Forest) and CH_FrW04 (Coastal Paperbark Sedgeland Dominated Forest). The community can grade into Pleistocene sand barriers and tidally influenced estuarine channels and is located north from Bundageree Creek in Bongil Bongil National Park. It is best developed along the floodplains of Pine, Bonville, Boambee, Newport's and Moonee Creek and scattered occurrences north to Corindi River and Station Creek. Commonly associated with the Newport's Creek and the Toormina soil landscapes.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	2.5-30	25-80	<i>Melaleuca quinquenervia</i> , <i>Callistemon salignus</i> , <i>Casuarina glauca</i> .
Mid	1-12	5-50	<i>Callistemon salignus</i> , <i>Melaleuca styphelioides</i> , <i>Melaleuca quinquenervia</i> .
Lower layer	0-2	20-70	<i>Gahnia clarkei</i> , <i>Crinum pedunculatum</i> .
Ground	0-0.5	15-70	<i>Ottochloa gracillima</i> , <i>Alexfloydia repens</i> , <i>Viola banksii</i> , <i>Leptinella longipes</i> , <i>Oplismenus aemulus</i> .

* Data collected from 11 of 11 full floristic sites

Exotics *Baccharis halimifolia*, *Lantana camara*, *Paspalum mandiocanum*, *Senna pendula* var. *glabrata*, *Senna septemtrionalis*, *Sida rhombifolia*, *Solanum capsicoides*, *Tradescantia fluminensis*

Species richness

Number of plots	11
Total species	87
Average species per plot	27 ±6

Conservation status

This community is reserve in Bongil Bongil National Park (233ha) Coffs Coast Regional Park (11ha) Garby Nature Reserve (3ha) Moonee Beach Nature Reserve (23ha) Yuraygir National Park (59ha)

Tenure	Area (ha)
Crown Land	67
Freehold	550
National Park	292
Nature Reserve	25
Regional Park	10
TOTAL	944

Endangered Ecological Community: *Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC.

Threatened and Rare Plants *Alexfloydia repens*

Relationship to other communities

Related to CH_FrW03 (Coastal Paperbark - Bottlebrush Channel Forest) and CH_FrW04 (Coastal Paperbark Sedgeland Dominated Forest). CH_FrW01 is readily distinguished from these communities by the increased occurrence of grass and herb understorey species. CH_FrW03 and CH_FrW04 are characteristically sparse at understorey and ground level due to the frequency of water-logging).

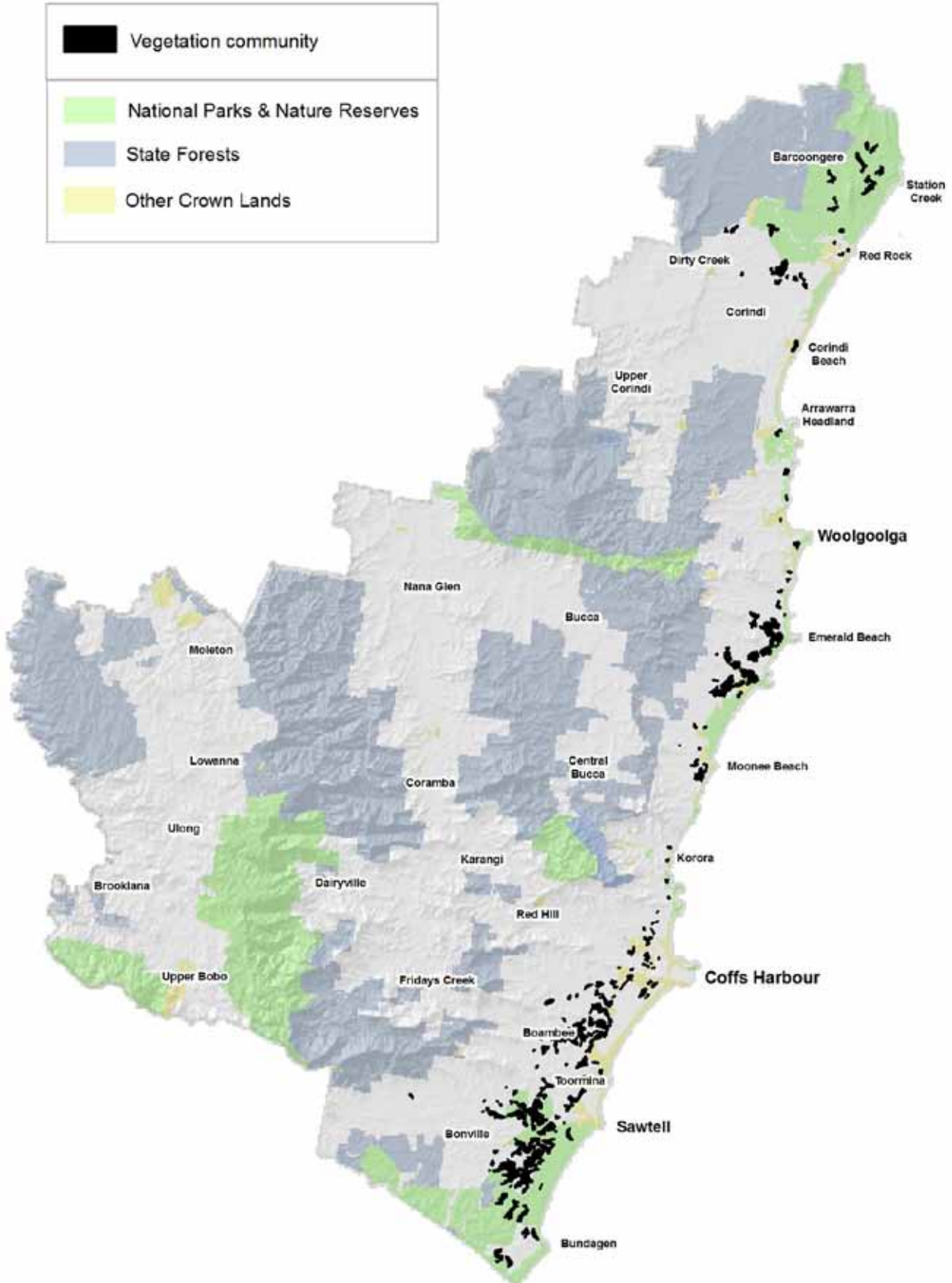
Equivalents

Biometric: (NR217) Paperbark swamp forest of the coastal lowlands of the North Coast.

Other: N20- N50- Paperbark (Fisher et al. 1996); Community 12- Paperbark Willow Bottlebrush Swamp Sclerophyll Forest (Cameron et al. 2011); Forest Ecosystem 112 - Paperbark (NPWS 1999).

Locations

Bonville, Pine Creek, Bongil Bongil National Park; Middle Arm Creek, Sawtell; Boambee Creek; Cordwells Creek; Newports Creek; Coffs Creek; Sugar Mill Creek; Moonee Creek; Moonee Beach Nature Reserve; Sandy Beach; Woolgoolga Lake, Darkum Creek.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia irrorata</i>	1	9%	1	8%	uninformative
<i>Acacia melanoxylon</i>	1	9%	2	19%	uninformative
<i>Acmena smithii</i>	1	9%	1	27%	uninformative
<i>Acronychia imperforata</i>	1	9%	1	4%	uninformative
<i>Alexfloydia repens</i>	4	55%	0	0%	positive
<i>Alocasia brisbanensis</i>	1	18%	1	2%	uninformative
<i>Alphitonia excelsa</i>	1	18%	1	14%	uninformative
<i>Alternanthera denticulata</i>	1	18%	1	0%	uninformative
<i>Amyema cabbagei</i>	1	9%	0	0%	positive
<i>Apium prostratum</i>	2	18%	2	0%	uninformative
<i>Asplenium australasicum</i>	1	9%	1	9%	uninformative
<i>Azolla filiculoides</i>	4	9%	0	0%	positive
<i>Baumea articulata</i>	2	18%	2	2%	uninformative
<i>Baumea juncea</i>	2	27%	3	4%	uninformative
<i>Blechnum indicum</i>	1	27%	1	2%	uninformative
<i>Brunoniella australis</i>	1	9%	1	3%	uninformative
<i>Callistemon salignus</i>	3	100%	2	10%	positive
<i>Calochlaena dubia</i>	1	9%	2	27%	uninformative
<i>Carex appressa</i>	4	9%	2	1%	uninformative
<i>Carex maculata</i>	2	9%	0	0%	positive
<i>Cassytha filiformis</i>	1	9%	1	3%	uninformative
<i>Casuarina glauca</i>	3	100%	2	5%	positive
<i>Centella asiatica</i>	1	27%	1	3%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	9%	1	10%	uninformative
<i>Commelina cyanea</i>	1	64%	2	3%	uninformative
<i>Cordyline stricta</i>	1	27%	1	38%	uninformative
<i>Crinum pedunculatum</i>	2	55%	1	3%	positive
<i>Desmodium nemorosum</i>	1	9%	1	0%	uninformative
<i>Dianella caerulea</i>	1	55%	1	50%	uninformative
<i>Dipodium variegatum</i>	1	9%	1	2%	uninformative
<i>Duboisia myoporoides</i>	1	18%	1	5%	uninformative
<i>Endiandra sieberi</i>	1	9%	1	10%	uninformative
<i>Entolasia marginata</i>	2	9%	1	9%	uninformative
<i>Eucalyptus grandis</i>	1	9%	3	18%	uninformative
<i>Eucalyptus robusta</i>	2	9%	2	7%	uninformative
<i>Eustrephus latifolius</i>	1	36%	1	29%	uninformative
<i>Ficus coronata</i>	1	9%	1	13%	uninformative
<i>Fimbristylis dichotoma</i>	1	9%	1	0%	uninformative
<i>Gahnia aspera</i>	1	27%	1	14%	uninformative
<i>Gahnia clarkei</i>	3	82%	1	12%	positive
<i>Geitonoplesium cymosum</i>	1	9%	1	24%	uninformative
<i>Glycine clandestina</i>	1	9%	1	12%	uninformative
<i>Gonocarpus chinensis</i> subsp. <i>verrucosus</i>	1	9%	0	0%	positive
<i>Gonocarpus tetragynus</i>	1	9%	1	4%	uninformative
<i>Guioa semiglauca</i>	1	9%	1	28%	uninformative
<i>Hibbertia aspera</i>	1	9%	1	10%	uninformative
<i>Hibbertia scandens</i>	1	27%	1	32%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Hibiscus diversifolius</i>	1	9%	1	1%	uninformative
<i>Histiopteris incisa</i>	1	9%	1	1%	uninformative
<i>Hydrocotyle peduncularis</i>	1	18%	1	5%	uninformative
<i>Hypolepis muelleri</i>	2	36%	1	3%	uninformative
<i>Imperata cylindrica</i>	1	45%	2	31%	uninformative
<i>Isolepis inundata</i>	1	9%	0	0%	positive
<i>Juncus kraussii</i> subsp. <i>australiensis</i>	2	36%	2	3%	uninformative
<i>Leptinella longipes</i>	2	18%	3	0%	uninformative
<i>Livistona australis</i>	2	9%	1	3%	uninformative
<i>Lobelia anceps</i>	1	36%	1	4%	uninformative
<i>Lomandra longifolia</i>	1	64%	2	51%	negative
<i>Lophostemon suaveolens</i>	1	27%	2	8%	uninformative
<i>Maclura cochinchinensis</i>	2	18%	1	7%	uninformative
<i>Marsdenia rostrata</i>	1	64%	1	7%	uninformative
<i>Melaleuca quinquenervia</i>	4	82%	2	11%	positive
<i>Melaleuca styphelioides</i>	2	27%	2	1%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	2	36%	1	3%	uninformative
<i>Morinda jasminoides</i>	1	45%	1	36%	uninformative
<i>Myrsine variabilis</i>	1	27%	1	16%	uninformative
<i>Nematolepis squamea</i> subsp. <i>squamea</i>	1	9%	2	2%	uninformative
<i>Notelaea longifolia</i>	1	18%	1	27%	uninformative
<i>Notothixos subaureus</i>	1	9%	0	0%	positive
<i>Oplismenus aemulus</i>	1	64%	2	11%	uninformative
<i>Oplismenus imbecillis</i>	1	27%	2	22%	uninformative
<i>Ottochloa gracillima</i>	2	45%	2	9%	uninformative
<i>Oxalis exilis</i>	1	9%	1	2%	uninformative
<i>Oxylobium robustum</i>	1	9%	2	2%	uninformative
<i>Panicum bisulcatum</i>	2	9%	0	0%	positive
<i>Parsonsia straminea</i>	2	91%	1	26%	positive
<i>Persicaria strigosa</i>	1	9%	2	1%	uninformative
<i>Pittosporum undulatum</i>	1	9%	1	10%	uninformative
<i>Platyterium bifurcatum</i>	1	9%	1	16%	uninformative
<i>Platyterium superbum</i>	2	36%	1	4%	uninformative
<i>Plectorrhiza tridentata</i>	1	18%	1	2%	uninformative
<i>Polymeria calycina</i>	1	18%	1	4%	uninformative
<i>Pomax umbellata</i>	1	9%	1	6%	uninformative
<i>Pratia purpurascens</i>	1	9%	1	23%	uninformative
<i>Pteridium esculentum</i>	1	55%	2	31%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	3	18%	1	4%	uninformative
<i>Rubus moluccanus</i> var. <i>trilobus</i>	1	9%	1	4%	uninformative
<i>Sarcopetalum harveyanum</i>	1	36%	1	8%	uninformative
<i>Smilax australis</i>	1	27%	1	45%	uninformative
<i>Smilax glycyphylla</i>	1	18%	1	29%	uninformative
<i>Sporobolus virginicus</i>	2	18%	5	2%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	27%	1	21%	uninformative
<i>Tabernaemontana pandacaqui</i>	1	9%	1	28%	uninformative
<i>Vernonia cinerea</i>	1	9%	1	11%	uninformative
<i>Viola banksii</i>	2	91%	1	14%	positive
<i>Youngia japonica</i>	1	9%	2	0%	uninformative
<i>Zoysia macrantha</i>	2	9%	3	3%	uninformative

COASTAL SWAMP MAHOGANY FOREST

CH_FrW02

SCIENTIFIC NAME Swamp Mahogany (*Eucalyptus robusta*) – Willow Bottlebrush (*Callistemon salignus*) – Saw Sedge (*Gahnia clarkei*) Forested Wetland on sandy alluvial soils

PLANT COMMUNITY TYPE Swamp Mahogany – Willow Bottlebrush – Broad-leaved Paperbark forested wetland of the Coffs Harbour area, NSW North Coast Bioregion (NSW700-477)

STATEWIDE CLASS Forested Wetlands – Coastal Swamp Forests (Keith 2006)



Description

Swamp Mahogany (*Eucalyptus robusta*) dominates and occurs with Willow Bottlebrush (*Callistemon salignus*). Other canopy species sometimes present include Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*), Broad-leaved Paperbark (*Melaleuca quinquenervia*), Pink Bloodwood (*Corymbia intermedia*) Flooded Gum (*Eucalyptus grandis*) and Swamp Box (*Lophostemon suaveolens*). A sparse to dense mid layer often occurs with Willow Bottlebrush (*Callistemon salignus*), Black Wattle (*Callicoma serratifolia*), Blueberry Ash (*Elaeocarpus reticulatus*) Corkwood (*Endiandra sieberi*) and Cheese Tree (*Glochidion ferdinandi* var. *ferdinandi*). Saw Sedge (*Gahnia clarkei*) dominates at ground level sometimes with Tassel Rush (*Baloskion tetraphyllum* subsp. *meiostachyum*), Palm lily (*Cordyline stricta*) and Soft Bracken (*Calochlaena dubia*).

The community is located on wet sandy loam soils along the floodplains of creeks in colluvial and transferral environments often adjoining undulating to flat meta-sedimentary hills. It consists of disjunct occurrences mainly in the south of the study area.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	4-35	40-50	<i>Eucalyptus robusta</i> , <i>Callistemon salignus</i> .
Middle	0.5-15	25-95	<i>Callistemon salignus</i> , <i>Elaeocarpus reticulatus</i> <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> , <i>Melaleuca quinquenervia</i> , <i>Cordyline stricta</i> .
Lower	0-2	20-70	<i>Gahnia clarkei</i> , <i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i> .

* Data collated from 7 of 8 full floristic sites

Exotics *Andropogon virginicus*, *Baccharis halimifolia*, *Cinnamomum camphora*, *Lantana camara*, *Paspalum mandiocanum*, *Syagrus romanzoffiana*

Species richness

Number of plots	8
Total species	115
Average species per plot	30 ±7.7

Conservation status

This community is reserved in Bongil Bongil National Park (24ha), Coffs Coast Regional Park (<1ha) Moonee Beach Nature Reserve (1ha)

Tenure	Area (ha)
Crown Land	11
Freehold	120
National Park	25
Nature Reserve	1
NSW State Forest	23
TOTAL	180

Endangered Ecological Community: *Swamp Sclerophyll Forests on Coastal Floodplains of the North Coast, Sydney Basin and South East Corner bioregions* EEC

Relationship to other communities

Related to CH_FrW01 (Coastal Paperbark - Swamp Oak - Floodplain Forest) and CH_FrW04 (Coastal Paperbark Sedgeland Dominated Forest).

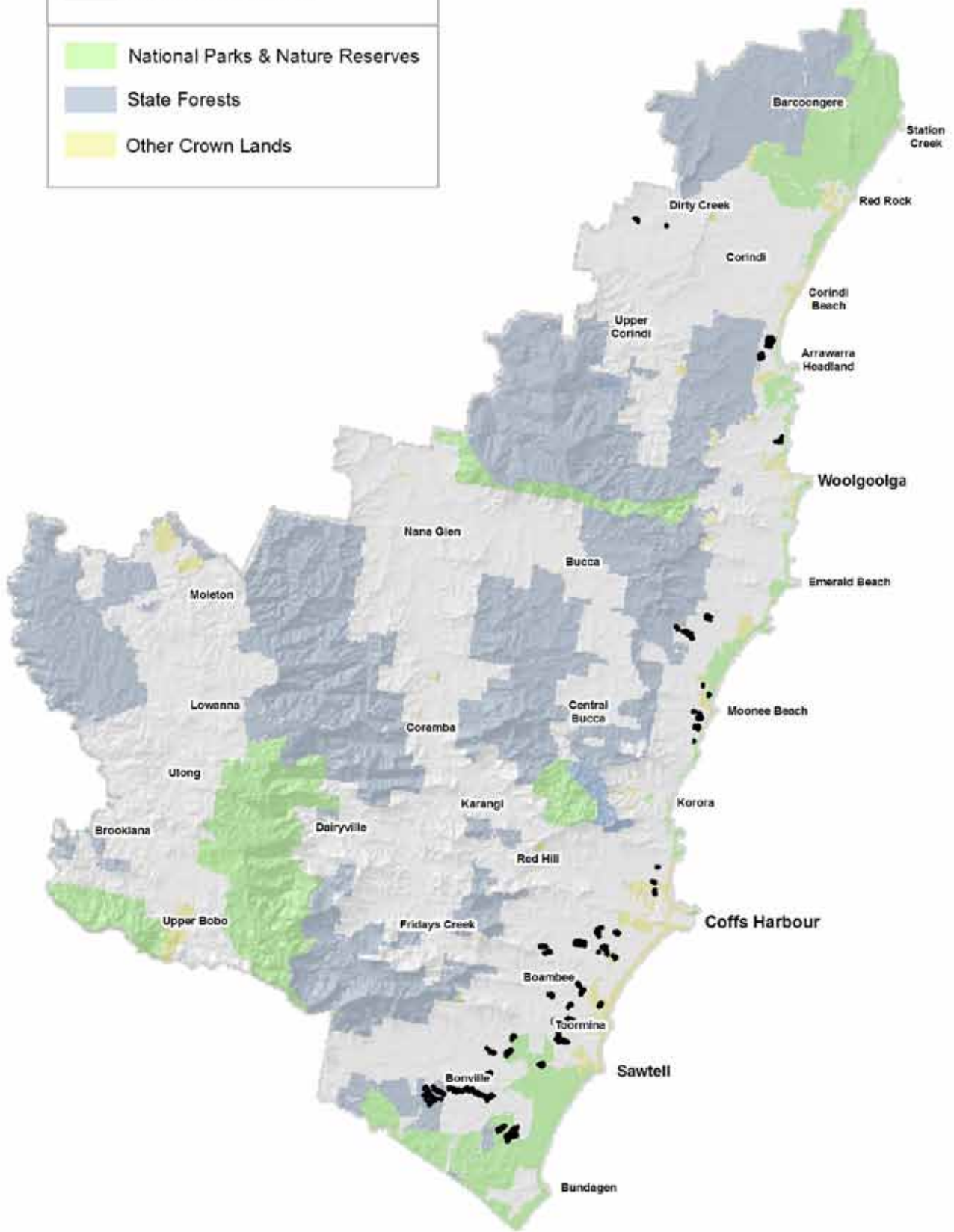
Equivalents

Biometric: (NR254) - Swamp Mahogany swamp forest of the coastal lowlands of the North Coast.

Other: N52 Swamp Mahogany (Fisher et al. 1996); Community 10- Swamp Mahogany Satinwood Sand Swamp Forest (Cameron et al. 2011). Forest Ecosystem 142 – Swamp Mahogany (NPWS 1999).

Locations

Reedy's Creek; Pine Creek, Bongil Bongil National Park; Bonville Creek; Middle Arm Creek, Toormina; Boambee Creek; Newports Creek; Stephen Park, Coffs Creek; Sugar Mill Creek; Heritage Park; Moonee Creek; Arrawarra; Darlington Park; Safety Beach; Darlington Park; Darkum Creek.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	1	13%	1	6%	uninformative
<i>Acacia maidenii</i>	1	25%	1	14%	uninformative
<i>Acacia melanoxylon</i>	4	25%	2	18%	uninformative
<i>Acmena smithii</i>	3	13%	1	27%	uninformative
<i>Allocasuarina torulosa</i>	1	13%	2	36%	uninformative
<i>Alphitonia excelsa</i>	1	13%	1	14%	uninformative
<i>Angophora costata</i>	1	13%	2	14%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	13%	1	32%	uninformative
<i>Backhousia myrtifolia</i>	1	13%	2	2%	uninformative
<i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i>	3	25%	1	3%	uninformative
<i>Banksia spinulosa</i> var. <i>collina</i>	1	13%	2	5%	uninformative
<i>Baumea articulata</i>	2	13%	1	2%	uninformative
<i>Baumea juncea</i>	2	13%	3	4%	uninformative
<i>Billardiera scandens</i>	1	13%	1	10%	uninformative
<i>Blechnum cartilagineum</i>	1	13%	2	38%	uninformative
<i>Blechnum indicum</i>	1	38%	1	2%	uninformative
<i>Brunoniella australis</i>	1	13%	1	3%	uninformative
<i>Callicoma serratifolia</i>	1	63%	2	16%	uninformative
<i>Callistemon salignus</i>	3	100%	2	11%	positive
<i>Calochlaena dubia</i>	2	75%	2	26%	positive
<i>Calystegia marginata</i>	1	13%	0	0%	positive
<i>Casuarina glauca</i>	3	13%	2	7%	uninformative
<i>Cayratia clematidea</i>	1	13%	1	8%	uninformative
<i>Chorizandra cymbaria</i>	1	13%	3	1%	uninformative
<i>Commersonia bartramia</i>	1	13%	0	0%	positive
<i>Commersonia fraseri</i>	1	13%	1	0%	uninformative
<i>Cordyline stricta</i>	2	88%	1	37%	positive
<i>Corymbia gummifera</i>	1	13%	2	8%	uninformative
<i>Corymbia intermedia</i>	2	13%	2	21%	uninformative
<i>Crinum pedunculatum</i>	1	13%	1	4%	uninformative
<i>Cryptostylis erecta</i>	2	13%	1	1%	uninformative
<i>Cupaniopsis anacardioides</i>	1	13%	1	11%	uninformative
<i>Cyperus lucidus</i>	2	13%	0	0%	positive
<i>Dianella caerulea</i>	2	50%	1	50%	positive
<i>Dioscorea transversa</i>	1	13%	1	28%	uninformative
<i>Dipodium variegatum</i>	1	13%	1	2%	uninformative
<i>Dodonaea triquetra</i>	2	13%	1	9%	uninformative
<i>Duboisia myoporoides</i>	2	13%	1	5%	uninformative
<i>Elaeocarpus reticulatus</i>	2	75%	1	26%	positive
<i>Endiandra sieberi</i>	1	25%	1	9%	uninformative
<i>Entolasia marginata</i>	1	13%	1	9%	uninformative
<i>Entolasia stricta</i>	1	38%	2	25%	uninformative
<i>Eucalyptus grandis</i>	2	13%	3	18%	uninformative
<i>Eucalyptus microcorys</i>	3	13%	3	35%	uninformative
<i>Eucalyptus pilularis</i>	1	13%	3	27%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	3	13%	3	10%	uninformative
<i>Eucalyptus robusta</i>	4	100%	2	5%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Eustrephus latifolius</i>	1	25%	1	30%	uninformative
<i>Gahnia aspera</i>	1	13%	1	14%	uninformative
<i>Gahnia clarkei</i>	5	88%	2	13%	positive
<i>Gahnia sieberiana</i>	5	13%	2	6%	uninformative
<i>Geitonoplesium cymosum</i>	1	50%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	75%	1	12%	uninformative
<i>Glycine clandestina</i>	1	13%	1	12%	uninformative
<i>Gonocarpus micranthus</i>	1	13%	2	2%	uninformative
<i>Hibbertia aspera</i>	2	13%	1	10%	uninformative
<i>Hibbertia scandens</i>	1	75%	1	31%	uninformative
<i>Hypolepis muelleri</i>	2	13%	1	3%	uninformative
<i>Imperata cylindrica</i>	1	38%	2	32%	uninformative
<i>Jagera pseudorhus</i> var. <i>pseudorhus</i>	1	13%	1	11%	uninformative
<i>Kennedia rubicunda</i>	1	13%	1	8%	uninformative
<i>Lastreopsis decomposita</i>	2	13%	2	6%	uninformative
<i>Leptospermum polygalifolium</i>	1	38%	1	12%	uninformative
<i>Leucopogon lanceolatus</i>	1	13%	1	20%	uninformative
<i>Livistona australis</i>	1	13%	1	3%	uninformative
<i>Lomandra longifolia</i>	2	100%	2	51%	constant
<i>Lophostemon suaveolens</i>	2	13%	2	9%	uninformative
<i>Marsdenia fraseri</i>	1	13%	1	1%	uninformative
<i>Marsdenia rostrata</i>	1	38%	1	8%	uninformative
<i>Melaleuca alternifolia</i>	1	13%	2	1%	uninformative
<i>Melaleuca linariifolia</i>	2	25%	1	1%	uninformative
<i>Melaleuca quinquenervia</i>	3	50%	2	12%	positive
<i>Melastoma affine</i>	1	13%	1	0%	uninformative
<i>Melicope elleryana</i>	1	25%	1	0%	uninformative
<i>Morinda jasminoides</i>	1	63%	1	36%	uninformative
<i>Myrsine howittiana</i>	1	13%	1	2%	uninformative
<i>Notelaea longifolia</i>	1	50%	1	26%	uninformative
<i>Olearia nernstii</i>	2	13%	2	0%	uninformative
<i>Oplismenus imbecillis</i>	4	25%	2	22%	uninformative
<i>Oxalis exilis</i>	1	13%	1	2%	uninformative
<i>Oxylobium robustum</i>	2	13%	1	2%	uninformative
<i>Ozothamnus diosmifolius</i>	2	13%	1	9%	uninformative
<i>Parsonsia straminea</i>	1	75%	1	27%	uninformative
<i>Phebalium squamulosum</i>	3	13%	1	0%	uninformative
<i>Pilidiostigma glabrum</i>	1	13%	1	12%	uninformative
<i>Pittosporum undulatum</i>	1	25%	1	10%	uninformative
<i>Platyцерium bifurcatum</i>	1	13%	1	16%	uninformative
<i>Poa queenslandica</i>	2	13%	0	0%	positive
<i>Polymeria calycina</i>	1	13%	1	4%	uninformative
<i>Polyscias sambucifolia</i>	2	25%	1	16%	uninformative
<i>Pomax umbellata</i>	1	13%	1	6%	uninformative
<i>Pratia purpurascens</i>	1	63%	1	22%	uninformative
<i>Pseuderanthemum variabile</i>	2	25%	2	27%	uninformative
<i>Pteridium esculentum</i>	1	88%	2	31%	uninformative
<i>Pultenaea retusa</i>	1	13%	2	6%	uninformative
<i>Pyrrosia rupestris</i>	1	13%	2	3%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Ripogonum fawcettianum</i>	1	13%	2	21%	uninformative
<i>Rubus moluccanus</i> var. <i>trilobus</i>	2	13%	1	4%	uninformative
<i>Schoenus lepidosperma</i> subsp. <i>pachylepis</i>	1	13%	1	0%	uninformative
<i>Schoenus melanostachys</i>	2	13%	3	1%	uninformative
<i>Smilax australis</i>	2	25%	1	45%	uninformative
<i>Smilax glyciphylla</i>	1	75%	1	28%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	25%	1	21%	uninformative
<i>Syncarpia glomulifera</i>	3	50%	3	39%	positive
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	13%	2	35%	uninformative
<i>Syzygium crebrinerve</i>	1	13%	2	1%	uninformative
<i>Syzygium luehmannii</i>	1	25%	2	4%	uninformative
<i>Syzygium oleosum</i>	2	13%	1	6%	uninformative
<i>Tabernaemontana pandacaqui</i>	2	25%	1	28%	uninformative
<i>Themeda australis</i>	3	13%	3	24%	uninformative
<i>Tristaniopsis laurina</i>	3	13%	2	3%	uninformative
<i>Vernonia cinerea</i>	1	13%	1	11%	uninformative
<i>Villarsia exaltata</i>	2	13%	3	0%	uninformative
<i>Viola banksii</i>	2	25%	1	16%	uninformative
<i>Zieria smithii</i>	1	13%	1	4%	uninformative

COASTAL PAPERBARK - BOTTLEBRUSH CHANNEL FOREST

CH_FrW03

SCIENTIFIC NAME Broad-leaved Paperbark (*Melaleuca quinquenervia*) – Willow Bottlebrush (*Callistemon salignus*) channel Forested Wetland of near coastal creeks

PLANT COMMUNITY TYPE Broad-leaved Paperbark – Willow Bottlebrush forested wetland of creek channels draining intermittent coastal lakes and lagoons of the NSW North Coast Bioregion (NSW700-636)

STATEWIDE CLASS Forested Wetlands – Coastal Swamp Forests



Description

An open swamp sclerophyll forest of Broad-leaved Paperbark (*Melaleuca quinquenervia*) and Willow Bottlebrush (*Callistemon salignus*). The epiphytic orchid *Cymbidium madidum* is commonly found growing on the Broad-leaved Paperbarks (*M. quinquenervia*). Owing to regular inundation, the understorey is very sparse and often absent, with fallen leaves and other debris often the only ground covering. Where present, understorey species include Swamp Lily (*Crinum pedunculatum*), Jointed Twig Rush (*Baumea articulata*), Tall Sedge (*Carex appressa*) and *Cladium procerum*.

Associated with the narrow catchments of intermittent coastal creeks with attenuated flows where the channels flood during times of heavy rain forming billabongs which slowly drain to the ocean. Most common in Scrub Creek and Bundagaree Creek in Bongil Bongil National Park, with isolated occurrences north to Yuraygir National Park.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	8-25	35-40	<i>Melaleuca quinquenervia</i> , <i>Callistemon salignus</i> .
Ground	0-1.5	5	<i>Crinum pedunculatum</i> , <i>Baumea articulata</i> , <i>Carex appressa</i> , <i>Cladium procerum</i> .

* Data collated from 3 of 3 full floristic sites

Structural and floristic variations

Exotics *Paspalum mandiocanum*

Species richness

Number of plots	3
Total species	
Average number of species	13 ±0.7

Conservation status

This community is reserved in Bongil Bongil National Park (48ha), Coffs Coast Regional Park (1 ha), Yuraygir National Park (4ha)

Tenure	Area (ha)
Crown Land	1
Freehold	25
National Park	52
Regional Park	1
TOTAL	80

Endangered Ecological Community: *Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions* EEC

Relationship to other communities

Related to CH_FrW01 (Coastal Paperbark - Swamp Oak Floodplain Forest) and CH_FrW04 (Coastal Paperbark Sedgeland dominated Forest). CH_FrW03 (Coastal Paperbark Bottlebrush Channel Forest) is distinguished by a wetter and simpler sparser ground layer usually dominated by *Baumea articulata* in comparison to a more dense ground cover of sedges than CH_FrW04 and CH_FrW01. Because of its unique hydrology, these areas are waterlogged for extensive periods.

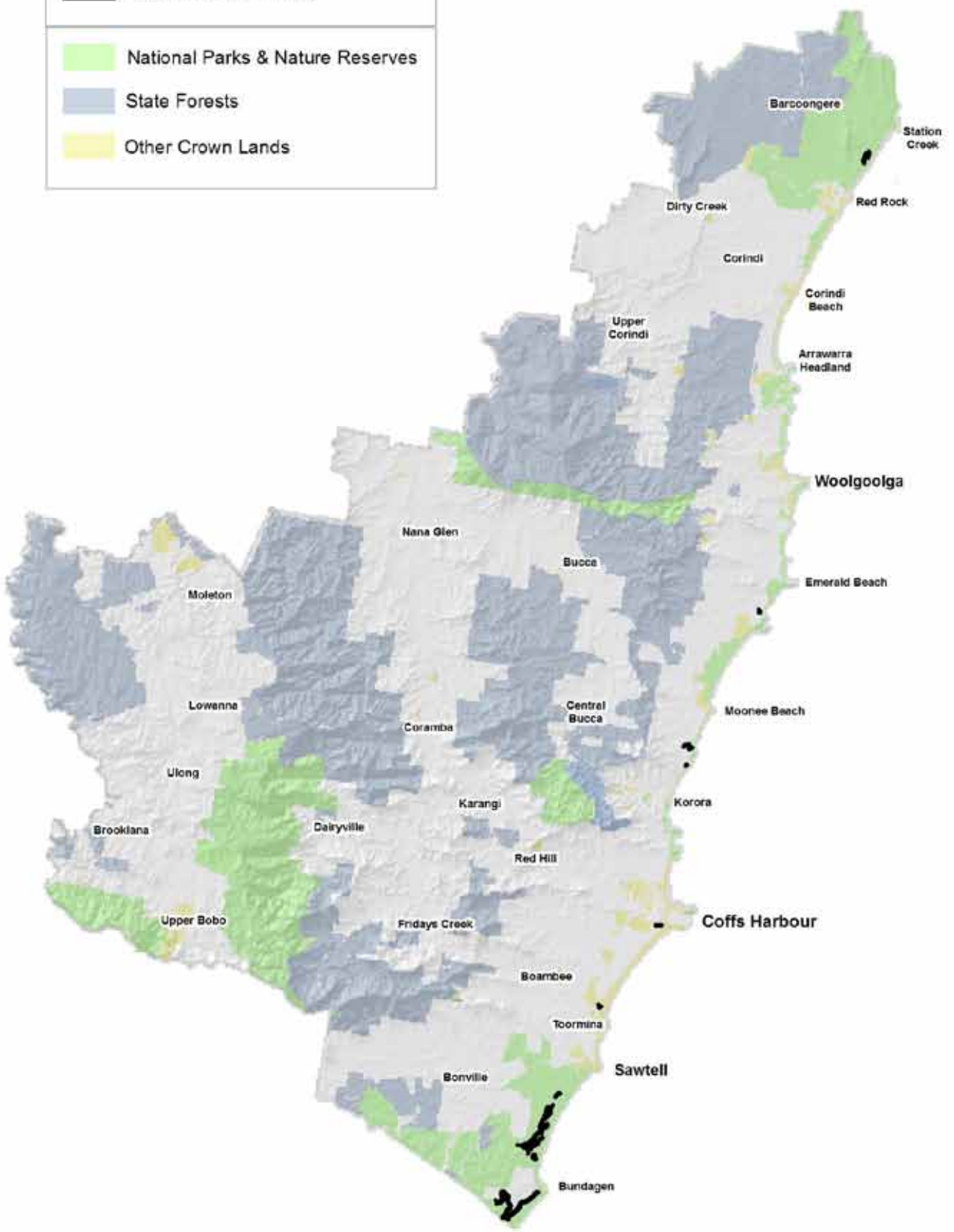
Equivalentents

Biometric: (NR217) Paperbark swamp forest of the coastal lowlands of the North Coast.

Other: N20 - N50 Paperbark (Fisher et al. 1996); Community13 - Paperbark Willow Bottlebrush Swamp Sclerophyll Forest (Cameron et al. 2011).

Locations

Bundageree Creek; Scrub Creek; At the base of Beacon Hill; Sapphire Beach; and Station Creek in Yuraygir National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Archontophoenix cunninghamiana</i>	1	33%	1	32%	uninformative
<i>Baumea articulata</i>	1	67%	2	2%	uninformative
<i>Callistemon salignus</i>	3	67%	2	12%	positive
<i>Carex appressa</i>	2	33%	2	1%	uninformative
<i>Cladium procerum</i>	1	67%	2	1%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	33%	1	10%	uninformative
<i>Crinum pedunculatum</i>	2	67%	1	4%	positive
<i>Cyclosorus interruptus</i>	1	33%	0	0%	positive
<i>Cymbidium madidum</i>	2	100%	1	4%	positive
<i>Eucalyptus grandis</i>	1	33%	3	17%	uninformative
<i>Eucalyptus robusta</i>	2	33%	2	7%	uninformative
<i>Eustrephus latifolius</i>	1	33%	1	29%	uninformative
<i>Ficus watkinsiana</i>	1	67%	2	4%	uninformative
<i>Guioa semiglauca</i>	1	33%	1	28%	uninformative
<i>Hibiscus diversifolius</i>	1	33%	1	1%	uninformative
<i>Imperata cylindrica</i>	1	33%	2	32%	uninformative
<i>Juncus usitatus</i>	1	33%	2	0%	uninformative
<i>Livistona australis</i>	1	33%	1	3%	uninformative
<i>Lomandra hystrix</i>	2	33%	1	2%	uninformative
<i>Lomandra longifolia</i>	1	67%	2	51%	negative
<i>Melaleuca quinquenervia</i>	4	100%	2	12%	positive
<i>Parsonsia straminea</i>	1	100%	1	27%	uninformative
<i>Pyrrosia confluens</i> var. <i>confluens</i>	1	33%	1	5%	uninformative
<i>Smilax australis</i>	1	33%	1	44%	uninformative

COASTAL PAPERBARK - SEDGELAND DOMINATED FOREST

CH_FrW04

SCIENTIFIC NAME Broad-leaved Paperbark (*Melaleuca quinquenervia*)
sedge dominated Forested Wetland of drainage lines

PLANT COMMUNITY TYPE Giant Sedge sedgeland of sandy
alluvium of the lower and mid-north coasts, South Eastern Queensland
Bioregion and NSW North Coast Bioregion (NSW700-643)

STATEWIDE CLASS Forested Wetlands – Coastal Swamp Forests



Description

Broad-leaved Paperbark (*Melaleuca quinquenervia*) dominates over a dense layer of sedges and rushes in this floristically simple forested wetland. Swamp Mahogany (*Eucalyptus robusta*) is occasionally present as is Forest Red Gum (*Eucalyptus tereticornis*), Sieber's Paperbark (*Melaleuca sieberi*) and sometimes Swamp Oak (*Casuarina glauca*). Ground layer species commonly include Giant Sedge (*Lepironia articulata*), Jointed Twig Rush (*Baumea articulata*), Soft Twig Rush (*Baumea rubiginosa*) and *Chorizandra* spp.

The substrate may vary from areas of clayey to silty alluvium to organic rich sands and this influences the sedges present. The community occurs in low-lying inundated areas on the alluvial floodplains and back swamps of coastal creeks and rivers and also occurring in very wet sites on coastal sandplains. It is distributed north from Pine Creek to Station Creek in Yuraygir National Park. Often associated with the Newport's Creek, Coffs Harbour and Toormina soil landscapes.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	10-16	25	<i>Melaleuca quinquenervia</i> , <i>Eucalyptus robusta</i> , <i>Melaleuca sieberi</i> .
Middle	3-6	15	<i>Melaleuca quinquenervia</i> , <i>Melaleuca sieberi</i> .
Lower	0-1	70	<i>Baumea rubiginosa</i> , <i>Baumea articulata</i> .

* Data collated from 1 of 1 full floristic site

Structural and floristic variations

During rapid site survey examples of this community dominated by Giant Sedge (*Lepironia articulata*) and Chorizandra (*Chorizandra* spp.) were observed. Forest Red Gum (*Eucalyptus tereticornis*), Swamp Mahogany (*Eucalyptus robusta*), and Swamp Oak (*Casuarina glauca*), was recorded as additional species which helped to improve the description of this community.

Species richness

Number of plots	1
Total species	13
Average number of species	

Conservation status

This community is reserved in Bongil Bongil National Park (19ha), Coffs Coast Regional Park (4ha) Moonee Beach Nature Reserve (11ha) and Yuraygir National Park (128ha).

Tenure	Area (ha)
Crown Land	17
Freehold	324
National Park	149
Nature Reserve	10
NSW State Forest	24
Regional Park	4
TOTAL	529

Endangered Ecological Community: *Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions* EEC

Relationship to other communities

Related to CH_FrW01 (Coastal Paperbark - Swamp Oak Floodplain Forest) and CH_FrW03 (Coastal Paperbark - Bottlebrush Channel Forest). CH_FrW04 (Coastal Paperbark Sedgeland Dominated Forest) is distinguished by having a wetter and simpler ground layer usually dominated by *Baumea* spp. and Grey Rush (*Lepironia articulata*). Often adjacent to CH_FrW01 and transitional to this community.

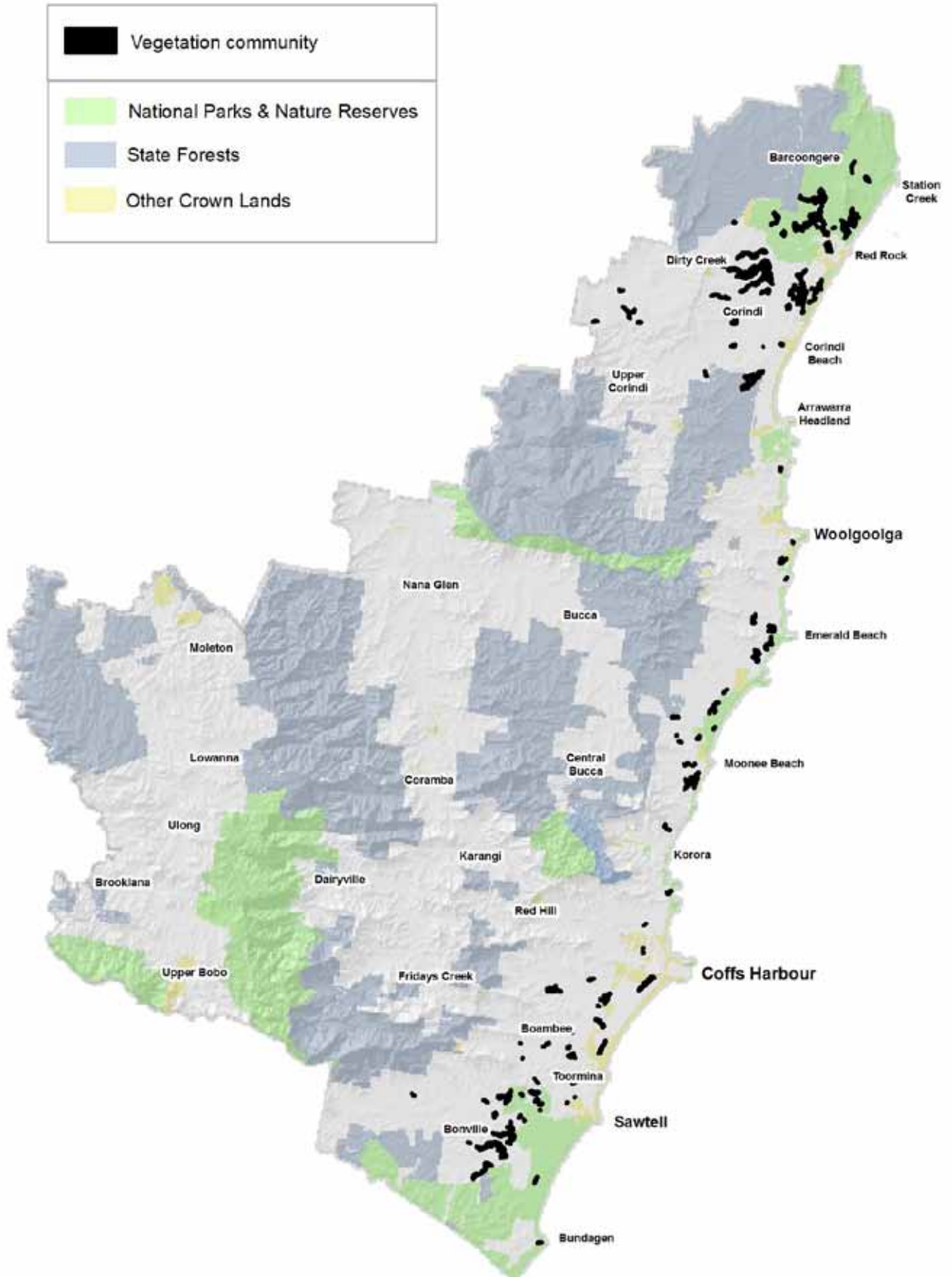
Equivalents

Biometric: (NR217) - Paperbark swamp forest of the coastal lowlands of the North Coast.

Other: N20, N50 – Paperbark (Fisher et al. 1996)

Locations

Pine Creek; Newports Creek; Sugar Mill Creek; Moonee Creek; Fiddamans Creek; Woolgoolga; Redbank Creek; Dundoo Creek; Corindi River and Station Creek.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Baumea articulata</i>	1	100%	2	2%	uninformative
<i>Baumea juncea</i>	3	100%	3	4%	positive
<i>Baumea rubiginosa</i>	3	100%	4	1%	positive
<i>Cymbidium madidum</i>	1	100%	1	4%	uninformative
<i>Dianella caerulea</i>	1	100%	1	50%	uninformative
<i>Eucalyptus robusta</i>	2	100%	2	7%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Melaleuca quinquenervia</i>	3	100%	2	12%	positive
<i>Melaleuca sieberi</i>	2	100%	3	4%	positive
<i>Parsonsia straminea</i>	1	100%	1	27%	uninformative
<i>Pultenaea villosa</i>	1	100%	2	6%	uninformative
<i>Selaginella uliginosa</i>	1	100%	1	3%	uninformative
<i>Sporobolus virginicus</i>	1	100%	5	2%	uninformative

COASTAL PAPERBARK - SWAMP BOX LITTORAL FOREST

CH_FrW05

SCIENTIFIC NAME Broad-leaved Paperbark (*Melaleuca quinquenervia*)
– Swamp Box (*Lophostemon suaveolens*) tall forest with Littoral
Rainforest elements on hind dunes

PLANT COMMUNITY TYPE Broad-leaved Paperbark – Brush Box
– Swamp Box swamp sclerophyll forest on clays of coastal plains and
sub-coastal hills of the NSW North Coast Bioregion and the South Eastern
Queensland Bioregion (NSW700-476)

STATEWIDE CLASS Forested Wetlands – Coastal Swamp Forests



Description

A forested wetland that occurs in poorly drained sheltered areas of coastal Holocene and Pleistocene dunes, swales, backbarrier flats and sometimes on the floodplains of coastal creeks. It is often located in sheltered sites at the base of an elevated hind dune. Found in near coastal areas behind the hind dune along the coast from Sawtell to Yuraygir National Park.

Broad-leaved Paperbark (*Melaleuca quinquenervia*), Swamp Oak (*Casuarina glauca*) and Swamp Box (*Lophostemon suaveolens*) dominate the overstorey. There are littoral rainforest and coastal species in the often dense mid layer including Blueberry Ash (*Elaeocarpus reticulatus*), Sandpaper Fig (*Ficus coronata*), Guioa (*Guioa semiglauca*) and Three-veined Cryptocarya (*Cryptocarya triplinervis*). The lower layer, sometimes dense and often weedy, contains mainly Rough Saw-sedge (*Gahnia aspera*), Tall Saw-sedge (*Gahnia clarkei*), Spiny-headed Mat-rush (*Lomandra longifolia*) and Scrambling Lily (*Geitonoplesium cymosum*). The herbaceous ground layer is dominated by Wild Violet (*Viola banksii*), *Ottochloa gracillima* and Creeping Beard Grass (*Oplismenus imbecillis*).

Floristic summary

Layer	Height	Cover	Dominant Species
Tallest	4-20	15-40	<i>Melaleuca quinquenervia</i> , <i>Lophostemon suaveolens</i> , <i>Casuarina glauca</i> .
Middle	1.5-8	15-50	<i>Elaeocarpus reticulatus</i> , <i>Ficus coronata</i> , <i>Guioa semiglaucula</i> , <i>Cryptocarya triplinervis</i> , <i>Archontophoenix cunninghamiana</i> .
Lower layer	0-1.5	15-55	<i>Lomandra longifolia</i> , <i>Gahnia clarkei</i> , <i>Gahnia aspera</i> , <i>Geitonoplesium cymosum</i> <i>Baumea juncea</i> .
Ground	0-0.3	15-20	<i>Viola banksii</i> , <i>Ottochloa gracillima</i> , <i>Oplismenus imbecillis</i> .

* Data collated from 7 of 7 full floristic sites

Exotics *Ageratum houstonianum*, *Asparagus aethiopicus*, *Cinnamomum camphora*, *Gloriosa superba*, *Ipomoea cairica*, *Lantana camara*, *Ligustrum sinense*, *Murraya paniculata*, *Ochna serrulata*, *Paspalum mandiocanum*, *Passiflora edulis*, *Passiflora suberosa*, *Senna pendula*, *Solanum seafortianum*, *Syagrus romanzoffiana*

Species richness

Number of plots:	7
Total species:	110
Average number of species:	38 ±11.3

Conservation status

This community is reserved in Coffs Coast Regional Park (23ha), Moonee Beach Nature Reserve (29ha), and Yuraygir National Park (37ha)

Tenure	Area (ha)
Crown Land	30
Freehold	40
National Park	36
Nature Reserve	29
Regional Park	23
TOTAL	158

Relationship to other communities

Related to CH_FrW01 (Coastal Paperbark - Swamp Oak Floodplain Forest) and CH_RF07 (Tuckeroo Beach Bird's Eye Littoral Rainforest). CH_FrW01 has a similar overstorey component but has less rainforest elements in the understorey. CH_RF07 (Coastal Exposed Dune Littoral Rainforest) is characterised by a canopy of rainforest species such as Hard Corkwood (*Endiandra sieberi*) and Bird's Eye Tuckeroo (*Cupaniopsis anacardioides*). It often adjoins wet heathland communities CH_FW02 (Coastal Wallum Paperbark - Banksia - Grass Tree Wet Heathland), CH_FW05 (Coastal Wallum Paperbark Wet Shrubland).

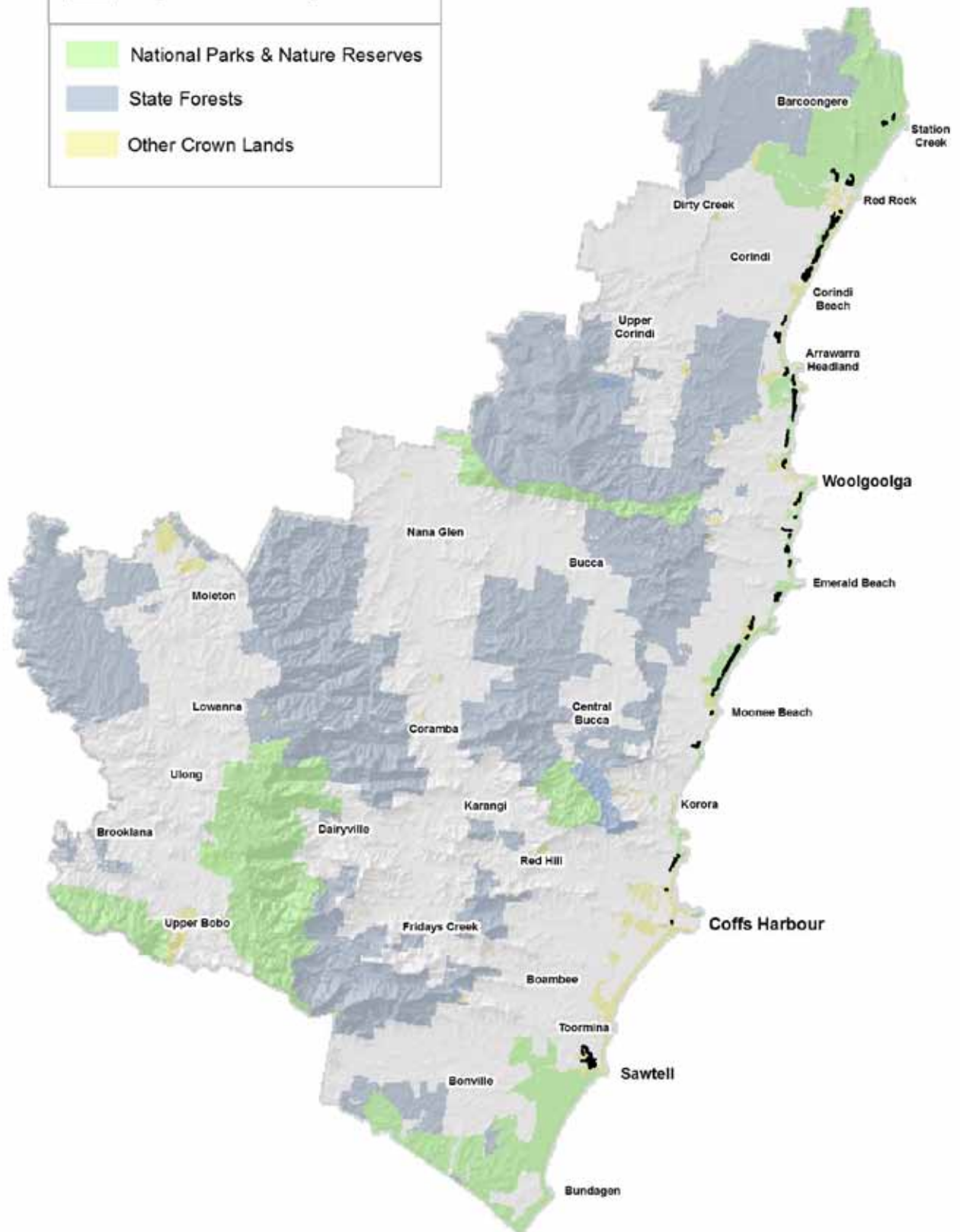
Equivalents

Biometric:	(NR217) Paperbark swamp forest of the coastal lowlands of the North Coast
Other:	N20b Paperbark (Fisher et al. 1996)

Locations

Known locations include Middle Creek, Sawtell; Park Beach; Jetty Beach; Sapphire Beach; Moonee Beach Nature Reserve; Emerald Beach; Fiddamans Beach and Sandy Beach.

Diagnostic species



Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	1	43%	2	18%	uninformative
<i>Acmena smithii</i>	1	57%	1	26%	uninformative
<i>Acronychia imperforata</i>	1	71%	1	3%	uninformative
<i>Alectryon coriaceus</i>	1	14%	2	3%	uninformative
<i>Alectryon subcinereus</i>	1	14%	1	2%	uninformative
<i>Alocasia brisbanensis</i>	1	14%	1	2%	uninformative
<i>Alphitonia excelsa</i>	2	29%	1	14%	uninformative
<i>Alpinia caerulea</i>	1	14%	1	18%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	57%	1	31%	uninformative
<i>Asplenium australasicum</i>	1	14%	1	9%	uninformative
<i>Baeckea frutescens</i>	1	14%	2	3%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	43%	2	7%	uninformative
<i>Banksia oblongifolia</i>	1	14%	3	9%	uninformative
<i>Baumea juncea</i>	3	29%	3	4%	uninformative
<i>Breynia oblongifolia</i>	1	57%	1	29%	uninformative
<i>Calamus muelleri</i>	1	14%	2	14%	uninformative
<i>Calanthe triplicata</i>	1	14%	1	3%	uninformative
<i>Carex appressa</i>	1	14%	2	1%	uninformative
<i>Casuarina glauca</i>	2	57%	3	6%	positive
<i>Cissus antarctica</i>	2	14%	1	19%	uninformative
<i>Cissus hypoglauca</i>	1	14%	1	38%	uninformative
<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	1	14%	1	10%	uninformative
<i>Clerodendrum tomentosum</i>	1	14%	1	5%	uninformative
<i>Commelina cyanea</i>	1	14%	1	5%	uninformative
<i>Cordyline petiolaris</i>	1	14%	1	4%	uninformative
<i>Cordyline stricta</i>	1	71%	1	38%	uninformative
<i>Crinum pedunculatum</i>	1	14%	1	4%	uninformative
<i>Cryptocarya triplinervis</i>	2	57%	1	3%	positive
<i>Cupaniopsis anacardioides</i>	1	71%	1	10%	uninformative
<i>Cyclophyllum longipetalum</i>	1	14%	1	5%	uninformative
<i>Cymbopogon refractus</i>	1	29%	2	6%	uninformative
<i>Dampiera stricta</i>	2	14%	2	7%	uninformative
<i>Desmodium brachypodum</i>	1	29%	1	6%	uninformative
<i>Dianella caerulea</i>	1	14%	1	51%	uninformative
<i>Dioscorea transversa</i>	1	14%	1	28%	uninformative
<i>Dipodium variegatum</i>	1	14%	1	2%	uninformative
<i>Dysoxylum mollissimum</i> subsp. <i>molle</i>	3	14%	2	2%	uninformative
<i>Elaeocarpus obovatus</i>	1	14%	1	3%	uninformative
<i>Elaeocarpus reticulatus</i>	2	57%	1	27%	positive
<i>Endiandra sieberi</i>	1	29%	1	9%	uninformative
<i>Entolasia marginata</i>	1	14%	1	9%	uninformative
<i>Epaltes australis</i>	1	14%	2	0%	uninformative
<i>Eucalyptus robusta</i>	3	14%	2	7%	uninformative
<i>Eucalyptus tereticornis</i>	1	14%	3	1%	uninformative
<i>Eupomatia laurina</i>	1	14%	1	15%	uninformative
<i>Euroschinus falcatus</i>	1	14%	1	4%	uninformative
<i>Eustrephus latifolius</i>	1	71%	1	29%	uninformative
<i>Ficus coronata</i>	1	57%	1	12%	uninformative
<i>Flagellaria indica</i>	3	14%	1	4%	uninformative
<i>Gahnia aspera</i>	2	86%	1	13%	positive
<i>Gahnia clarkei</i>	2	86%	2	13%	positive
<i>Geitonoplesium cymosum</i>	1	57%	1	23%	uninformative
<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	1	86%	1	12%	uninformative
<i>Glycine clandestina</i>	1	14%	1	12%	uninformative
<i>Gonocarpus teucrioides</i>	1	14%	1	1%	uninformative

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Guioa semiglauca</i>	1	71%	1	27%	uninformative
<i>Hibbertia scandens</i>	1	29%	1	32%	uninformative
<i>Hibiscus diversifolius</i>	1	14%	1	1%	uninformative
<i>Homalanthus populifolius</i>	1	14%	1	3%	uninformative
<i>Hybanthus enneaspermus</i>	1	14%	1	3%	uninformative
<i>Hypolepis muelleri</i>	2	14%	1	3%	uninformative
<i>Imperata cylindrica</i>	1	43%	2	32%	uninformative
<i>Leptospermum polygalifolium</i>	2	29%	1	12%	uninformative
<i>Leucopogon lanceolatus</i>	1	29%	1	19%	uninformative
<i>Livistona australis</i>	1	43%	1	3%	uninformative
<i>Lobelia anceps</i>	1	29%	1	5%	uninformative
<i>Lomandra filiformis</i>	1	29%	1	12%	uninformative
<i>Lomandra longifolia</i>	3	71%	2	51%	constant
<i>Lomandra spicata</i>	1	29%	1	9%	uninformative
<i>Lophostemon suaveolens</i>	2	57%	2	8%	positive
<i>Maclura cochinchinensis</i>	1	14%	1	7%	uninformative
<i>Marsdenia rostrata</i>	2	71%	1	7%	positive
<i>Melaleuca quinquenervia</i>	3	100%	2	11%	positive
<i>Melaleuca thymifolia</i>	1	14%	1	1%	uninformative
<i>Microlaena stipoides</i> var. <i>stipoides</i>	2	14%	1	3%	uninformative
<i>Morinda jasminoides</i>	1	71%	1	36%	uninformative
<i>Myrsine variabilis</i>	1	57%	1	16%	uninformative
<i>Notelaea longifolia</i>	1	86%	1	26%	uninformative
<i>Ophioglossum pendulum</i>	1	14%	1	1%	uninformative
<i>Oplismenus aemulus</i>	2	57%	2	12%	positive
<i>Oplismenus imbecillis</i>	1	71%	2	21%	uninformative
<i>Ottochloa gracillima</i>	2	57%	2	9%	positive
<i>Oxalis rubens</i>	1	14%	2	0%	uninformative
<i>Parsonsia straminea</i>	2	71%	1	27%	positive
<i>Persoonia stradbrokeensis</i>	1	14%	1	18%	uninformative
<i>Pittosporum revolutum</i>	1	14%	1	13%	uninformative
<i>Pittosporum undulatum</i>	2	14%	1	10%	uninformative
<i>Platyцерium bifurcatum</i>	1	29%	1	16%	uninformative
<i>Platyцерium superbum</i>	1	43%	1	5%	uninformative
<i>Polymeria calycina</i>	1	14%	1	4%	uninformative
<i>Pomax umbellata</i>	1	43%	1	5%	uninformative
<i>Pratia purpurascens</i>	1	43%	1	23%	uninformative
<i>Pseuderanthemum variabile</i>	1	29%	2	27%	uninformative
<i>Psilotum nudum</i>	1	29%	1	2%	uninformative
<i>Psychotria loniceroides</i>	2	57%	1	13%	positive
<i>Pteridium esculentum</i>	1	43%	2	32%	uninformative
<i>Ptilothrix deusta</i>	1	14%	4	2%	uninformative
<i>Rhodomyrtus psidioides</i>	2	29%	1	4%	uninformative
<i>Rubus parvifolius</i>	1	14%	1	4%	uninformative
<i>Sarcopetalum harveyanum</i>	2	29%	1	9%	uninformative
<i>Selaginella uliginosa</i>	1	14%	1	3%	uninformative
<i>Smilax australis</i>	1	100%	1	44%	uninformative
<i>Smilax glycyphylla</i>	1	57%	1	28%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	43%	1	21%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	3	29%	2	35%	uninformative
<i>Syzygium australe</i>	1	43%	1	5%	uninformative
<i>Syzygium luehmannii</i>	1	14%	1	5%	uninformative
<i>Themeda australis</i>	1	29%	3	24%	uninformative
<i>Triunia youngiana</i>	1	14%	1	5%	uninformative
<i>Viola banksii</i>	2	86%	1	15%	positive

COASTAL WALLUM - SWAMP MAHOGANY PAPERBARK - SATINWOOD FOREST

CH_FrW06

SCIENTIFIC NAME Swamp Mahogany (*Eucalyptus robusta*) – Broad-leaved Paperbark (*Melaleuca quinquenervia*) – Satinwood (*Nematolepis squamea* subsp. *squamea*) and Tassel Rush (*Baloskion tetraphyllum* subsp. *meiostachyum*) Wallum Swamp Sclerophyll Forest

PLANT COMMUNITY TYPE Swamp Mahogany – Tea-tree – Tassel Rush forested wetland of waterlogged wallum soils of the NSW North Coast and South Eastern Queensland bioregions (NSW700-614)

STATEWIDE CLASS Forested Wetlands – Coastal Swamp Forests (Keith 2006)



Description

A forested wetland that is distributed in deep, moderately to poorly drained infertile unconsolidated sands in Pleistocene backbarrier flats, occurring in disjunct locations from Bongil Bongil National Park/Coffs Harbour and north from near Corindi to Red Rock .

A tall open forest in which the dominant tree species is Swamp Mahogany (*Eucalyptus robusta*), which is rarely associated with Broad-leaved Paperbark (*Melaleuca quinquenervia*), Pink Bloodwood (*Corymbia intermedia*), Scribbly Gum (*Eucalyptus signata*) and Swamp Box (*Lophostemon suaveolens*). The mid layer is comprised of a layer of heath shrubs to small trees including Satinwood (*Nematolepis squamea* subsp. *squamea*), *Leucopogon lanceolatus*, Tantoon Tea-tree (*Leptospermum polygalifolium*), White's Teatree (*Leptospermum whitei*) and Blueberry Ash (*Elaeocarpus reticulatus*). The lower layer comprises a dense cover of Tassel Rush (*Baloskion tetraphyllum* subsp. *meiostachyum*), *Blechnum indicum* and Saw Sedges (*Gahnia clarkei*, *G. sieberiana*). Rarely a sparse ground layer of Billy Buttons (*Pomax umbellata*) is present.

Floristic summary

Layer	Height m	Cover	Dominant Species
Tallest	6-20	20-35	<i>Eucalyptus robusta</i> , <i>Melaleuca quinquenervia</i> , <i>Corymbia intermedia</i> , <i>Lophostemon suaveolens</i> .
Middle	2-7	5-50	<i>Leptospermum polygalifolium</i> , <i>Nematolepis squamea</i> , <i>Leptospermum whitei</i> , <i>Elaeocarpus reticulatus</i> .
Lower layer 1	0-2	5-60	<i>Leucopogon lanceolatus</i> , <i>Elaeocarpus reticulatus</i> , <i>Baloskion tetraphyllum</i> , <i>Gahnia clarkei</i> , <i>Lomandra longifolia</i> .
Lower layer 2	0	0-0.1	<i>Pomax umbellata</i> .

* Data collated from 4 of 6 full floristic sites

Exotics *Lantana camara*

Species richness

Number of plots	6
Total species	83
Average number of species	25 ±8.5

Conservation status

This community is reserved in Bongil Bongil National Park (43ha), Moonee Beach Nature Reserve (2ha) and Yuraygir National Park (2ha).

Tenure	Area (ha)
Crown Land	23
Freehold	61
National Park	46
Nature Reserve	2
TOTAL	131

Relationship to other communities

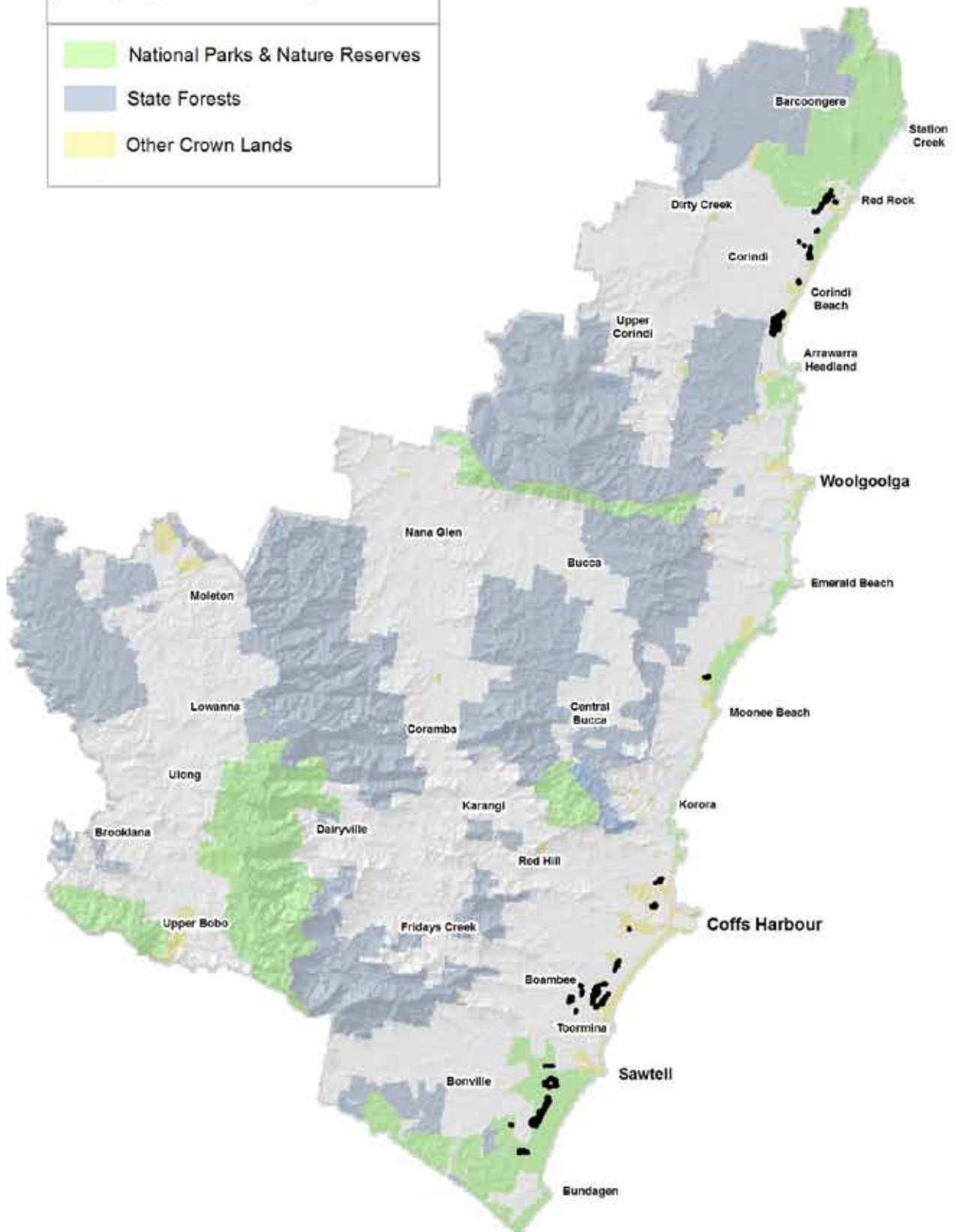
This community forms a transition with other sand swamp communities such as CH_FW06 (Coastal Wallum Teatree Tall Wet Shrubland), and CH_FW01 (Coastal Wallum Teatree - Banksia Wet Heathland Shrubland). Related to CH_FW05 (Coastal Wallum Paperbark Wet Shrubland) and CH_FrW02 (Coastal Swamp Mahogany Forest). Swamp Mahogany (*Eucalyptus robusta*) in the canopy and Plume Rush (*Baloskion tetraphyllum*) in the ground layer are a key diagnostic species for CH_FrW06. It occasionally intergrades with CH_FrW01 (Coastal Paperbark - Swamp Oak Floodplain Forest).

Equivalents

Biometric: (NR254)- Swamp Mahogany swamp forest of the coastal lowlands of the North Coast
Other: N52 Swamp Mahogany (Fisher et al. 1996), Community 10- Swamp Mahogany Satinwood Sand Swamp Forest (Cameron et al. 2011).

Locations

Bongil Bongil National Park; Airport Lands; Coffs Creek; Darlington Park; and Corindi River north of Red Rock.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	2	17%	2	19%	uninformative
<i>Acacia suaveolens</i>	1	17%	1	3%	uninformative
<i>Acacia ulicifolia</i>	1	33%	1	2%	uninformative
<i>Angophora costata</i>	1	17%	2	14%	uninformative
<i>Aotus ericoides</i>	1	17%	2	1%	uninformative
<i>Baloskion tetraphyllum</i> subsp. <i>meiostachyum</i>	5	67%	1	2%	positive
<i>Banksia aemula</i>	3	33%	3	2%	uninformative
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	1	17%	1	8%	uninformative
<i>Banksia oblongifolia</i>	1	33%	3	9%	uninformative
<i>Banksia spinulosa</i> var. <i>collina</i>	1	17%	2	5%	uninformative
<i>Baumea muelleri</i>	1	17%	1	2%	uninformative
<i>Billardiera scandens</i>	2	33%	1	10%	uninformative
<i>Boronia saffrolifera</i>	3	33%	3	0%	uninformative
<i>Breynia oblongifolia</i>	1	17%	1	29%	uninformative
<i>Brunoniella australis</i>	1	17%	1	3%	uninformative
<i>Cassytha filiformis</i>	2	33%	1	3%	uninformative
<i>Cassytha glabella</i> f. <i>glabella</i>	2	33%	1	4%	uninformative
<i>Cassytha pubescens</i>	2	33%	1	2%	uninformative
<i>Caustis recurvata</i>	1	17%	3	0%	uninformative
<i>Caustis recurvata</i> var. <i>recurvata</i>	2	33%	3	0%	uninformative
<i>Corymbia intermedia</i>	3	17%	2	21%	uninformative
<i>Cyclophyllum longipetalum</i>	1	17%	1	5%	uninformative
<i>Cymbidium madidum</i>	1	17%	1	4%	uninformative
<i>Cyperus stradbrokeensis</i>	1	17%	0	0%	positive
<i>Dampiera stricta</i>	1	33%	2	7%	uninformative
<i>Dianella caerulea</i>	1	50%	1	50%	uninformative
<i>Dillwynia retorta</i>	1	17%	1	1%	uninformative
<i>Dodonaea triquetra</i>	3	33%	1	9%	uninformative
<i>Elaeocarpus reticulatus</i>	2	83%	1	27%	positive
<i>Endiandra sieberi</i>	2	33%	1	9%	uninformative
<i>Entolasia marginata</i>	1	33%	1	9%	uninformative
<i>Entolasia stricta</i>	1	33%	2	25%	uninformative
<i>Epacris pulchella</i>	2	33%	2	3%	uninformative
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	1	17%	3	10%	uninformative
<i>Eucalyptus robusta</i>	3	100%	2	6%	positive
<i>Eustrephus latifolius</i>	1	17%	1	30%	uninformative
<i>Gahnia clarkei</i>	2	67%	2	13%	positive
<i>Hibbertia dentata</i>	1	17%	1	7%	uninformative
<i>Hibbertia scandens</i>	1	50%	1	31%	uninformative
<i>Homoranthus virgatus</i>	2	33%	0	0%	positive
<i>Hypolaena fastigiata</i>	1	33%	2	1%	uninformative
<i>Kennedia rubicunda</i>	1	17%	1	8%	uninformative
<i>Leptomeria acida</i>	2	33%	1	2%	uninformative
<i>Leptospermum polygalifolium</i>	3	100%	1	11%	positive
<i>Leptospermum trinervium</i>	2	17%	3	3%	uninformative
<i>Leptospermum whitei</i>	2	33%	4	2%	uninformative
<i>Leucopogon lanceolatus</i>	2	83%	1	19%	positive

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Leucopogon leptospermoides</i>	1	33%	2	1%	uninformative
<i>Leucopogon margarodes</i>	2	67%	1	2%	positive
<i>Livistona australis</i>	1	17%	1	3%	uninformative
<i>Lomandra longifolia</i>	2	100%	2	51%	constant
<i>Lophostemon suaveolens</i>	2	17%	2	9%	uninformative
<i>Marsdenia fraseri</i>	1	33%	1	0%	uninformative
<i>Melaleuca nodosa</i>	4	33%	3	3%	uninformative
<i>Melaleuca quinquenervia</i>	2	50%	2	12%	positive
<i>Melaleuca sieberi</i>	3	17%	3	4%	uninformative
<i>Monotoca elliptica</i>	2	33%	1	2%	uninformative
<i>Myrsine variabilis</i>	1	17%	1	16%	uninformative
<i>Nematolepis squamea</i> subsp. <i>squamea</i>	2	67%	2	1%	positive
<i>Notelaea longifolia</i>	1	33%	1	27%	uninformative
<i>Ochrosperma lineare</i>	2	17%	1	0%	uninformative
<i>Oxylobium robustum</i>	2	33%	2	1%	uninformative
<i>Parsonsia straminea</i>	1	33%	1	27%	uninformative
<i>Pimelea linifolia</i>	1	17%	1	10%	uninformative
<i>Platynerium bifurcatum</i>	1	17%	1	16%	uninformative
<i>Pomax umbellata</i>	2	33%	1	6%	uninformative
<i>Psilotum nudum</i>	1	17%	1	2%	uninformative
<i>Pteridium esculentum</i>	2	83%	2	31%	positive
<i>Schizaea dichotoma</i>	1	17%	1	1%	uninformative
<i>Schoenus brevifolius</i>	1	17%	2	1%	uninformative
<i>Smilax australis</i>	3	17%	1	45%	uninformative
<i>Smilax glycyphylla</i>	1	67%	1	28%	uninformative
<i>Sporadanthus interruptus</i>	2	17%	3	3%	uninformative
<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	1	17%	2	35%	uninformative
<i>Xanthorrhoea fulva</i>	3	50%	3	6%	positive

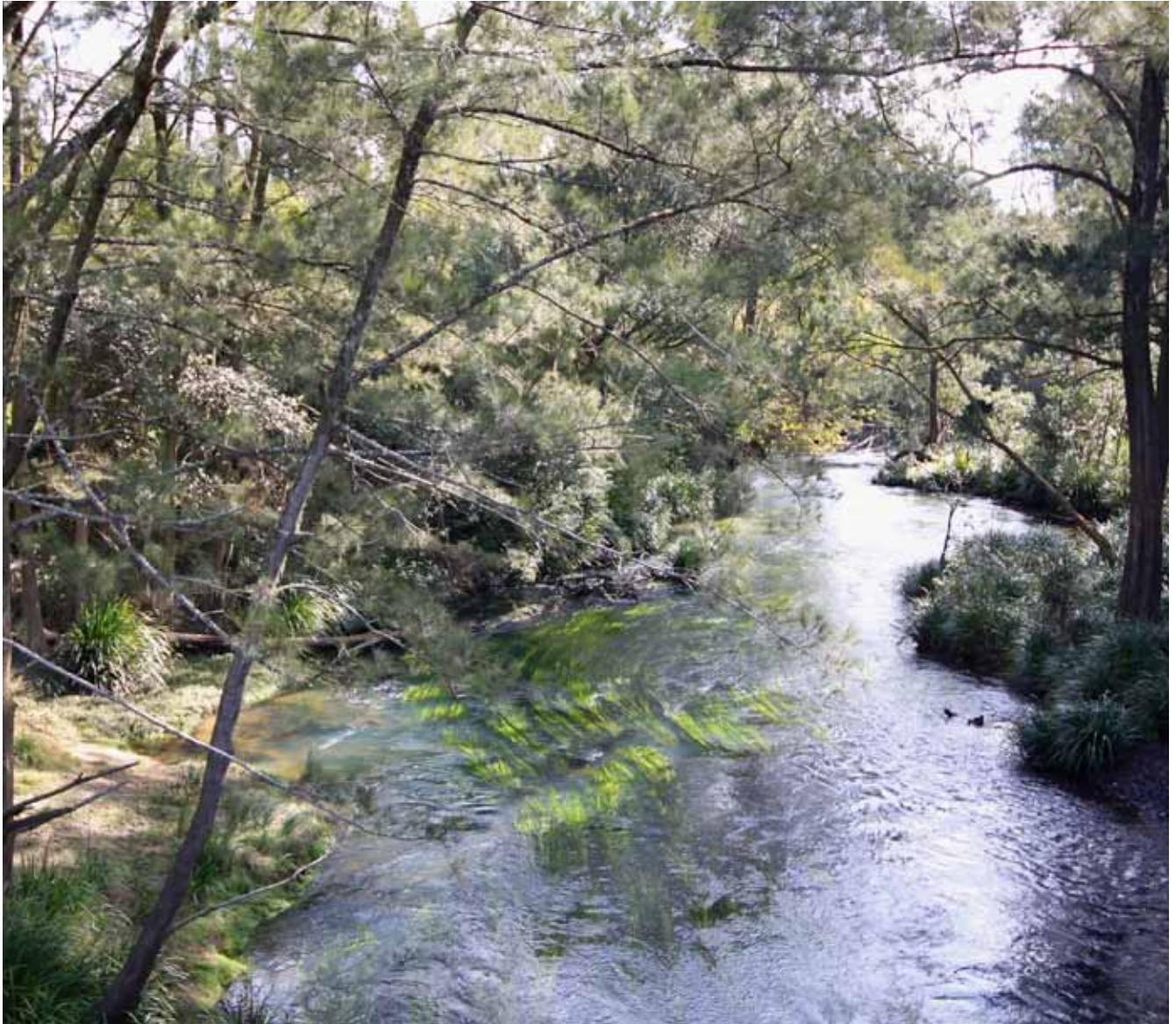
RIVER OAK RIPARIAN FOREST OF THE ORARA RIVER VALLEY

CH_FrW07

SCIENTIFIC NAME River Oak (*Casuarina cunninghamiana*) Riparian Forest of the Orara Valley

PLANT COMMUNITY TYPE Riparian rainforest with River Oak emergents on lowland creek flats, NSW North Coast Bioregion (NSW700-533)

STATEWIDE CLASS Forested Wetlands – Eastern Riverine Forests (Keith 2006)



Description

A tall open forest with River Oak (*Casuarina cunninghamiana* subsp. *cunninghamiana*) dominates sometimes forming an emergent layer with Red Cedar (*Toona ciliata*) and Willow Bottlebrush (*Callistemon salignus*). The middle layer of small trees often consists of riparian rainforest species such as Rough-leaved Elm (*Aphananthe philippinensis*), Bangalow Palm (*Archontophoenix cunninghamiana*) and Sandpaper Fig (*Ficus coronata*). Camphor Laurel (*Cinnamomum camphora*) may be abundant in the canopy at many locations. This community includes extensive areas of weed and invasion and exotics such as Small-leaved Privet (*Ligustrum sinense*) and Large-leaved Privet (*Ligustrum lucidum*), Lantana (*Lantana camara*) in the mid layer. The ground layer consists commonly of Mat-rushes (*Lomandra* spp.), Rose-leaf Bramble (*Rubus rosifolius*), Native Violet (*Viola banksii*) and Basket Grass (*Oplismenus aemulus*). The community is located along the Orara and Urumbilum Rivers, Nana and Coldwater Creeks north from Coramba to the north of Nana Glen.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	7-35	30	<i>Casuarina cunninghamiana</i> , subsp. <i>cunninghamiana</i> .
Middle	4-10	10	<i>Toona ciliata</i> , <i>Archontophoenix cunninghamiana</i> .
Ground	0 - 1	1.5	<i>Carex appressa</i> , <i>Rubus rosifolius</i> , <i>Diplazium australe</i> , <i>Lomandra hystrix</i> , <i>Oplismenus aemulus</i> .

* Data collated from 1 of 1 full floristic sites

Structural and floristic variations

The structure and floristics of this community varies considerably from stands with a more developed rainforest understorey and those with a more disturbed. The abundance of weeds is very high in many examples of this community and it had undergone considerable past disturbance.

Exotics *Araujia sericiflora*, *Cinnamomum camphora*, *Ligustrum lucidum*, *Ligustrum sinense*, *Phytolacca octandra*, *Senna septemtrionalis*, *Solanum mauritianum*, *Solanum nigrum*

Species richness

Number of plots	1
Total species	33
Average number of species	

Conservation status

This community is reserved as a small area of less than one hectare in Coramba Nature Reserve.

Tenure	Area (ha)
Crown Land	2
Freehold	187
TOTAL	189

Endangered Ecological Community: Contains elements of *Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion* EEC.

Relationship to other communities

Most closely related to CH_WSF01 (Coast and Hinterland Riparian Flooded Gum Bangalow Wet Forest)

Equivalentents

Biometric: NR223 - River Oak riparian woodland of the North Coast

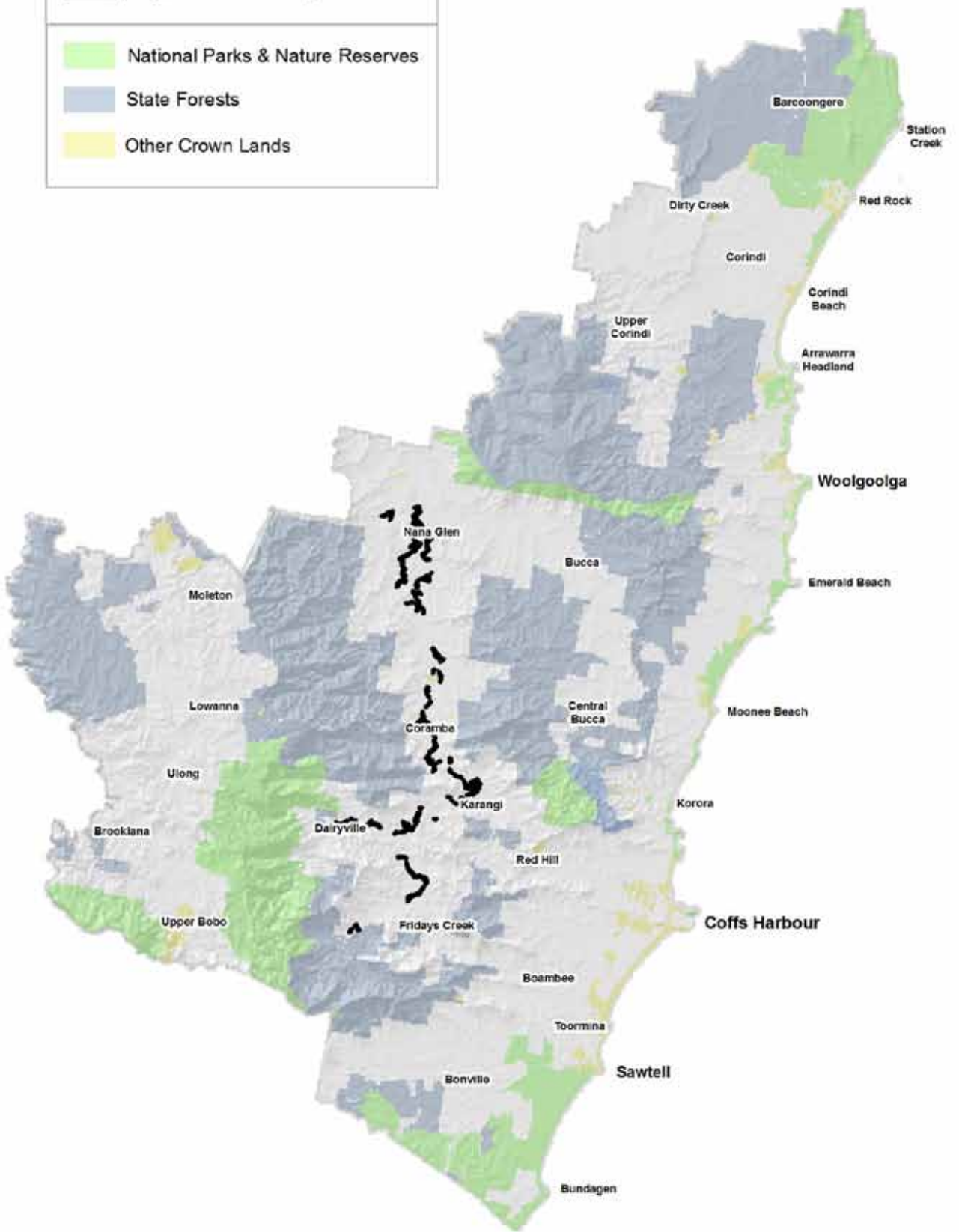
Other: RV2 Orara/Bucca Riparian vegetation (Fisher et al. 1996).

Locations

Orara River; Coramba; Nana Glen, Nana Creek; Coldwater Creek.



	Vegetation community
	National Parks & Nature Reserves
	State Forests
	Other Crown Lands



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Adiantum aethiopicum</i>	1	100%	1	2%	uninformative
<i>Alocasia brisbanensis</i>	1	100%	1	2%	uninformative
<i>Aneilema acuminatum</i>	1	100%	2	1%	uninformative
<i>Aphananthe philippinensis</i>	1	100%	1	1%	uninformative
<i>Archontophoenix cunninghamiana</i>	1	100%	1	32%	uninformative
<i>Callistemon salignus</i>	1	100%	3	12%	uninformative
<i>Carex appressa</i>	2	100%	2	1%	positive
<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	3	100%	0	0%	positive
<i>Christella dentata</i>	1	100%	1	1%	uninformative
<i>Dichondra repens</i>	1	100%	1	5%	uninformative
<i>Diplazium australe</i>	2	100%	3	0%	positive
<i>Doodia aspera</i>	1	100%	2	15%	uninformative
<i>Duboisia myoporoides</i>	1	100%	1	5%	uninformative
<i>Ehretia acuminata</i> var. <i>acuminata</i>	1	100%	1	1%	uninformative
<i>Elaeocarpus obovatus</i>	1	100%	1	3%	uninformative
<i>Elattostachys nervosa</i>	1	100%	1	3%	uninformative
<i>Ficus coronata</i>	1	100%	1	13%	uninformative
<i>Geranium solanderi</i>	1	100%	1	1%	uninformative
<i>Grevillea robusta</i>	1	100%	1	0%	uninformative
<i>Hymenosporum flavum</i>	1	100%	1	2%	uninformative
<i>Lomandra hystrix</i>	2	100%	1	2%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Maclura cochinchinensis</i>	1	100%	1	7%	uninformative
<i>Morinda jasminoides</i>	1	100%	1	36%	uninformative
<i>Neolitsea dealbata</i>	1	100%	1	16%	uninformative
<i>Oplismenus aemulus</i>	2	100%	2	12%	positive
<i>Parsonsia straminea</i>	1	100%	1	27%	uninformative
<i>Platynerium bifurcatum</i>	1	100%	1	16%	uninformative
<i>Pseuderanthemum variabile</i>	1	100%	2	27%	uninformative
<i>Rubus rosifolius</i>	3	100%	2	4%	positive
<i>Tabernaemontana pandacaqui</i>	1	100%	1	27%	uninformative
<i>Toona ciliata</i>	1	100%	2	1%	uninformative
<i>Trema tomentosa</i> var. <i>aspera</i>	1	100%	1	3%	uninformative
<i>Viola banksii</i>	2	100%	1	16%	positive

PLATEAU TEA-TREE – WATER GUM RIPARIAN SHRUBLAND

CH_FrW08

SCIENTIFIC NAME Plateau Tantoon Tea-tree (*Leptospermum polygalifolium*) Water Gum (*Tristaniopsis laurina*) riparian shrubland

STATEWIDE CLASS Forested Wetlands – Eastern Riverine Forests (Keith 2006)

PLANT COMMUNITY TYPE Tantoon – White Sally Wattle – Pouched Coral Fern riparian shrubland of the eastern tablelands and escarpment, New England Tablelands Bioregion and NSW North Coast Bioregion (NSW700-274)



Intact community along Little Nymboida River with Water Gum dominant.



Tea-tree and privet dominant areas occurs through the creeks and rivers of cleared parts of the Eastern Dorrigo Plateau.

Description

This community grows along riparian corridors on the alluvial valley floors of the Little Nymboida River Catchments in the Eastern Dorrigo plateau. A riparian shrubland in which Tantoon Tea-tree (*Leptospermum polygalifolium*) dominates with Water Gum (*Tristaniopsis laurina*) and River Bottlebrush (*Callistemon sieberi*) in less disturbed locations. Blackwood (*Acacia melanoxylon*) is present in the canopy in some sites and Coachwood (*Ceratopetalum apetalum*) may also occur. The understorey is often sparse and may include sedges and fringing ferns such as Fishbone Water Fern (*Blechnum nudum*), Soft Bracken (*Calochlaena dubia*) Coral Fern (*Gleichenia dicarpa*) and Mat-rushes (*Lomandra hystrix*, *L. longifolia*). This community are commonly invaded by weed species such as Privet (*Ligustrum sinense*) and Japanese Honeysuckle (*Lonicera japonica*).

Floristic summary

Layer	Height (m)	Cover	Dominant Species
Shrubs	2-4	80	<i>Leptospermum polygalifolium</i> , <i>Tristaniopsis laurina</i> , <i>Callistemon sieberi</i> , <i>Acacia melanoxylon</i> .
Ground covers	0	0.5	<i>Blechnum nudum</i> , <i>Calochlaena dubia</i> , <i>Lomandra hystrix</i> , <i>Lomandra longifolia</i> , <i>Juncus usitatus</i> .

* Data collected from 1 site. Profile is developed from information collected from field investigation and API data points

Structural and floristic variations

Varies from a low dense shrubland cover of Tautoon Tea-tree (*Leptospermum polygalifolium*), Blackwood (*Acacia melanoxylon*) and Privet (*Ligustrum sinense*) along creeklines in previously cleared areas of the Eastern Dorrigo Plateau to a more intact Water Gum (*Tristaniopsis laurina*) Bottle Brush (*Callistemon sieberi*) Tautoon Tea-tree (*L. polygalifolium*) Shrubland. There are usually warm temperate rainforest species in less disturbed sites.

Species richness

Number of plots	1
Total species	9

Conservation status

This community is reserved in Bindarri State Conservation Area (7ha)

Tenure	Area (ha)
Crown Land	10
Freehold	343
NSW State Forest	21
State Conservation Area	12
TOTAL	387

Relationship to other communities

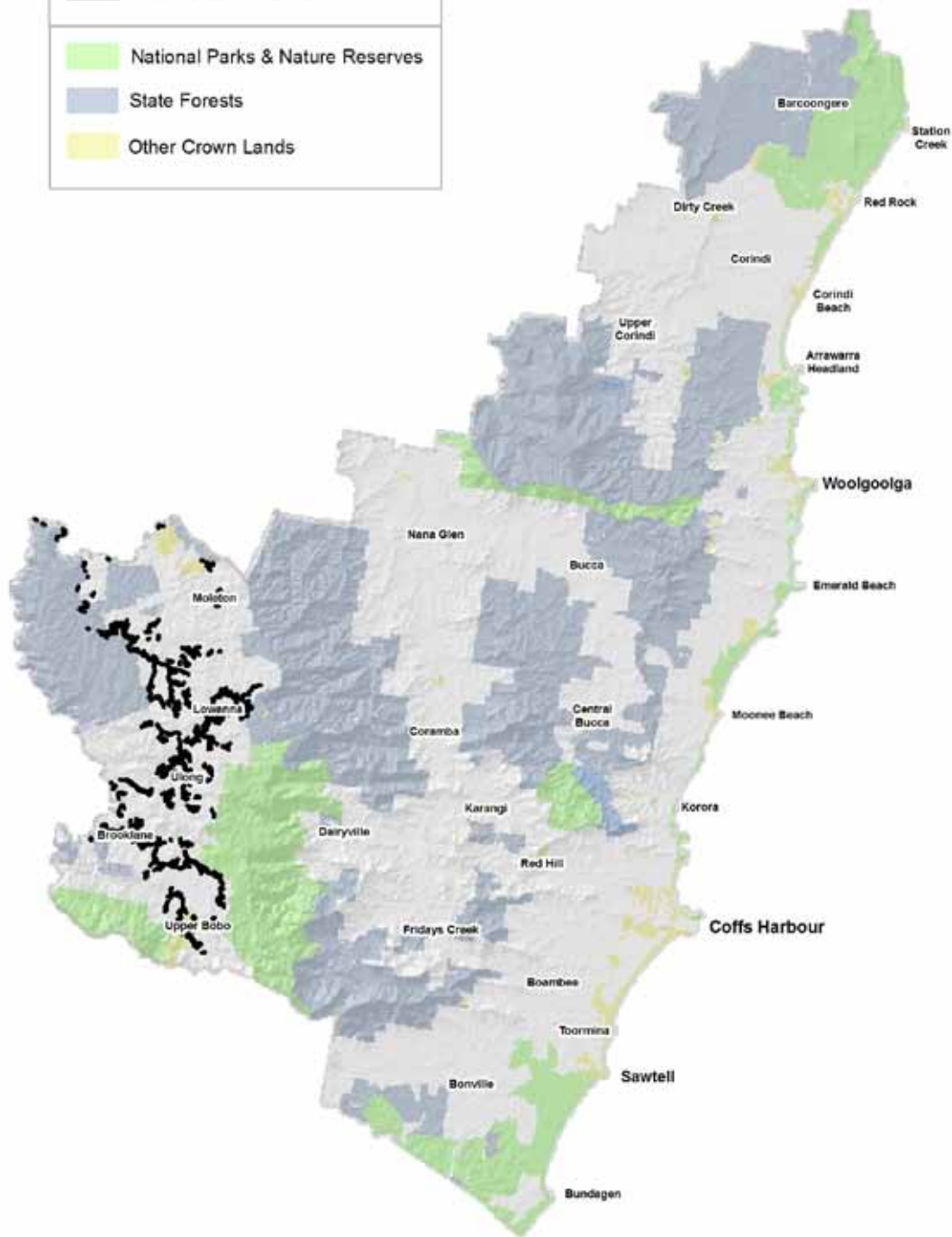
This community is related to and may be derived from the clearing of CH_RF02 (Plateau Beech - Coachwood Cool Temperate Rainforest) and CH_RF03 (Plateau and Escarpment Coachwood - Sassafras Warm Temperate Rainforest).

Equivalents

Biometric:	(NR269) Tea-tree shrubland of drainage areas of the slopes and tablelands
Other:	RV3 Eastern Dorrigo Riparian Vegetation (Fisher et al.1996), Forest Ecosystem 199 (NPWS, 1999).

Locations

Bobo River, Brooklana, Upper Bobo Road; Ulong Creek, Langley's Road. Along Bobo River between Upper Bobo and Brooklana; Little Nymboida River Ulong; Lowanna; Wild Cattle Creek State Forest; Mole Creek, Kangaroo Creek State Forest; Mole Creek; Brimbin Creek, Lowanna; Camp Creek.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia melanoxylon</i>	1	100%	2	18%	uninformative
<i>Calochlaena dubia</i>	2	100%	2	27%	positive
<i>Gleichenia dicarpa</i>	1	100%	3	0%	uninformative
<i>Juncus usitatus</i>	2	100%	1	0%	positive
<i>Leptospermum polygalifolium</i>	4	100%	1	12%	positive
<i>Lomandra longifolia</i>	2	100%	2	51%	constant
<i>Lomatia fraseri</i>	1	100%	0	0%	positive
<i>Pteridium esculentum</i>	1	100%	2	32%	uninformative
<i>Tristaniopsis laurina</i>	2	100%	2	3%	positive

COASTAL WALLUM SWAMP MAHOGANY - SIEBER'S PAPERBARK FOREST

SCIENTIFIC NAME Swamp Mahogany (*Eucalyptus robusta*) – Sieber's Paperbark (*Melaleuca sieberi*) Forested Wetland on sandy soils

STATEWIDE CLASS Freshwater Wetlands – Coastal Heath Swamps (Keith 2006)

PLANT COMMUNITY TYPE Swamp Mahogany – *Melaleuca sieberi* shrub/sedge swamp forest on low lying sandy areas, South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-334)



Description

This community has an emergent to open cover of tall Swamp Mahogany (*Eucalyptus robusta*). Other canopy species that are occasionally abundant include Scribbly Gum (*Eucalyptus signata*), Red Mahogany (*Eucalyptus resinifera* subsp. *hemilampra*) Broad-leaved Paperbark (*Melaleuca quinquenervia*) and Swamp Box (*Lophostemon suaveolens*). There is a mid to lower stratum of heathland and/or shrubland with open to dense cover of Sieber's Paperbark (*Melaleuca sieberi*), Snow-in-Summer (*Melaleuca linariifolia*) and Weeping Baeckea (*Baeckea frutescens*). A second lower shrub layer contains Fern-leaved Banksia (*Banksia oblongifolia*), Saw Sedge (*Gahnia sieberiana*), Hairpin Banksia (*Banksia spinulosa* var. *collina*) and Wallum Bottlebrush (*Callistemon pachyphyllus*). In the ground layer, Horned Sedge (*Ptilothrix deusta*), Hairy Guinea Flower (*Hibbertia vestita*), Jointed Twig Rush (*Baumea articulata*), Wiry Panic (*Entolasia stricta*) Kangaroo Grass (*Themeda australis*) and Grass Tree (*Xanthorrhoea fulva*) are the most dominant species.

This community has a scattered distribution on sandy Pleistocene backbarrier sands in areas where there appears to be some clay input into the soil from nearby metasedimentary hills. It is most common in the northern section of Bongil Bongil National Park and also in the vicinity of Arrawarra township and Arrawarra Headland.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Emergent	6-15	10	<i>Eucalyptus robusta</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> .
Tallest	2-22	10-30	<i>Eucalyptus robusta</i> , <i>Eucalyptus signata</i> , <i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i> , <i>Melaleuca quinquenervia</i> , <i>Lophostemon suaveolens</i> , <i>Melaleuca linariifolia</i> .
Middle	1-2	10-35	<i>Banksia oblongifolia</i> , <i>Gahnia sieberiana</i> , <i>Callistemon pachyphyllus</i> , <i>Banksia spinulosa</i> var. <i>collina</i> , <i>Baeckea frutescens</i> .
Lower	0-2	30-80	<i>Entolasia stricta</i> , <i>Hibbertia vestita</i> , <i>Xanthorrhoea fulva</i> , <i>Ptilothrix deusta</i> , <i>Themeda australis</i> , <i>Baumea articulata</i>

* Data collated from 4 of 4 full floristic sites

Structural and floristic variations

There is considerable north-south floristic variation in this community. One site within is dominated by Scribbly Gum (*Eucalyptus signata*) and has a clay heath understorey of Horned Sedge (*Ptilothrix deusta*) suggesting a strong clay influence in the soil.

Species richness

Number of plots	4
Total species	75
Average number of species	31 ±4.3

Conservation status

This community is reserved in Bongil Bongil National Park (13ha), Coffs Coast Regional Park (3ha) Garby Nature Reserve (11ha) Moonee Beach Nature Reserve (3ha) Yuraygir National Park (42ha)

Tenure	Area (ha)
Crown Land	6
Freehold	43
National Park	57
Nature Reserve	14
Regional Park	4
TOTAL	124

Relationship to other communities

Related to CH_FW05 (Coastal Wallum Paperbark Wet Shrubland). CH_FrW09 on sandy soils is distinguished by having an open forest or woodland structure with Swamp Mahogany (*Eucalyptus robusta*) or Red Mahogany (*E. resinifera* subsp. *hemilampra*)

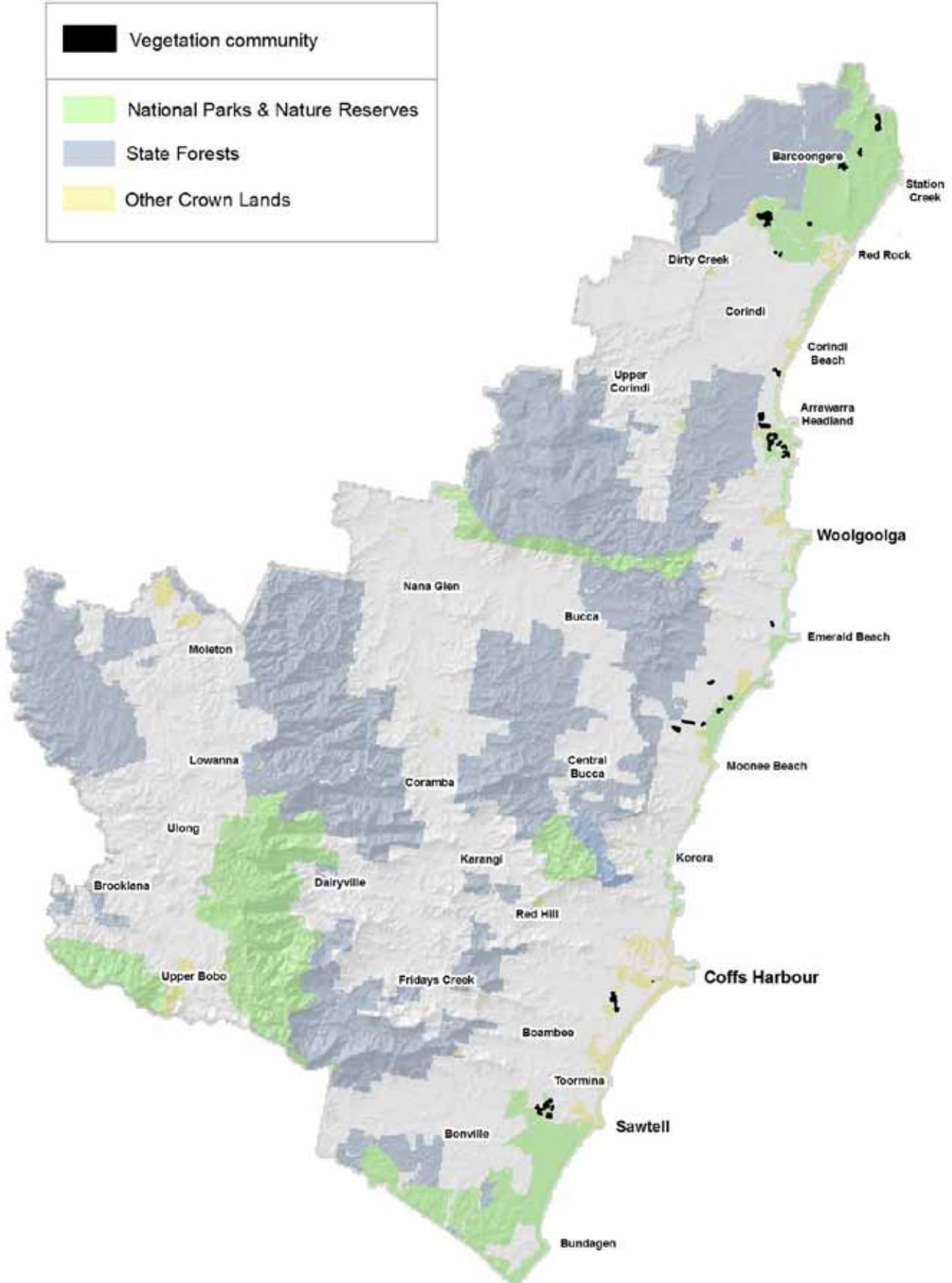
Equivalents

Biometric: (NR254) Swamp Mahogany swamp forest of the coastal lowlands of the North Coast.

Other: SG6003- *Leptospermum juniperinum* mid-high to tall heathland and closed heathland and 6004 - *Xanthorrhoea fulva* mid-high closed heathland (Griffith and Wilson, 2007), Community 33 - Swamp Mahogany – *Melaleuca sieberi* (Cameron et al. 2011).

Locations

North Bonville; Aviation Drive, Coffs Harbour Airport; Cunningham's Creek; Moonee Creek; Cabbage Tree Creek and Yuraygir National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	1	25%	1	6%	uninformative
<i>Allocasuarina littoralis</i>	2	50%	3	9%	positive
<i>Angophora costata</i>	2	25%	2	14%	uninformative
<i>Baeckea frutescens</i>	2	50%	2	3%	positive
<i>Banksia oblongifolia</i>	3	100%	3	8%	positive
<i>Banksia spinulosa</i> var. <i>collina</i>	2	100%	2	4%	positive
<i>Baumea articulata</i>	3	50%	1	2%	positive
<i>Baumea juncea</i>	2	25%	3	4%	uninformative
<i>Billardiera scandens</i>	1	25%	1	10%	uninformative
<i>Bossiaea obcordata</i>	2	25%	0	0%	positive
<i>Caesia parviflora</i>	1	25%	1	1%	uninformative
<i>Callistemon pachyphyllus</i>	2	75%	2	3%	positive
<i>Cassytha filiformis</i>	2	50%	1	3%	positive
<i>Cassytha glabella</i> f. <i>glabella</i>	1	25%	1	5%	uninformative
<i>Chorizandra cymbaria</i>	1	25%	3	1%	uninformative
<i>Corymbia intermedia</i>	1	25%	2	20%	uninformative
<i>Cryptostylis subulata</i>	1	25%	0	0%	positive
<i>Dampiera stricta</i>	1	50%	2	7%	uninformative
<i>Dampiera sylvestris</i>	2	25%	1	1%	uninformative
<i>Daviesia umbellulata</i>	2	25%	1	2%	uninformative
<i>Dianella caerulea</i>	1	25%	1	51%	uninformative
<i>Drosera spatulata</i>	1	25%	1	1%	uninformative
<i>Empodisma minus</i>	2	25%	3	0%	uninformative
<i>Entolasia stricta</i>	2	75%	2	24%	positive
<i>Eucalyptus eugenioides</i>	1	25%	1	1%	uninformative
<i>Eucalyptus globoidea</i>	2	25%	0	0%	positive
<i>Eucalyptus resinifera</i> subsp. <i>hemilampra</i>	2	25%	3	10%	uninformative
<i>Eucalyptus robusta</i>	3	75%	2	6%	positive
<i>Eucalyptus signata</i>	4	25%	3	2%	uninformative
<i>Eucalyptus tindaliae</i>	2	25%	3	0%	uninformative
<i>Gahnia sieberiana</i>	3	75%	2	6%	positive
<i>Gleichenia dicarpa</i>	1	25%	3	0%	uninformative
<i>Gonocarpus micranthus</i>	3	25%	2	2%	uninformative
<i>Gonocarpus teucroides</i>	2	25%	1	1%	uninformative
<i>Goodenia heterophylla</i>	1	25%	1	0%	uninformative
<i>Goodenia rotundifolia</i>	2	25%	1	4%	uninformative
<i>Hakea laevipes</i> subsp. <i>laevipes</i>	1	25%	1	1%	uninformative
<i>Hibbertia aspera</i>	1	50%	1	10%	uninformative
<i>Hibbertia vestita</i>	3	100%	1	11%	positive
<i>Ischaemum australe</i>	1	25%	2	1%	uninformative
<i>Jacksonia scoparia</i>	1	25%	1	2%	uninformative
<i>Leptospermum juniperinum</i>	1	50%	2	2%	uninformative
<i>Leptospermum polygalifolium</i>	1	50%	1	12%	uninformative
<i>Lepyrodia</i> sp. A	2	50%	1	0%	positive
<i>Lindsaea linearis</i>	1	25%	1	3%	uninformative
<i>Lomandra filiformis</i>	2	25%	1	12%	uninformative
<i>Lomandra longifolia</i>	2	100%	2	51%	constant

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Lomandra multiflora</i> subsp. <i>multiflora</i>	1	25%	1	5%	uninformative
<i>Lophostemon suaveolens</i>	2	50%	2	8%	positive
<i>Melaleuca alternifolia</i>	2	25%	2	1%	uninformative
<i>Melaleuca linariifolia</i>	1	75%	2	0%	uninformative
<i>Melaleuca quinquenervia</i>	1	75%	2	12%	uninformative
<i>Melaleuca sieberi</i>	4	100%	2	4%	positive
<i>Melaleuca thymifolia</i>	1	25%	1	1%	uninformative
<i>Melastoma affine</i>	1	25%	1	0%	uninformative
<i>Notelaea venosa</i>	1	25%	1	1%	uninformative
<i>Parsonsia straminea</i>	1	50%	1	27%	uninformative
<i>Patersonia fragilis</i>	2	25%	1	0%	uninformative
<i>Pimelea linifolia</i>	1	25%	1	9%	uninformative
<i>Polymeria calycina</i>	2	25%	1	4%	uninformative
<i>Pratia purpurascens</i>	1	25%	1	23%	uninformative
<i>Pseuderanthemum variabile</i>	2	25%	2	27%	uninformative
<i>Pteridium esculentum</i>	1	25%	2	32%	uninformative
<i>Ptilothrix deusta</i>	5	50%	4	2%	positive
<i>Pultenaea retusa</i>	1	100%	2	5%	uninformative
<i>Pultenaea villosa</i>	1	25%	2	6%	uninformative
<i>Schoenus apogon</i>	1	25%	2	1%	uninformative
<i>Selaginella uliginosa</i>	1	25%	1	3%	uninformative
<i>Smilax glycyphylla</i>	1	25%	1	29%	uninformative
<i>Spartothamnella juncea</i>	1	25%	0	0%	positive
<i>Sporadanthus interruptus</i>	3	25%	3	3%	uninformative
<i>Syncarpia glomulifera</i>	2	25%	3	39%	uninformative
<i>Themeda australis</i>	2	100%	3	23%	positive
<i>Tricoryne elatior</i>	2	25%	1	2%	uninformative
<i>Xanthorrhoea fulva</i>	3	100%	3	5%	positive

SWAMP OAK FORESTED WETLAND

CH_FrW10

SCIENTIFIC NAME Swamp Oak (*Casuarina glauca*) – Bare Twig Rush (*Baumea juncea*) – Sea Rush (*Juncus kraussii* subsp. *australiensis*) Saline Forested Wetland

PLANT COMMUNITY TYPE Swamp Oak – Sea Rush swamp forest on saline coastal swamps and flats of the South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW700-681)

Statewide Class Forested Wetlands – Coastal Floodplain Wetlands (Keith 2006)



Description

A saline swamp forested wetland that occurs in tidally influenced creeks and rivers, north from the upper tidal reaches of Pine and Boambee Creek north to Mullet Creek, Saltwater Creek and Corindi River tidal estuaries. It is often associated with deltaic estuarine Toormina and Angourie soil landscapes. Best developed at Mullet Creek and Saltwater Creek.

Swamp Oak (*Casuarina glauca*) is the dominant canopy species in this community. Broad-leaved Paperbark (*Melaleuca quinquenervia*) is rarely present. The climbers Hairy Silkpod (*Parsonsia straminea*) and sometimes *Cynanchum carnosum* are encountered amongst trees. There is a dense saltmarsh ground layer of Twig Rush (*Baumea juncea*), Mat Rush (*Hemarthria uncinata*), Creeping Brookweed (*Samolus repens*) and Sea Rush (*Juncus kraussii* subsp. *australiensis*).

Floristic summary

Layer	Height	Cover	Dominant Species
Tallest	2-10	25-55	<i>Casuarina glauca</i> .
Middle	1-3	5	<i>Parsonia straminea</i> , <i>Melaleuca styphelioides</i> , <i>Melaleuca quinquenervia</i> .
Lower layer 1	0-1.5	35-85	<i>Baumea juncea</i> , <i>Phragmites australis</i> , <i>Juncus kraussii</i> subsp. <i>australiensis</i> , <i>Hemarthria uncinata</i> , <i>Samolus repens</i> .
Lower layer 2	0-0.5	15-50	<i>Hemarthria uncinata</i> .

* Data collated from 4 of 4 full floristic sites

Exotics *Baccharis halimifolia*, *Chrysanthemoides monilifera* subsp. *rotundata*, *Cinnamomum camphora*, *Paspalum mandiocanum*, *Senna septemtrionalis*, *Solanum nigrum*, *Taraxacum officinale*

Species richness

Number of plots	4
Total native species	29
Average number of species	13 ±2.4

Conservation status

This community is reserved in Bongil Bongil National Park (14ha), Coffs Coast Regional Park (1ha), Yuraygir National Park (106ha)

Tenure	Area (ha)
Crown Land	16
Freehold	59
National Park	125
Regional Park	2
TOTAL	202

Endangered Ecological Community: *Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC.

Relationship to other communities

A part of the saltmarsh/mangrove/forest zonation in estuaries. CH_FrW10 occupies the most saline area of estuaries often along creek banks, adjoining Mangroves, or in a mosaic with saltmarsh communities. Often adjoins and is related to CH_SW06 (Sea Rush Saltmarsh), CH_SW07 (Estuarine Samphire - Saltwater Couch Saltmarsh), CH_SW01 (Estuarine Mangrove Forest) and CH_FrW10 (Swamp Oak Forested Wetland) and CH_SW02 (Estuarine Twig Rush Saltmarsh). Can be found as a transition from CH_FrW06 (Coastal Wallum Swamp Mahogany – Paperbark - Satinwood Forest) to CH_SW06 (Sea Rush Saltmarsh) as conditions become more saline. Often merges with CH_FrW01 (Coastal Paperbark - Swamp Oak Floodplain Forest)

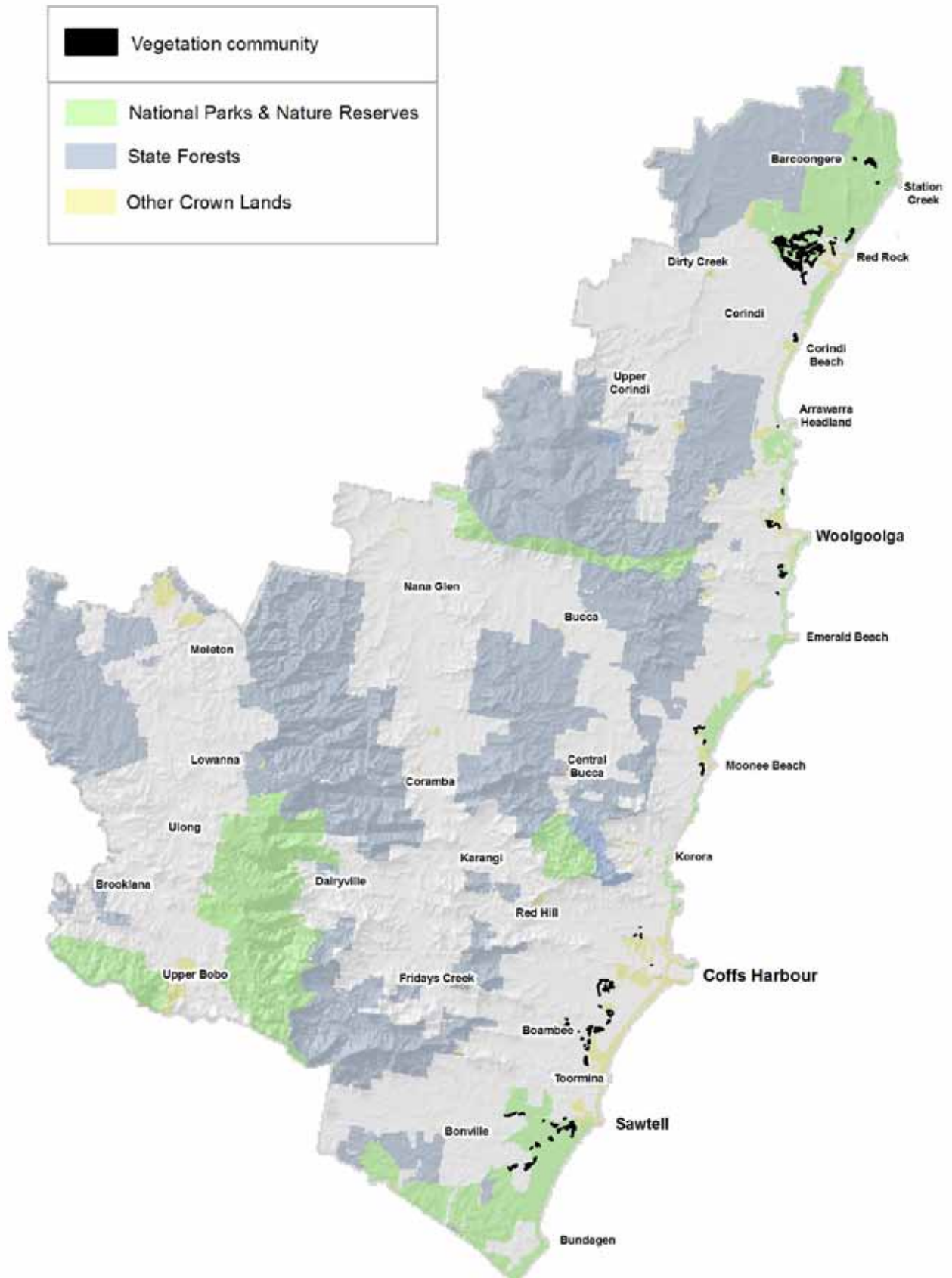
Equivalents

Biometric: (NR255) Swamp Oak swamp forest of the coastal lowlands of the North Coast

Other: N26a Swamp Oak (Fisher et al. 1996), Community - 14 Swamp Oak Swamp Sclerophyll (Cameron et al. 2011)

Locations

Pine Creek; Newports Creek; Sugar Mill Creek; Moonee Creek; Woolgoolga Lake; Darkum Creek; Corindi Beach; Corindi River; Mullet Creek; and Saltwater Creek .



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia maidenii</i>	1	25%	1	14%	uninformative
<i>Alternanthera denticulata</i>	1	25%	1	0%	uninformative
<i>Apium prostratum</i>	1	25%	2	1%	uninformative
<i>Baumea juncea</i>	4	50%	3	4%	positive
<i>Callistemon salignus</i>	2	50%	3	12%	positive
<i>Casuarina glauca</i>	4	100%	2	6%	positive
<i>Crinum pedunculatum</i>	1	25%	1	4%	uninformative
<i>Cupaniopsis anacardioides</i>	1	50%	1	11%	uninformative
<i>Gahnia clarkei</i>	1	50%	2	14%	uninformative
<i>Guioa semiglauca</i>	1	25%	1	28%	uninformative
<i>Hemarthria uncinata</i>	4	75%	3	0%	positive
<i>Juncus kraussii</i> subsp. <i>australiensis</i>	2	100%	2	3%	positive
<i>Leptinella longipes</i>	3	25%	2	0%	uninformative
<i>Lobelia anceps</i>	1	50%	1	5%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Marsdenia rostrata</i>	1	50%	1	8%	uninformative
<i>Melaleuca quinquenervia</i>	2	50%	2	12%	positive
<i>Melaleuca styphelioides</i>	2	50%	2	1%	positive
<i>Morinda jasminoides</i>	1	25%	1	37%	uninformative
<i>Ottochloa gracillima</i>	1	25%	2	10%	uninformative
<i>Parsonsia straminea</i>	1	100%	1	27%	uninformative
<i>Phragmites australis</i>	3	25%	2	1%	uninformative
<i>Platyцерium bifurcatum</i>	1	25%	1	16%	uninformative
<i>Samolus repens</i>	3	50%	1	1%	positive
<i>Schoenoplectus subulatus</i>	1	50%	0	0%	positive
<i>Sporobolus virginicus</i>	1	25%	5	2%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	25%	1	22%	uninformative
<i>Triglochin striata</i>	2	25%	3	1%	uninformative
<i>Viola banksii</i>	1	75%	2	15%	uninformative

ESTUARINE PAPERBARK – TWIG RUSH FOREST

CH_FrW11

SCIENTIFIC NAME Broad-leaved Paperbark (*Melaleuca quinquenervia*)
– Bare Twig Rush (*Baumea juncea*) Saline Forested Wetland

STATEWIDE CLASS Forested Wetlands – Coastal Floodplain Wetlands
(Keith 2006)

PLANT COMMUNITY TYPE Broad-leaved Paperbark – Bare Twig
Rush swamp sclerophyll open forest or shrubland of coastal swamps
in the NSW North Coast Bioregion and the South Eastern Queensland
Bioregion (NSW1000-1936)



Description

A low to moderately tall open forest or tall shrubland occupying the upper less saline edge of tidal influence on coastal creeks and rivers. The overstorey is dominated by Broad-leaved Paperbark (*Melaleuca quinquenervia*) either as a tree or a shrub. Occasionally Swamp Oak (*Casuarina glauca*) occurs. Common Silkpod (*Parsonsia straminea*) is a frequent climber. The ground layer is usually very dense, and mostly dominated by Bare Twigrush (*Baumea juncea*), with other species including Zig-zag Bog-rush (*Schoenus brevifolius*), Native Reed (*Phragmites australis*) Jointed Twig Rush (*Baumea articulata*) and Sea Rush (*Juncus kraussii* subsp. *australiensis*).

This community is located on the estuarine plain of coastal creeks and rivers in saline swamps, tidal delta flats and channels. It generally occupies the upper limit of the saline zone. It occurs north from Newport's Creek with disjunct occurrences north to Saltwater Creek in Yuraygir National Park

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Tallest	14-17	30	<i>Melaleuca quinquenervia</i> , <i>Casuarina glauca</i> .
Ground	0-1	80	<i>Baumea juncea</i> , <i>Juncus kraussii</i> subsp. <i>australiensis</i> , <i>Schoenus brevifolius</i> , <i>Phragmites australis</i> , <i>Eriachne glabrata</i> .

* Data collated from 1 of 1 full floristic site

Structural and floristic variations

There is a gradation from forested to saltmarsh variants of this community. The overstorey may range from an open to dense shrubland to open forest, or a mosaic of saltmarsh with saline forest. Broad-leaved Paperbark (*Melaleuca quinquenervia*) often dominates and sometimes co-dominates or associates with Swamp Oak (*Casuarina glauca*). The species composition of ground layer sedges was observed to vary from those dominated by dense stands of Bare Twig Rush (*Baumea juncea*) to those in which Sea Rush (*Juncus kraussii* subsp. *australiensis*) and Common Reed (*Phragmites australis*) are common. In one site in Moonee Beach Nature Reserve the grass *Eriachne glabrata* and *Juncus continuus* were abundant.

Exotics *Aster subulatus*, *Baccharis halimifolia*, *Chrysanthemoides monilifera*, *Cirsium vulgare*, *Sonchus oleraceus*

Species richness

Number of plots	1
Total species	18
Average number of species	

Conservation status

This community is reserved in Bongil Bongil National Park (1ha), Coffs Coast Regional Park (1ha), Moonee Beach Nature Reserve (5ha), and Yuraygir National Park (26ha).

Tenure	Area (ha)
Crown Land	8
Freehold	47
National Park	25
Nature Reserve	4
Regional Park	3
TOTAL	87

Endangered Ecological Community: *Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC.

Relationship to other communities

A forested variant of CH_SW02 (Twig Rush Saltmarsh). CH_SW02 is distinguished by having only a scattered (<20% CCP) emergent canopy of Broad-leaved Paperbark (*Melaleuca quinquenervia*). CH_FrW11 has a more established canopy (>20% CCP and commonly >50%) of Broadleaved Paperbark (*Melaleuca quinquenervia*) and sometimes Swamp Oak (*Casuarina glauca*). Also related to CH_FrW10 (Swamp Oak Forested Wetland), CH_SW06 (Sea Rush Saltmarsh) and CH_SW07 (Estuarine Samphire - Saltwater Couch Saltmarsh). Broadleaved Paperbark (*M. quinquenervia*) is more common toward less saline edge of the saltmarsh zone. May merge into CH_FrW01 (Coastal Paperbark - Swamp Oak Floodplain Forest).

Equivalentents

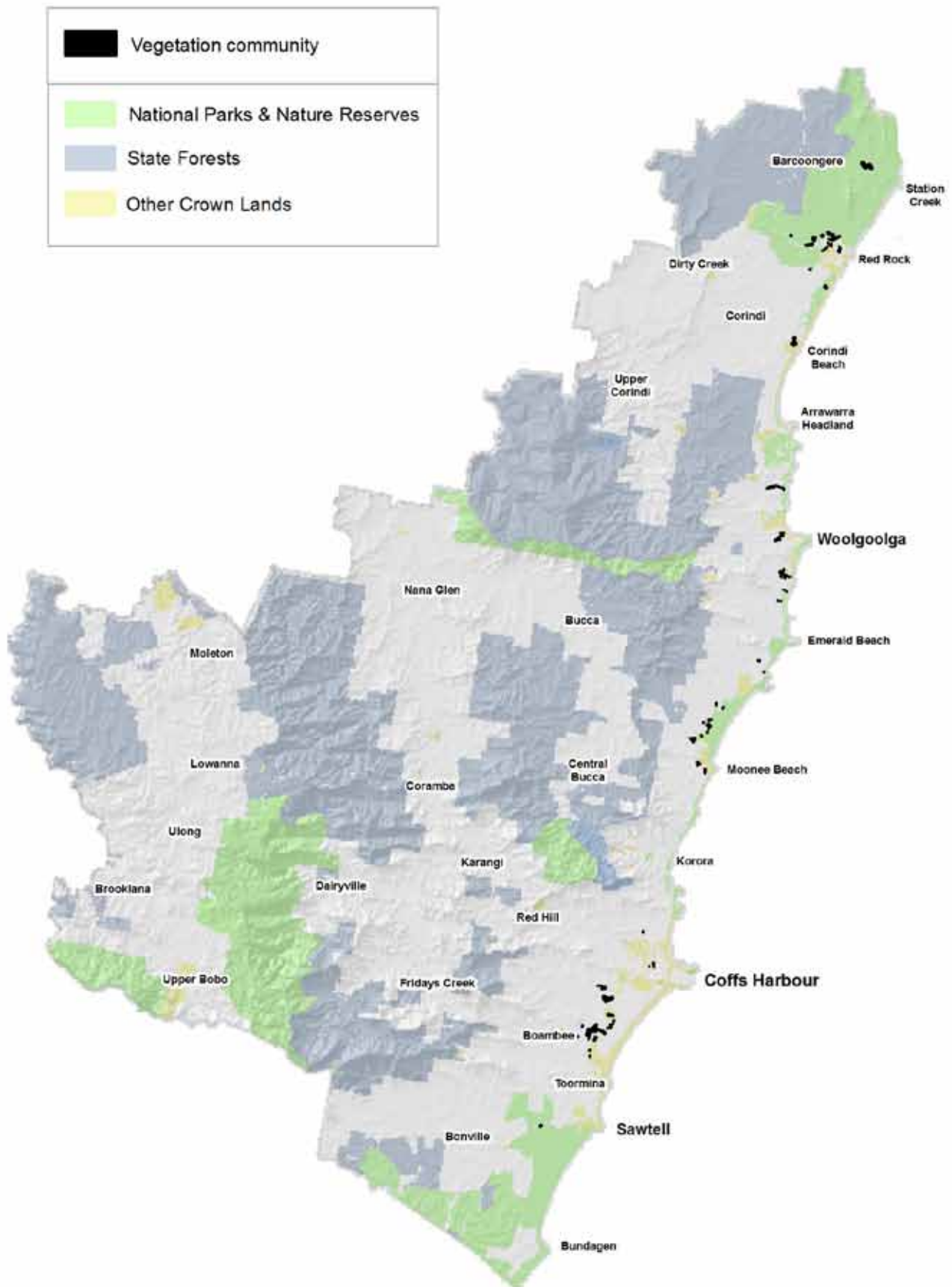
Biometric: (NR255) - Swamp Oak swamp forest of the coastal lowlands of the North Coast

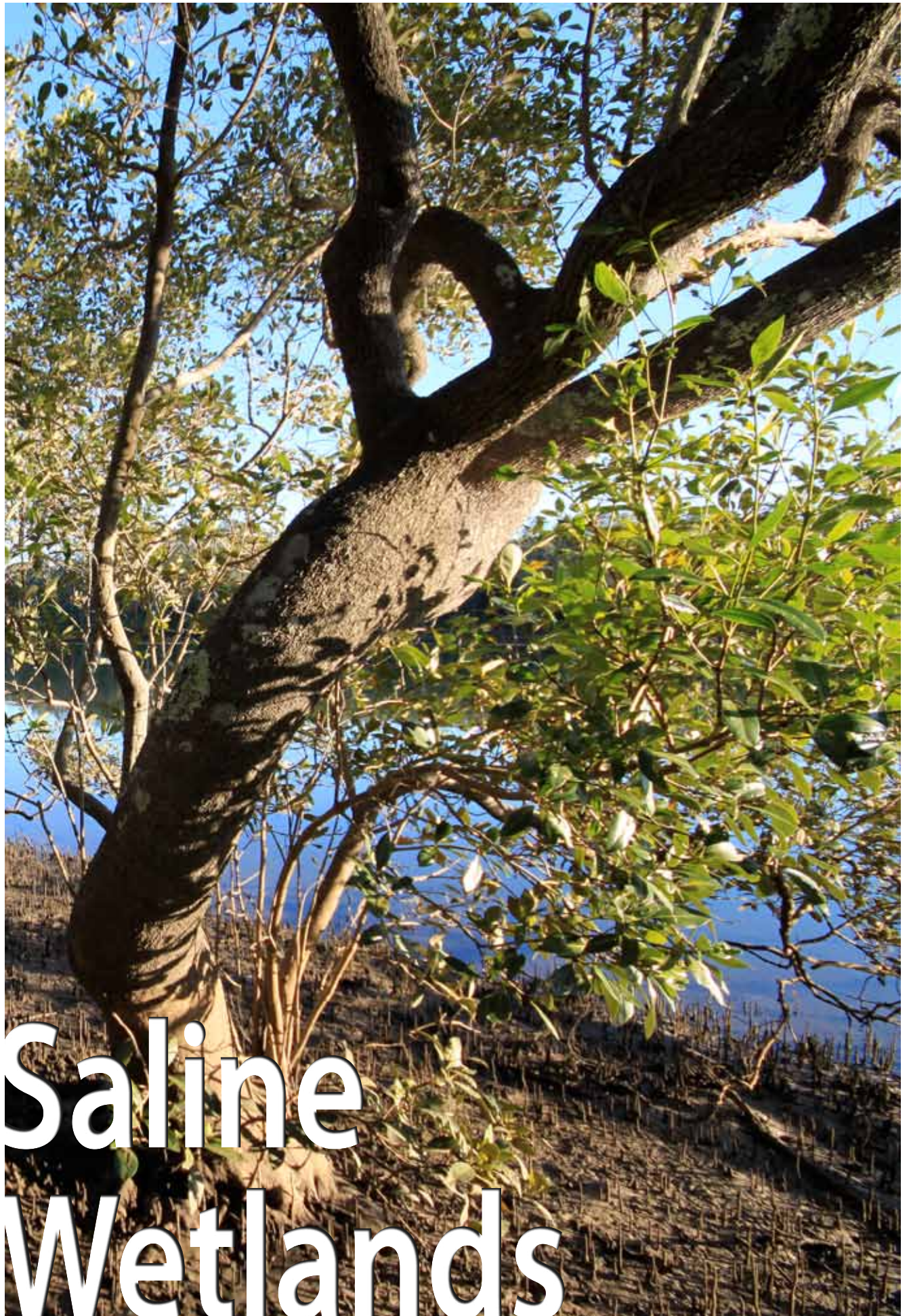
Locations

Boambee Creek; Newport's Creek; Coffs Creek; Sugar Mill Creek; Moonee Creek; Hearn's Lake; Woolgoolga Lake; Darkum Creek; Corindi Beach; Saltwater, Mullet Creek and Corindi River, Yuraygir National Park.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Baumea juncea</i>	4	100%	3	4%	positive
<i>Callistemon salignus</i>	1	100%	3	12%	uninformative
<i>Casuarina glauca</i>	3	100%	2	7%	positive
<i>Cyperus polystachyos</i>	1	100%	2	1%	uninformative
<i>Dianella caerulea</i>	1	100%	1	50%	uninformative
<i>Diplachne fusca</i>	1	100%	1	0%	uninformative
<i>Dodonaea triquetra</i>	1	100%	1	9%	uninformative
<i>Eriachne glabrata</i>	4	100%	3	0%	positive
<i>Gahnia sieberiana</i>	1	100%	2	6%	uninformative
<i>Juncus continuus</i>	3	100%	0	0%	positive
<i>Lobelia anceps</i>	2	100%	1	5%	positive
<i>Lomandra longifolia</i>	1	100%	2	51%	negative
<i>Melaleuca quinquenervia</i>	4	100%	2	12%	positive
<i>Panicum simile</i>	3	100%	1	4%	positive
<i>Philydrum lanuginosum</i>	1	100%	1	1%	uninformative
<i>Phragmites australis</i>	2	100%	2	1%	positive
<i>Schoenus brevifolius</i>	4	100%	2	1%	positive
<i>Viola hederacea</i>	2	100%	2	2%	positive





Saline Wetlands

ESTUARINE MANGROVE FOREST

CH_SW01

SCIENTIFIC NAME River Mangrove (*Aegiceras corniculatum*) - Grey Mangrove (*Avicennia marina* subsp. *australasica*) Riparian Estuarine Forest

STATEWIDE CLASS Saline Wetlands – Mangroves (Keith 2006)

PLANT COMMUNITY TYPE Grey Mangrove – River Mangrove low open or closed forest or shrubland of intertidal flats, NSW North Coast Bioregion and the South Eastern Queensland Bioregion (NSW700-686)



Description

Low to mid-high open to closed forest or shrubland occurring on the margins of coastal estuaries on mudflats that are exposed to tidal inundation. The canopy is usually dominated by Grey Mangrove (*Avicennia marina* subsp. *australasica*) which often forms a simple, monospecific stand, although in brackish waters the River Mangrove (*Aegiceras corniculatum*) is more frequent (recorded at Moonee estuary, Newports Creek and Bonville Creek).

The shrub and ground layers are usually absent, although a few scattered herbs such as Creeping Brookweed (*Samolus repens*) and Samphire (*Sarcocornia quinqueflora*) may be present.

Occurrences of less common mangrove species have been recorded in the area. Spider Mangrove (*Rhizophora stylosa*) reaches its southern limit in the study area at the Corindi River estuary and Milky Mangrove (*Excoecaria agallocha*) has recorded at Arrawarra foreshore and Bongil Bongil National Park.

Occurs on the margins of coastal estuaries on mudflats that are exposed to tidal inundation.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	0-8	50-65	<i>Avicennia marina</i> subsp. <i>australasica</i> , <i>Aegiceras corniculatum</i> .

* Data collated from 2 of 2 full floristic sites

Structural and floristic variations

Lower estuarine and mud-flat areas where tidal inundation is frequent are commonly dominated by Grey Mangrove (*Avicennia marina* subsp. *australasica*) with little or no River Mangrove (*Aegiceras corniculatum*) present. Occurrences of this community in more brackish waters with less tidal influence can contain a higher proportion of River Mangrove and occasionally other salt tolerant species. Examples of this community may vary from being fairly expansive in wider estuaries (e.g. Corindi River) to narrow riparian strips in smaller creeks and rivers with steep banks that transition rapidly from saline to freshwater influence.

Species richness

Number of plots:	3
Total native species:	2
Average number of species:	1.5 ±0.5

Conservation status

This community is reserved in Bongil Bongil National Park (10ha), Moonee Beach Nature Reserve (2ha) and Yuraygir National Park (28ha).

Tenure	Area (ha)
Crown Land	14
Freehold	83
National Park	46
Nature Reserve	3
TOTAL	146

Relationship to other communities

CH_SW01 transitions fairly rapidly with small changes in elevation and tidal flow patterns to several other communities. As the frequency and duration of inundation increase, CH_SW01 may transition to a number of saltmarsh communities including CH_SW07 (Estuarine Samphire - Saltwater Couch Saltmarsh), CH_SW06 (Sea Rush Saltmarsh) or CH_SW02 (Estuarine Twig Rush Saltmarsh). A number of saline influenced forested communities also transition to CH_SW01. These include CH_FrW10 (Swamp Oak Forested Wetland) and CH_FrW11 (Estuarine Paperbark Twig Rush Forest).

Equivalents

Biometric: (NR182) Mangrove - Grey Mangrove low closed forest of the NSW Coastal Bioregions.

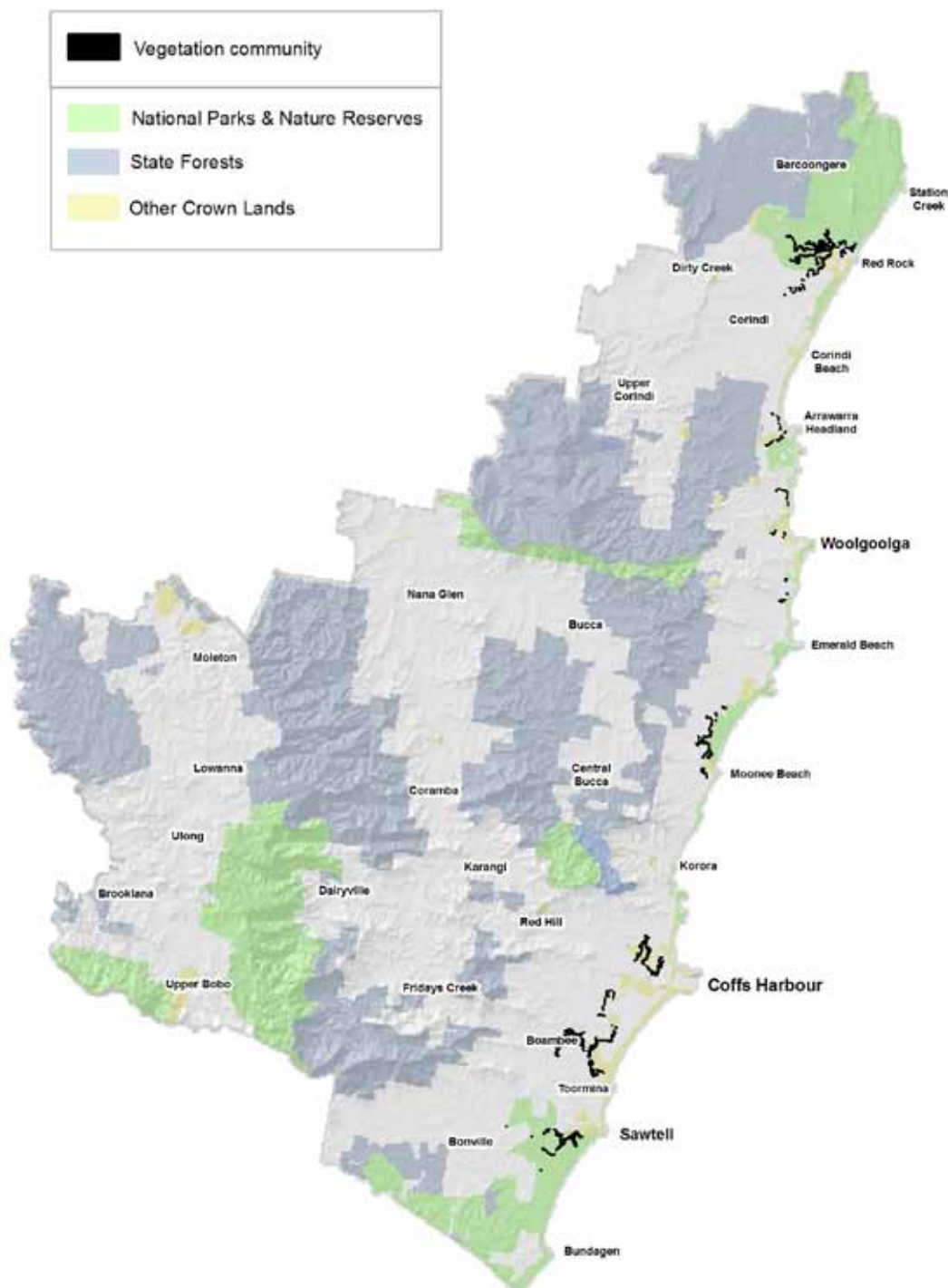
Other: SG2502 – Mangrove/Saltmarsh Complex (Fisher et al. 1996); Community 11- Grey Mangrove Bongil Bongil National Park (Cameron et al. 2010).

Locations

Known examples include Bonville Creek, Pine Creek, Boambee Creek, Newport's Creek, Coffs Creek, Moonee Creek, Hearn's Lake, Woolgoolga Lake, Arrawarra Creek, Corindi River, Saltwater Creek and Mullet Creek.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Aegiceras corniculatum</i>	1	67%	0	0%	positive
<i>Avicennia marina</i> subsp. <i>australasica</i>	5	100%	0	0%	positive



ESTUARINE TWIG RUSH SALTMARSH

CH_SW02

SCIENTIFIC NAME Estuarine Twig Rush (*Baumea juncea*) Saltmarsh
STATEWIDE CLASS Saline Wetlands – Coastal Saltmarsh (Keith 2006)

PLANT COMMUNITY TYPE Twig Rush saltmarsh of estuaries,
NSW North Coast Bioregion and South Eastern Queensland Bioregion
(NSW1000-1937)



Description

A rushland community of coastal estuaries and ICOLs growing at the upper edge of the saltmarsh zonation. Emergent Broad-leaved Paperbark (*Melaleuca quinquenervia*) and sometimes Swamp Oak (*Casuarina glauca*) are present. The dominant rush is Twig Rush (*Baumea juncea*), however a range of other species occur at lower frequencies such as Sea Rush (*Juncus kraussii* subsp. *australiensis*), Native Reed (*Phragmites australis*), Prickly Couch (*Zoysia macrantha*), Zig-zag Bog-rush (*Schoenus brevifolius*), Slender Yellow-eye (*Xyris gracilis*) and Spreading Nut Heads (*Epaltes australis*).

Found in coastal estuaries north from Newport's Creek with scattered occurrences to Station Creek.

Floristic summary

Layer	Height (m)	Cover (%)	Dominant Species
Emergent	2-3	5	<i>Melaleuca quinquenervia</i> <i>Casuarina glauca</i> .
Middle	0-2	5	<i>Melaleuca quinquenervia</i> .
Lower	0-1	95	<i>Baumea juncea</i> , <i>Phragmites australis</i> , <i>Juncus kraussii</i> subsp. <i>australiensis</i> .

* Data collated from 1 site only.

Structural and floristic variations

May vary from an almost pure bed of Twig Rush (*Baumea juncea*) with few emergents of Broad-leaved Paperbark, to a more diverse community with elements of saline grasslands, soaks and lagoons.

Species richness

Number of plots:	2
Total species:	19
Average number of species:	11 ±5

Conservation status

This community is reserved in Moonee Beach Nature Reserve (1ha), Coffs Harbour Regional Park (1ha) and Yuraygir National Park (3ha).

Tenure	Area (ha)
Crown Land	1
Freehold	24
National Park	11
Nature Reserve	1
NSW State Forest	8
Regional Park	1
TOTAL	47

Endangered Ecological Community Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions EEC

Relationship to other communities

Related to CH_FrW11 (Estuarine Paperbark - Twig Rush Forest). CH_SW02 is distinguished by having only a scattered (<20% CCP) emergent canopy of Broad-leaved Paperbark (*Melaleuca quinquenervia*). CH_FrW11 has a more established canopy (>20% CCP and commonly >50%) of Broad-leaved Paperbark and Swamp Oak (*Casuarina glauca*).

Equivalents

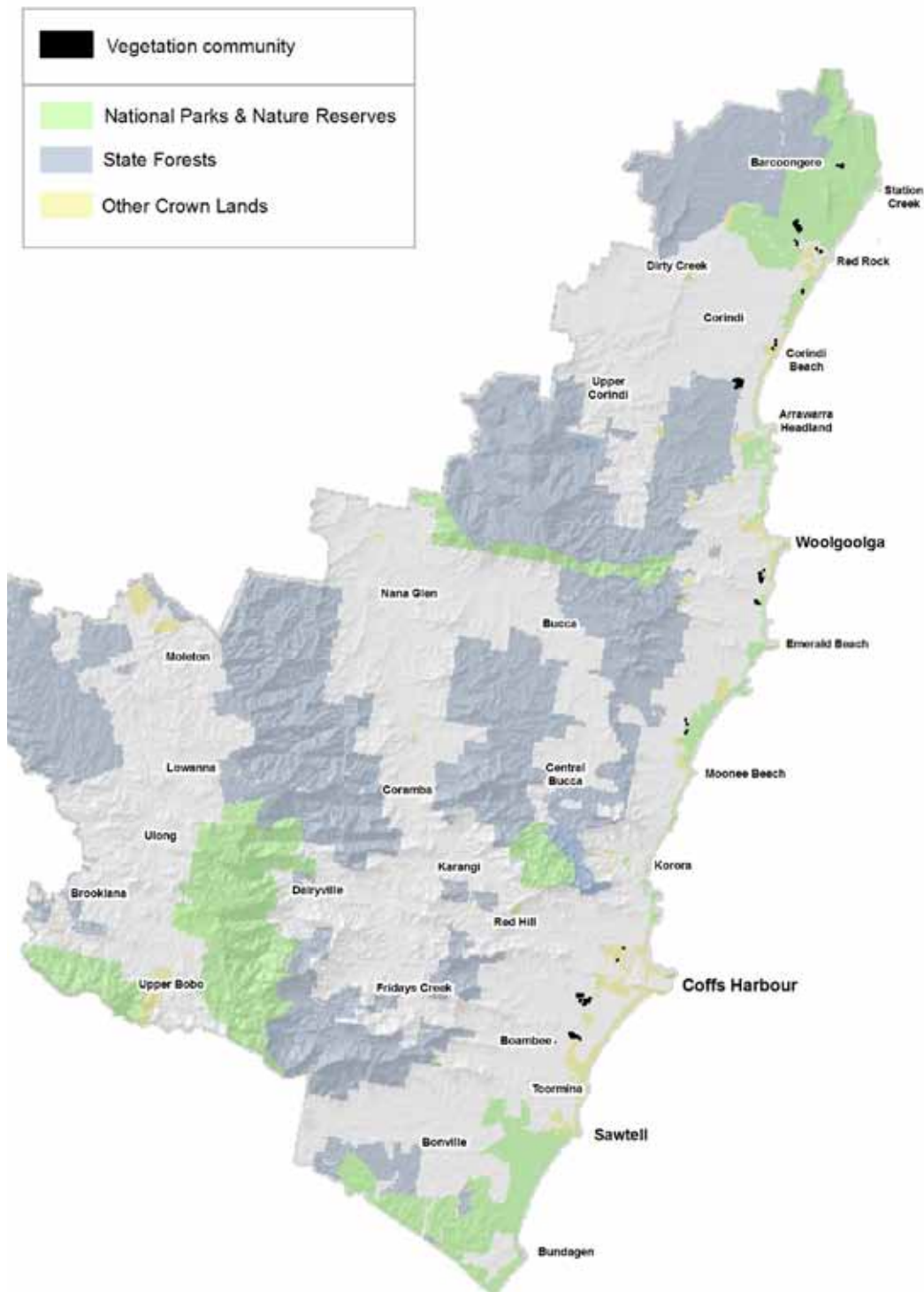
Biometric:	Saltmarsh complex of the North Coast (NR225)
Other:	S3 <i>Baumea juncea</i> tall to very tall closed sedgeland: (Pressey and Griffith, 1987).

Locations

Known examples include Newport's Creek, Coffs Creek, Moonee Creek, Hearn's Lake, Corindi River and Station Creek.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Baumea juncea</i>	6	100%	3	4%	positive
<i>Casuarina glauca</i>	2	100%	3	7%	positive
<i>Juncus kraussii</i> subsp. <i>australiensis</i>	5	100%	2	3%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Melaleuca quinquenervia</i>	2	100%	2	12%	positive
<i>Phragmites australis</i>	2	100%	2	1%	positive
<i>Schoenus brevifolius</i>	2	100%	2	1%	positive



COASTAL DUNE SEDGELAND SOAK

CH_SW03

SCIENTIFIC NAME Coastal Dune Soak Swamp Oak (*Casuarina glauca*) – Sand Sedge (*Carex pumila*) – Club Rush (*Ficinia nodosa*) Shrublands and Sedgeland

PLANT COMMUNITY TYPE Shiny Bog-rush – Club Rush dune soak wetlands on Holocene dunes of the NSW North Coast Bioregion and South Eastern Queensland Bioregion (NSW700-679)

STATEWIDE CLASS Saline Wetlands – Saltmarsh (Keith 2006)



Sedgeland variant



Shrubland variant

Description

A sedgeland community in which Tall Spike Rush (*Ficinia nodosa*) and Shiny Bog-rush (*Schoenus nitens*) are most abundant. Also present are the sedges and herbs Sand Sedge (*Carex pumila*), Water Ribbons (*Triglochin striata*) and *Cyperus laevigatus*. A moderately dense stratum of Swamp Oak (*Casuarina glauca*) and/or Broad-leaved Paperbark (*Melaleuca quinquenervia*) is sometimes present.

Occurs in depressions, seepage lines and swales of Holocene dunes where the water-table rises to the surface with a sub-saline influence. On Holocene dunes south from Station Creek in Yuraygir National Park to Bundagen Headland in Bongil Bongil National Park.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Tallest	2-7	45	<i>Casuarina glauca</i> , <i>Melaleuca quinquenervia</i>
Lower 1	0.5-4	35-70	<i>Ficinia nodosa</i> , <i>Cladium procerum</i> .
Lower 2	0-1	30-65	<i>Carex pumila</i> , <i>Hydrocotyle pedicellosa</i> , <i>Schoenus nitens</i> .

* Data collated from 3 of 3 full floristic sites

Structural and floristic variations

This community occupies low-lying protected soak or swale habitats in Holocene dunes and can vary in structure from a shrubland with sedge components, to an open sedgeland. The shrubland variant typically has a low canopy of Swamp Oak (*Casuarina glauca*) and/or Broad-leaved Paperbark (*Melaleuca quinquenervia*) with a lower layer usually dominated by *Carex pumila* and Knobby Club-rush (*Ficinia nodosa*). Where the community forms an open sedgeland, the dominant species are Shiny Bog-rush (*Schoenus nitens*), Knobby Club-rush (*Ficinia nodosa*) and *Carex pumila*.

Exotics *Andropogon virginicus*

Species richness

Number of plots	3
Total species	12
Average number of species	7 ±2

Conservation status

This community is reserved in Bongil Bongil National Park (1 ha) and Yuraygir National Park (9ha).

Tenure	Area (ha)
National Park	11
TOTAL	11

Endangered Ecological Community: *Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions*

Relationship to other communities

Not closely related to any other communities. Occurrences in dune systems are disjunct from other saline wetlands. The most related community floristically is CH_SW02 (Twig Rush Saltmarsh) which occurs mainly in estuaries and is dominated by Twig Rush (*Baumea juncea*).

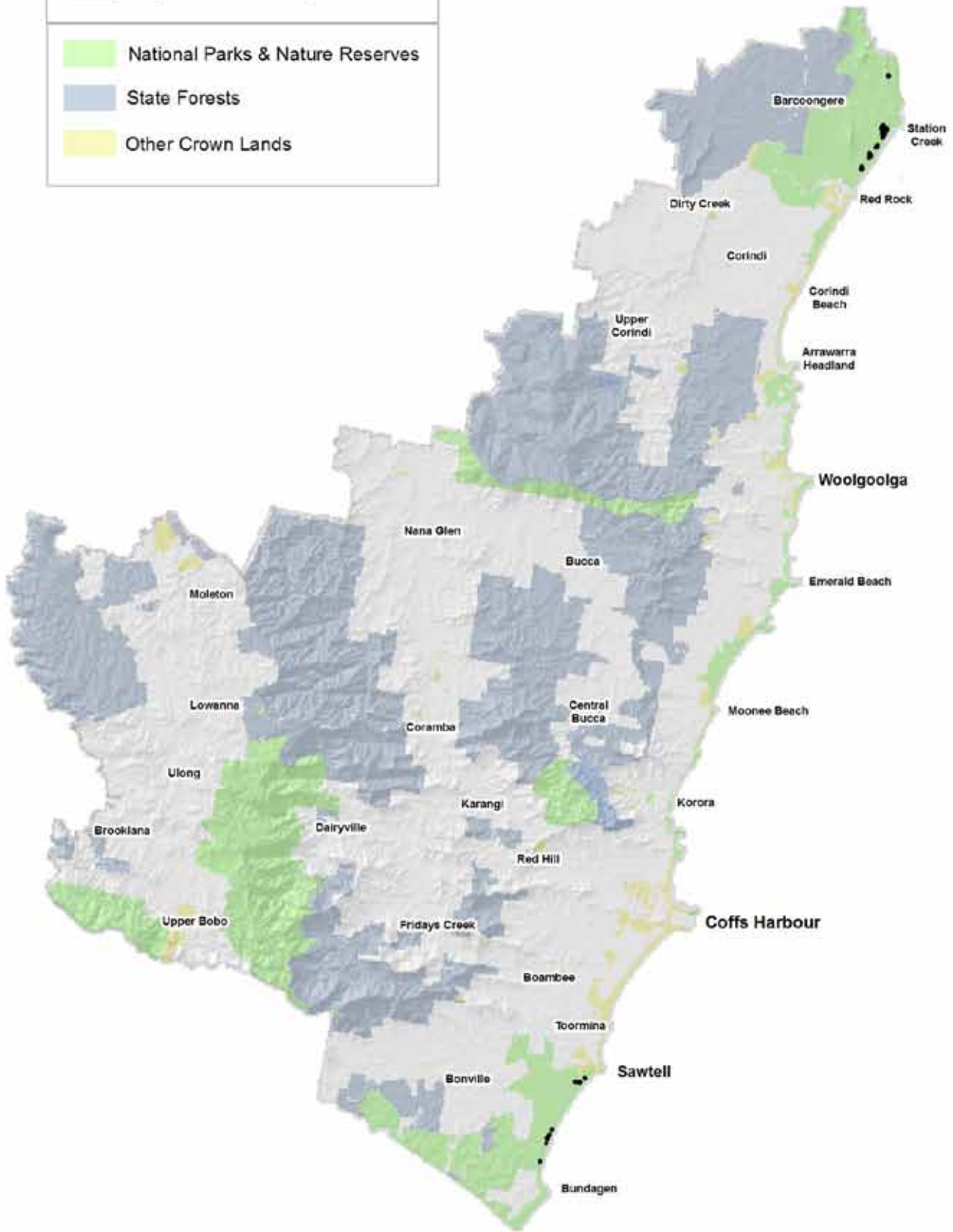
Equivalents

Biometric: no equivalent

Other: Community 7 (Cameron et al. 2011) describes an open sedgeland variant of this community.

Locations

Known occurrences include Station Creek; Boambee Beach and Bundagen Headland, Bongil Bongil National Park.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Bacopa monnieri</i>	1	25%	2	0%	uninformative
<i>Baumea juncea</i>	4	25%	3	4%	uninformative
<i>Carex pumila</i>	3	50%	2	1%	positive
<i>Casuarina glauca</i>	1	75%	3	7%	uninformative
<i>Cladium procerum</i>	1	75%	1	1%	uninformative
<i>Cyperus laevigatus</i>	2	25%	4	0%	uninformative
<i>Diplachne fusca</i>	1	25%	1	0%	uninformative
<i>Epaltes australis</i>	2	25%	1	0%	uninformative
<i>Ficinia nodosa</i>	4	75%	1	3%	positive
<i>Gonocarpus tetragynus</i>	1	25%	1	4%	uninformative
<i>Goodenia paniculata</i>	2	25%	1	2%	uninformative
<i>Hydrocotyle pedicellosa</i>	3	75%	1	1%	positive
<i>Ipomoea brasiliensis</i>	2	25%	2	0%	uninformative
<i>Juncus kraussii</i> subsp. <i>australiensis</i>	1	25%	2	3%	uninformative
<i>Lobelia anceps</i>	1	50%	1	5%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Melaleuca quinquenervia</i>	2	50%	2	12%	positive
<i>Sacciolepis indica</i>	1	25%	2	0%	uninformative
<i>Samolus repens</i>	1	25%	1	1%	uninformative
<i>Schenkia spicata</i>	1	25%	0	0%	positive
<i>Schoenus lepidosperma</i> subsp. <i>pachylepis</i>	1	25%	1	0%	uninformative
<i>Schoenus nitens</i>	5	50%	2	0%	positive
<i>Triglochin striata</i>	2	50%	3	1%	positive
<i>Xyris gracilis</i>	1	25%	1	1%	uninformative
<i>Zoysia macrantha</i>	2	25%	3	3%	uninformative

COASTAL DUNE PRICKLY COUCH GRASSLANDS

CH_SW04

SCIENTIFIC NAME Coastal Dune Prickly Couch (*Zoysia macrantha*)
Grasslands of Intermittent coastal lakes and lagoons

STATEWIDE CLASS Saline Wetlands – Saltmarsh (Keith 2006)

PLANT COMMUNITY TYPE Prickly Couch – Sea Rush – Common
Couch saltmarsh of saline coastal swamps and flats of the South Eastern
Queensland Bioregion and NSW North Coast Bioregion (NSW700-682)



Description

A low sod grassland/saltmarsh, commonly dense to mid-dense. Dominated by Prickly Couch (*Zoysia macrantha*) and Sea Rush (*Juncus kraussii* subsp. *australiensis*) together with Common Couch (*Cynodon dactylon*). Swamp Oak (*Casuarina glauca*) is a common emergent.

Commonly occurs on sediments deposited on flood channels of small coastal creeks forming an impounded lagoon.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Lower 1	0.4 – 2.0	80-85	<i>Zoysia macrantha</i> , <i>Juncus kraussii</i> subsp. <i>australiensis</i> , <i>Casuarina glauca</i> , <i>Baumea juncea</i> .
Lower 2	0 – 0.4	25	<i>Zoysia macrantha</i> , <i>Cynodon dactylon</i> .

* Data collated from 2 of 2 full floristic sites

Structural and floristic variations

Some examples of this community may contain elements of CH_G01 (Strandline Grassland) and CH_H02 (Coast Wattle Shrublands).

Exotics *Anagallis arvensis*, *Cirsium vulgare*, *Panicum schinzii*, *Stenotaphrum secundatum*

Species richness

Number of plots	2
Total species	17
Average number of species	10 ±4

Conservation status

This community is reserved in Bongil Bongil National Park (0.2ha).

Tenure	Area (ha)
Crown Land	0.1
National Park	0.3
TOTAL	0.4

Endangered Ecological Community *Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions EEC*

Relationship to other communities

Most closely related to CH_G01 (Strandline Grassland) and may occur adjacent to this community where beach dune systems meet estuarine systems and coastal lakes.

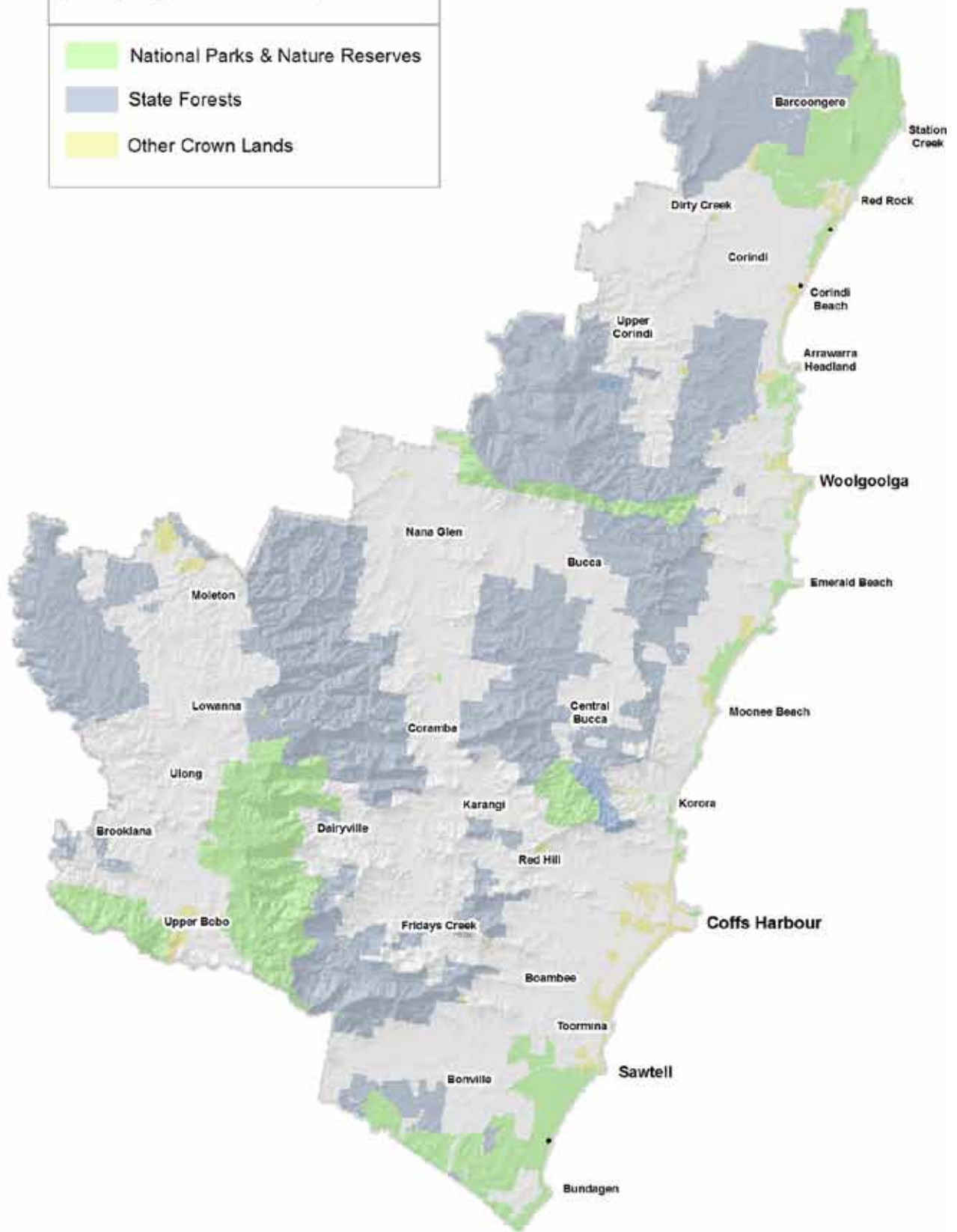
Equivalents

Biometric: Shares some affinity with (NR225); Saltmarsh complex of the North Coast.

Other: Community 5 (Cameron et al. 2011); Prickly Couch Grassland of Intermittent Coastal Lagoons

Locations

Known examples include Scrub Creek; Red Rock Surf Beach and Corindi.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	5	50%	1	5%	positive
<i>Bacopa monnieri</i>	2	25%	1	0%	uninformative
<i>Baumea juncea</i>	2	25%	3	4%	uninformative
<i>Carex pumila</i>	2	75%	3	1%	positive
<i>Carpobrotus glaucescens</i>	2	50%	1	1%	positive
<i>Casuarina glauca</i>	1	25%	3	7%	uninformative
<i>Chrysocephalum apiculatum</i>	1	25%	1	0%	uninformative
<i>Cladium procerum</i>	2	25%	1	1%	uninformative
<i>Crinum pedunculatum</i>	2	25%	1	4%	uninformative
<i>Cynodon dactylon</i>	4	50%	3	0%	positive
<i>Cyperus laevigatus</i>	4	50%	2	0%	positive
<i>Cyperus polystachyos</i>	3	50%	1	1%	positive
<i>Eragrostis interrupta</i>	2	25%	0	0%	positive
<i>Ficinia nodosa</i>	2	75%	1	3%	positive
<i>Hibbertia scandens</i>	2	25%	1	32%	uninformative
<i>Hydrocotyle pedicellosa</i>	2	25%	1	2%	uninformative
<i>Juncus kraussii</i> subsp. <i>australiensis</i>	3	25%	2	3%	uninformative
<i>Juncus usitatus</i>	1	25%	2	0%	uninformative
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Pseudognaphalium luteoalbum</i>	3	25%	1	0%	uninformative
<i>Samolus repens</i>	1	25%	1	1%	uninformative
<i>Scaevola calendulacea</i>	3	25%	3	0%	uninformative
<i>Schoenoplectus validus</i>	1	25%	0	0%	positive
<i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>	3	50%	2	0%	positive
<i>Spinifex sericeus</i>	3	25%	4	1%	uninformative
<i>Tetragonia tetragonoides</i>	1	25%	1	0%	uninformative
<i>Zoysia macrantha</i>	5	50%	3	3%	positive

TWIG RUSH HEADLAND SEDGELAND SOAKS

CH_SW05

SCIENTIFIC NAME Twig Rush (*Baumea juncea*) Sedgeland Soaks on Headlands

PLANT COMMUNITY TYPE Twig Rush soaks of coastal headlands, NSW North Coast Bioregion (NSW999-707)

STATEWIDE CLASS Saline Wetlands – Saltmarsh (Keith 2006)



Description

A rushland community occupying seepage zones on coastal metasedimentary headlands in Moonee Beach Nature Reserve north of Coffs Harbour. Twig Rush (*Baumea juncea*) is abundant. The climbers Hairy Silkpod (*Parsonsia straminea*) and Snake Vine (*Sarcopetalum harveyanum*) drape themselves over the low growing Twig Rush (*B. juncea*). Other species from the adjoining Headland Grassland occurring amongst the lower layer include Kangaroo Grass (*Themeda australis*) and Riceflower (*Pimelea linifolia*).

Occupying seepage zones on coastal metasedimentary headlands in Moonee Beach Nature Reserve north of Coffs Harbour.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Lower layer	0-0.5	70-85	<i>Baumea juncea</i> , <i>Parsonsia straminea</i> , <i>Sarcopetalum harveyanum</i> , <i>Polymeria calycina</i> , <i>Themeda australis</i> , <i>Pimelea linifolia</i> .

* Data collated from 3 of 3 full floristic sites

Exotics *Baccharis halimifolia*, *Bidens pilosa*, *Chrysanthemoides monilifera*, *Conyza bonariensis*, *Gomphocarpus fruticosus*, *Lantana camara*, *Paspalum mandiocanum*

Species richness

Number of plots	3
Total native species	30
Average number of species	15 ±4.6

Conservation status

This community is reserved in Moonee Beach Nature Reserve (3ha) and Coffs Coast Regional Park (1ha).

Tenure	Area (ha)
Nature Reserve	3
Regional Park	1
TOTAL	4

Threatened and Rare plants: *Pultenaea maritima*

Relationship to other communities

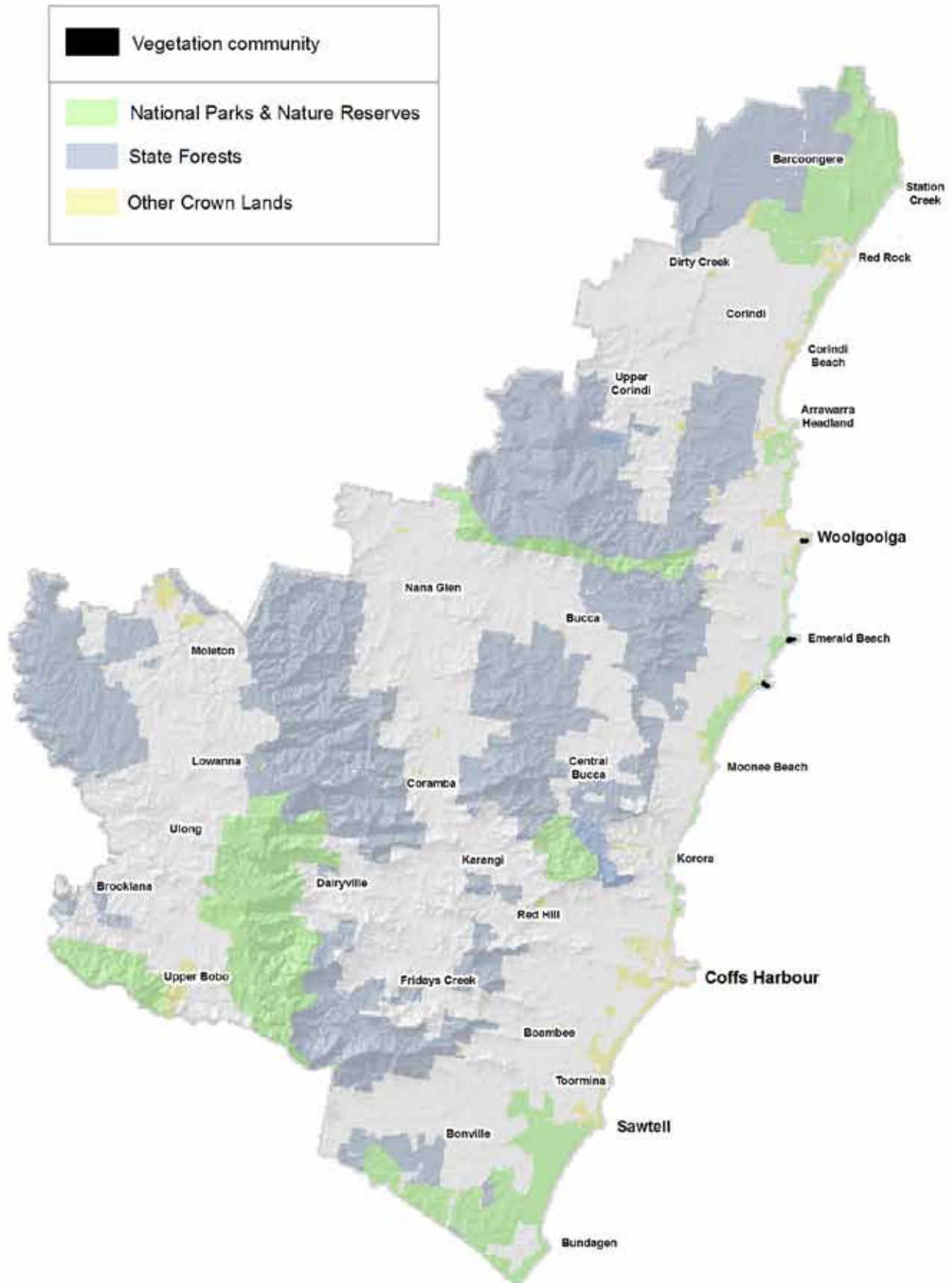
Related to and intergrades with CH_H03 (Kangaroo Grass Headland Grasslands).

Equivalents

Biometric: No equivalent

Locations

Known examples include Look-at-me-now Headland; Dammerel's Headland, and Woolgoolga Headland.



Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Acacia longifolia</i>	1	33%	1	6%	uninformative
<i>Baumea juncea</i>	3	100%	3	4%	positive
<i>Carex inversa</i>	1	33%	3	0%	uninformative
<i>Cassytha racemosa</i>	1	33%	1	1%	uninformative
<i>Centella asiatica</i>	1	100%	1	3%	uninformative
<i>Clematis glycinoides</i>	1	33%	1	6%	uninformative
<i>Gonocarpus micranthus</i>	2	33%	2	2%	uninformative
<i>Goodenia hederacea</i> subsp. <i>hederacea</i>	1	33%	1	3%	uninformative
<i>Goodenia paniculata</i>	1	33%	1	2%	uninformative
<i>Goodenia rotundifolia</i>	1	33%	1	4%	uninformative
<i>Hibbertia vestita</i>	1	33%	1	12%	uninformative
<i>Hybanthus stellarioides</i>	1	33%	1	4%	uninformative
<i>Hydrocotyle peduncularis</i>	1	67%	1	5%	uninformative
<i>Imperata cylindrica</i>	1	33%	2	32%	uninformative
<i>Lobelia anceps</i>	1	100%	1	4%	uninformative
<i>Lomandra longifolia</i>	1	33%	2	52%	negative
<i>Mitrasacme paludosa</i>	1	33%	2	0%	uninformative
<i>Myoporum boninense</i> subsp. <i>australe</i>	1	33%	0	0%	positive
<i>Parsonsia straminea</i>	3	100%	1	27%	positive
<i>Pimelea linifolia</i>	2	67%	1	9%	positive
<i>Polymeria calycina</i>	2	100%	1	4%	positive
<i>Pultenaea maritima</i>	1	33%	3	1%	uninformative
<i>Sarcopetalum harveyanum</i>	2	67%	1	9%	positive
<i>Schoenus nitens</i>	2	33%	3	1%	uninformative
<i>Senecio pinnatifolius</i>	1	33%	2	1%	uninformative
<i>Stackhousia spathulata</i>	1	33%	1	0%	uninformative
<i>Stephania japonica</i> var. <i>discolor</i>	1	33%	1	21%	uninformative
<i>Themeda australis</i>	2	100%	3	23%	positive
<i>Tricoryne elatior</i>	1	33%	1	2%	uninformative
<i>Zoysia macrantha</i>	1	33%	3	3%	uninformative

SEA RUSH SALTMARSH

CH_SW06

SCIENTIFIC NAME Sea Rush (*Juncus kraussii* subsp. *australiensis*)
Saltmarsh

STATEWIDE CLASS Saline Wetlands – Saltmarsh (Keith 2006)

PLANT COMMUNITY TYPE Sea Rush saltmarsh of saline coastal swamps and flats of the South Eastern Queensland Bioregion and NSW North Coast Bioregion (NSW1000-1980)



Description

A saltmarsh common in tidally influenced saline bays and estuaries of the main creeks and rivers of the Local Government Area.

The dominant species is Sea Rush (*Juncus kraussii* subsp. *australiensis*) forming mono-dominant swards. The only other species recorded in this community are Creeping Brookweed (*Samolus repens*), and rarely Saltwater Couch (*Sporobolus virginicus* var. *minor*).

Common in tidally influenced saline bays and estuaries of the main creeks and rivers of the study area.

Floristic summary

Layer	Height (m)*	Cover (%)*	Dominant Species
Ground	0-1	85-90	<i>Juncus kraussii</i> subsp. <i>australiensis</i> , <i>Sporobolus virginicus</i> var. <i>minor</i> .

* Data collated from 2 of 2 full floristic sites

Species richness

Number of plots	2
Total species	3
Average number of species	2.5 ±0.7

Conservation status

This community is reserved in Bongil Bongil National Park (18ha) and Moonee Beach Nature Reserve (0.5ha).

Tenure	Area (ha)
Crown Land	4
Freehold	16
National Park	18
TOTAL	38

Endangered Ecological Community: *Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC

Relationship to other communities

Related to other saltmarsh and Saline Swamp Forest communities including CH_SW07 (Estuarine Samphire - Saltwater Couch Saltmarsh), CH_SW02 (Estuarine Twig Rush Saltmarsh) and CH_SW01 (Estuarine Mangrove Forest). Often adjoins and forms a mosaic with CH_SW07 and CH_SW01. This community is replaced by CH_SW07 in Corindi River estuary.

Equivalentents

Biometric: Saltmarsh complex of the North Coast (NR225)

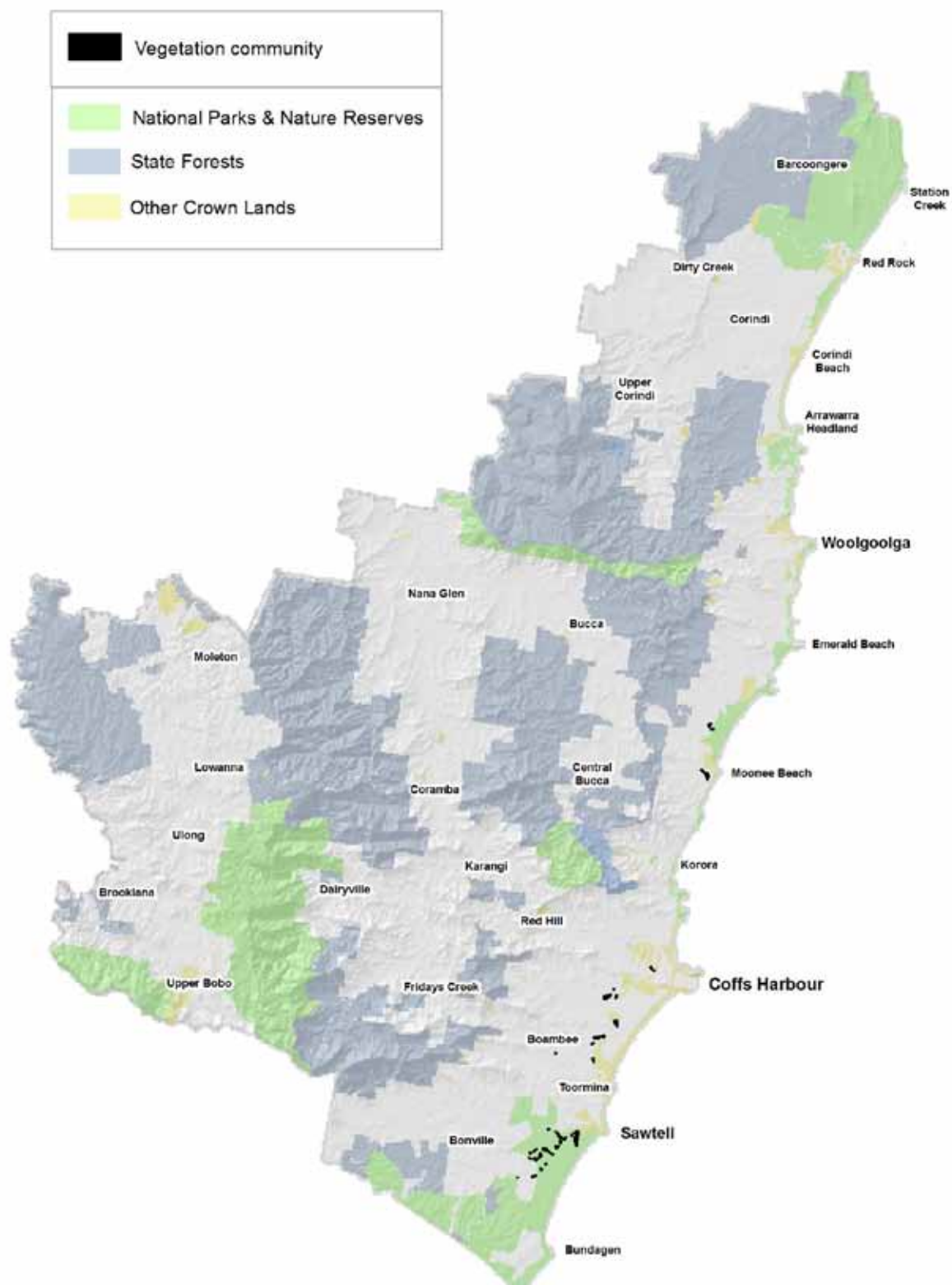
Other: SG6102 - Mangrove/Saltmarsh Complex (Fisher et al. 1996); Community 15 – Sea Rush Saltmarsh (Cameron et al. 2011)

Locations

Known examples include Newport's Creek, Pine Creek in Bongil Bongil National Park, Moonee Creek – Moonee Beach Nature Reserve, Coffs Creek and Boambee Creek.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Juncus kraussii</i> subsp. <i>australiensis</i>	6	100%	2	3%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Samolus repens</i>	1	100%	1	1%	uninformative
<i>Sporobolus virginicus</i>	3	50%	5	2%	positive



ESTUARINE SAMPHIRE - SALTWATER COUCH SALTMARSH

CH_SW07

SCIENTIFIC NAME Estuarine Samphire (*Sarcocornia quinqueflora*) -
Saltwater Couch (*Sporobolus virginicus*) Saltmarsh

PLANT COMMUNITY TYPE Saltwater Couch – Samphire saltmarsh
of low-lying estuarine areas of the South Eastern Queensland Bioregion
and NSW North Coast Bioregion (NSW700-684)

STATEWIDE CLASS Saline Wetlands – Saltmarsh (Keith 2006)



Description

A saltmarsh common in tidally influenced saline bays and estuaries of the main creeks and rivers of the study area.

The dominant species is Saltwater Couch (*Sporobolus virginicus*) with Samphire (*Sarcocornia quinqueflora*) being also common. Water ribbons (*Triglochin striatum*) are common amongst the dense grass layer. Sea Rush (*Juncus kraussii* subsp. *australiensis*) is present as less common more patchy clumps.

Common in tidally influenced saline bays and estuaries of the main creeks and rivers of the study area.

Floristic summary

Layer	Height (m)*	Cover (%) *	Dominant Species
Lower	0-0.5	65-85	<i>Sporobolus virginicus</i> , <i>Triglochin striatum</i> , <i>Sarcocornia quinqueflora</i> , <i>Juncus kraussii</i> subsp. <i>australiensis</i> .

* Data collated from 5 of 5 full floristic sites

Structural and floristic variations

Occasionally, an emergent layer of Grey Mangrove (*Avicennia marina* subsp. *australasica*) and Swamp Oak (*Casuarina glauca*) may occur on raised areas.

Exotics *Baccharis halimifolia*

Species richness

Number of plots	5
Total species	4
Average number of species	3 ±1.0

Conservation status

This community is reserved in Bongil Bongil National Park (1ha), Coffs Coast Regional Park (0.1 ha), Garby Nature Reserve (small area), Moonee Beach Nature Reserve (2ha) and Yuraygir National Park (95ha).

Tenure	Area (ha)
Crown Land	2
Freehold	15
National Park	96
Nature Reserve	2
TOTAL	114

Endangered Ecological Community: *Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions* EEC

Relationship to other communities

CH_SW07 is related to other saltmarsh and saline swamp forest communities including CH_SW06 (Sea Rush Saltmarsh), CH_SW02 (Estuarine Twig Rush Saltmarsh) and CH_SW01 (Estuarine Mangrove Forest). This community often adjoins and forms a mosaic with CH_SW06 and CH_SW01.

Equivalents

Biometric: Saltmarsh complex of the North Coast (NR225)

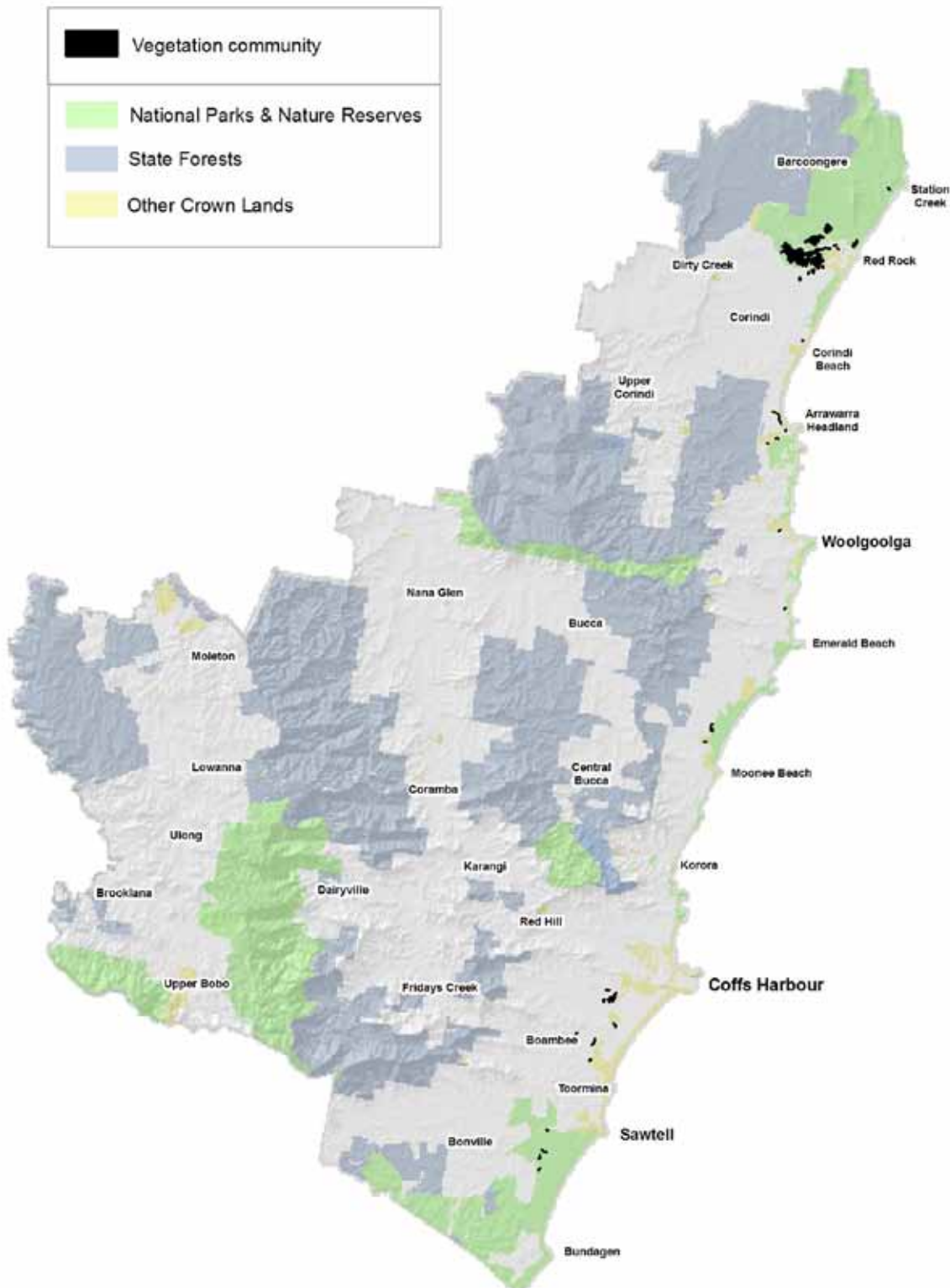
Other: SG6102 – Mangrove/Saltmarsh Complex (Fisher et al. 1996); Community 16- Saltwater Couch Saltmarsh (Cameron et al. 2011)

Locations

Known examples include estuaries of Pine Creek and Boambee Creek, Corindi River, Moonee Creek, Hearne's Lake, Woolgoolga Lake, Arrawarra Creek and Station Creek.

Diagnostic species

Species Name	Group score (50 percentile)	Group frequency	Non-group score (50 percentile)	Non-group frequency	Fidelity class
<i>Juncus kraussii</i> subsp. <i>australiensis</i>	2	80%	2	3%	positive
<i>Lomandra longifolia</i>	0	0%	2	52%	negative
<i>Sarcocornia quinqueflora</i>	4	40%	0	0%	positive
<i>Sporobolus virginicus</i>	6	100%	1	1%	positive
<i>Triglochin striata</i>	3	60%	2	1%	positive



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APPENDIX 1: Vegetation communities mapping and classification statistics: full floristic plots, API points, Reliability

Class	MAP CODE	Short name	No. of FF Plots	No. of API sites	Reliability 1	Reliability 2	Reliability 3	Reliability 4
North Coast Dry Sclerophyll Forest	CH_ DOF01	Coast and Escarpment Blackbutt Dry Forest	11	221	12%	45%	39%	3%
	CH_ DOF02	Sandstone Bloodwood Needlebark Stringybark Heathy Forest	20	17	16%	24%	55%	6%
	CH_ DOF04	Hinterland Needlebark Stringybark Scribbly Gum Red Mahogany	2	13	0%	25%	69%	6%
	CH_ DOF05	Foothills Grey Gum Ironbark Mahogany	19	52	9%	21%	62%	7%
	CH_ DOF10	Foothills Spotted Gum, Mahogany, Grey Gum, Ironbark Dry Forest	21	57	9%	15%	64%	12%
	CH_ DOF06	Lowlands Swamp Paperbark Red Gum Dry Forest	6	71	12%	26%	58%	4%
	CH_ DOF07	Escarpment New England Blackbutt Dry Forest	0	2	30%	30%	40%	0%
	CH_ DOF11	Northern Escarpment Mahogany Grassy Dry Forest	0	2	0%	11%	78%	11%
	CH_ DOF08	Coastal Sand Bloodwood Banksia Forest	5	4	45%	55%	0%	0%
	CH_ DOF09	Coast Sand Blackbutt Bloodwood Apple Forest	2	35	31%	55%	14%	0%
Coastal Floodplain Wetlands	CH_ FrW10	Estuarine Swamp Oak Forest	4	18	29%	28%	43%	0%
	CH_ FrW11	Estuarine Paperbark Twig Rush Forest	1	15	15%	42%	43%	0%
Coastal Swamp Forests	CH_ FrW01	Coastal Paperbark Swamp Oak Floodplain Forest	11	101	13%	63%	23%	1%
	CH_ FrW02	Coastal Swamp Mahogany Forest	8	24	15%	40%	44%	2%
	CH_ FrW03	Coastal Paperbark Bottlebrush Channel Forest	3	8	50%	28%	22%	0%
	CH_ FrW04	Coastal Paperbark Sedgeland Forest	1	34	14%	35%	46%	5%
	CH_ FrW05	Coastal Paperbark Swamp Box Littoral Forest	7	13	10%	52%	32%	6%
	CH_ FrW06	Coastal Wallum Swamp Mahogany Paperbark Satinwood Forest	6	16	14%	38%	43%	5%

Class	MAP CODE	Short name	No. of FF Plots	No. of API sites	Reliability 1	Reliability 2	Reliability 3	Reliability 4	
Eastern Riverine Forests	CH_FrW07	River Oak Riparian Forest	1	3	3%	77%	21%	0%	
	CH_FrW08	Plateau Teatree Water Gum Shrubland	1	9	4%	39%	55%	2%	
	CH_FrW09	Coastal Wallum Swamp Mahogany Prickly Paperbark Forest	4	8	23%	20%	50%	7%	
Coastal Heath Swamps	CH_FW01	Coastal Wallum Teatree Banksia Wet Heathland Shrubland	6	11	41%	45%	14%	0%	
	CH_FW02	Coastal Wallum Paperbark Banksia Grass Tree Wet Heathland	7	4	4%	13%	78%	5%	
	CH_FW03	Coastal Wallum Leptocarpus Sedgeland	2	0	21%	4%	75%	0%	
	CH_FW04	Coastal Wallum Baumea Sedgeland	2	3	50%	0%	50%	0%	
	CH_FW05	Coastal Wallum Paperbark Heathland Wet Shrubland	3	19	32%	28%	32%	9%	
	CH_FW06	Coastal Wallum Teatree Tall Wet Shrubland	3	22	42%	54%	4%	0%	
	CH_FW09	Coastal Wallum Fernland		0	0%	0%	100%	0%	
	Coastal Lagoons	CH_FW07	Coastal Jointed Twig-rush Freshwater Wetland	2	1	25%	13%	63%	0%
		CH_FW08	Coastal Spike Rush Cumbungi Freshwater Wetland	3	1	18%	9%	72%	0%
Maritime Grasslands	CH_G01	Coastal Strandline Grassland	3	4	4%	39%	57%	0%	
	CH_G02	Coastal Grassland of Offshore Islands	1	0	0%	100%	0%	0%	
Coastal Headland Heaths	CH_H01	Coastal Dune Banksia Shrubland to Open Forest	7	23	18%	43%	38%	0%	
	CH_H02	Coastal Dune Wattle Shrublands	3	5	5%	66%	28%	1%	
	CH_H03	Coastal Headland Grasslands	7	0	29%	44%	24%	3%	
	CH_H04	Coastal She Oak Hakea Clay Heathland	2	1	20%	0%	80%	0%	
	CH_H05	Coastal Dagger Hakea Clay Heathland	3	0	17%	17%	33%	33%	
	CH_H06	Coastal Headland Banksia	3	9	8%	83%	9%	0%	
	CH_H07	Coastal Headland Swamp Oak Shrublands	1	12	46%	38%	15%	0%	
	Coastal Wallum Heaths	CH_H08	Coastal Sand Banksia She Oak Dry Heathland to Shrubland	1	1	12%	24%	65%	0%

Class	MAP CODE	Short name	No. of FF Plots	No. of API sites	Reliability 1	Reliability 2	Reliability 3	Reliability 4
Northern Montane Heaths Escapment rock outcrops	CH_H09	Plateau Teatree Rock Outcrop Shrubland	2	0	0%	0%	25%	75%
	CH_H10	Escarpment Tea Tree Rock Outcrop Woodland	0	1	22%	22%	56%	0%
	CH_H11	Montane Tea-tree - Coachwood Closed Forest	0	1	0%	22%	44%	33%
Cool Temperate Rainforest	CH_RF01	Plateau Beech Cool Temperate Rainforest	1	1	100%	0%	0%	0%
	CH_RF02	Plateau Beech Coachwood Warm/Cool Temperate Rainforest	3	0				
Warm Temperate Rainforest	CH_RF03	Plateau/Escarpment Coachwood Sassafras Warm Temperate Rainforest	9	19	2%	57%	38%	3%
	CH_RF12	Escarpment Coachwood Sassafras Brush Box Subtropical Rainforest	16	15	3%	49%	47%	1%
Dry Rainforest	CH_RF04	Plateau Escarpment Hoop Pine Dry Rainforest	0	1	7%	14%	79%	0%
	CH_RF05	Foothills Brown Myrtle Dry Rainforest	0	1	2%	50%	42%	6%
	CH_RF06	Escarpment Grey Myrtle Brush Box Dry Rainforest	0	1	0%	27%	43%	30%
Littoral Rainforest	CH_RF07	Coastal Exposed Dune Littoral Rainforest	4	11	13%	59%	28%	0%
	CH_RF08	Coast Headland Brush Box Littoral Rainforest	6	20	25%	67%	4%	4%
Subtropical Rainforest	CH_RF09	Hinterland White Booyong Floodplain Rainforest	3	0	33%	25%	42%	0%
	CH_RF11	Escarpment and Lowland Carabeen Black Booyong Palm Gully Rainforest	12	22	4%	40%	54%	3%
Littoral Rainforest	CH_RF13	Coastal Sheltered Dune Littoral Rainforest	9	4	68%	11%	21%	0%
Mangroves	CH_SW01	Estuarine Mangrove Forest	3	15	30%	29%	41%	0%
Saltmarsh	CH_SW02	Estuarine Twig Rush Saltmarsh	1	4	14%	49%	38%	0%
	CH_SW03	Coastal Dune Sedgeland Soak	4	0	41%	0%	59%	0%
	CH_SW04	Coastal Dune Prickly Couch Grasslands	4	0	75%	25%	0%	0%
	CH_SW05	Coastal Headland Twig Rush Sedgeland Soak	3	0	67%	17%	17%	0%
	CH_SW06	Estuarine Sea Rush Saltmarsh	2	7	12%	86%	2%	0%

Class	MAP CODE	Short name	No. of FF Plots	No. of API sites	Reliability 1	Reliability 2	Reliability 3	Reliability 4
	CH_SW07	Estuarine Samphire - Saltwater Couch Saltmarsh	5	6	19%	33%	49%	0%
North Coast Wet Sclerophyll Forest	CH_WSF01	Coast and Hinterland Riparian Flooded Gum Bangalow Wet Forest	22	120	6%	53%	36%	5%
	CH_WSF02	Hinterland Blackbutt Bangalow Turpentine Wet Shrubby Forest	7	68	5%	32%	60%	2%
	CH_WSF03	Foothills Escarpment Blue Gum - Tallowwood Wet Shrubby Forest	25	58	3%	46%	47%	4%
	CH_WSF05	Foothills to Escarpment Brush Box Tallowwood Blackbutt Wet Forest	27	34	2%	50%	45%	2%
	CH_WSF06	Plateau Blue Gum - Tallowwood - Flooded Gum Wet Shrubby Forest	11	67	7%	14%	76%	3%
	CH_WSF07	Plateau and Escarpment Rim Brush Box - Blackbutt Wet Forest	7	13	3%	31%	63%	3%
	CH_WSF08	Southern Foothills Blackbutt Turpentine Tallowwood Wet Ferny Forest	22	10	14%	21%	65%	0%
	CH_WSF09	Northern Escarpment Blackbutt - Apple Wet Ferny Forest	15	201	7%	36%	55%	3%
	CH_WSF10	Hinterland Escarpment Tallowwood Blackbutt Blue Gum Wet Ferny Forest	9	53	3%	24%	71%	2%
	CH_WSF11	Foothills Spotted Gum Mahogany Grey Gum Wet Shrubby Forest	2	17	5%	11%	66%	18%
	CH_WSF12	Coastal Sand Brush Box Corkwood Forest	1	5	33%	33%	33%	0%
	CH_WSF13	Dunns White Gum Wet Forest	1	1	5%	9%	77%	9%
	CH_WSF14	Coastal Headland Red Gum Forest	1	12	11%	78%	11%	0%
	CH_WSF15	Foothills Steel Box Brown Myrtle Wet Forest	4	5	11%	20%	44%	25%
	CH_WSF16	Escarpment White Mahogany Wet Shrubby Forest	0	4	8%	8%	76%	8%
	CH_WSF17	Foothills Grey Gum - Tallowwood - Ironbark Moist Shrubby Forest	13	53	10%	16%	61%	13%
	CH_WSF18	Escarpment New England Blackbutt Wet Ferny Forest	2	2	5%	19%	77%	0%

APPENDIX 2: Other Vegetation Communities

Code	Short Name	Formation	Class	Description
CH_EX01	Bitou bush	Derived	Exotic vegetation	Areas mapped as monocultures of Bitou Bush (<i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i>). Only three areas mapped as such in the study area and they are found at Look-at-Me-Now Headland (Moonee Nature Reserve) and Sandy Beach. All other occurrences of Bitou throughout the study area are indicated as a disturbance code within near coastal floristic communities.
CH_EX02	Camphor laurel	Derived	Exotic vegetation	Large single trees or dense stands of Camphor Laurel (<i>Cinnamomum camphora</i>) are mapped where the species is largely or completely dominant. The distribution is characteristically small remnant patches that are linked strongly to rural valley floors, urban and semi urban landscapes. Areas mapped as Camphor laurel may contain elements of the remnant floristic community, commonly the COAST AND HINTERLAND RIPARIAN FLOODED GUM BANGALOW WET FOREST (CH_WSF01) or the HINTERLAND WHITE BOOYONG FLOODPLAIN RAINFOREST (CH_RF09).
CH_EX03	Exotic vegetation	Derived	Exotic vegetation	Exotic vegetation may refer to small to medium remnant patches of non-native vegetation as well as commercial horticultural farms such as bananas and blueberries. Distribution is linked with rural valley floors, commercial horticultural farms and derived urban/semi-urban landscapes.
CH_EX04	Lantana	Derived	Exotic vegetation	Lantana (<i>Lantana camara</i>) is mapped where its dominance could be delineated by remote sensing interpretation. Lantana is very common and widespread throughout the LGA and thus more commonly identified as disturbance in other floristic communities. This mapping unit's distribution is comparatively smaller as it requires dominance of Lantana over a significant area.
CH_EX05	Privet	Derived	Exotic vegetation	Only small isolated occurrences of Privet (<i>Ligustrum lucidum</i> , <i>Ligustrum sinense</i>) dominated creek lines are mapped. Privet occurs more commonly as a disturbance factor in floristic communities.
CH_MV01	Seagrass beds	Marine	Marine vegetation	Maritime seagrass beds have been captured by Department of Primary Industries. Additional polygons were delineated in this study where known to be different from the DPI map. Mapped occurrences in this study are restricted to Hearn's Lake but seagrass beds are known to occur elsewhere in the LGA.
CH_NP01	Acacia pioneers	Derived	Native pioneer	Non-native and derived native stands of Acacia spp were delineated for this unit. Commonly recorded species included Green Wattle (<i>Acacia irrorata</i>) and Blackwood (<i>Acacia melanoxylon</i>). Other colonising native and non-native species are also mapped as part of this unit. Typical species may include Tobacco Bush (<i>Solanum mauritianum</i>), Willow Bottlebrush (<i>Callistemon salignus</i>), Swamp Box (<i>Lophostemon suaveolens</i>), Black Wattle (<i>Callicoma serratifolia</i>), various paperbark species and common exotic weeds. This unit was only mapped where a dominance of native pioneer species were identified by the interpreters. Distribution is linked strongly with rural valley floors, plateau farm land, urban and semi urban environments.
CH_NRV01	Native remnant vegetation	Native remnant vegetation	Native remnant vegetation	This unit mostly captures small to medium sized remnants of native vegetation dominated by native species that cannot be assigned to a floristic community due to size, disturbance and fragmentation. Distribution linked strongly to cleared urban and rural landscapes but also includes remnant native tree lines within forest plantation areas.

Code	Short Name	Formation	Class	Description
CH_P01	Plantation - native species	Derived	Plantation	Forestry or other plantations where native species have been planted for harvesting. Areas vary from monocultures of commercial native species planted on former cleared farming country to forested areas which have been modified to varying extents by planting of harvestable species. Typically these species are Flooded Gum (<i>Eucalyptus grandis</i>) or Coastal Blackbutt (<i>Eucalyptus pilularis</i>) but other species may occur. These areas have been established and maintained using a variety of silvicultural practices.
CH_P02	Plantation - exotic/pine species	Derived	Plantation	This unit captures forestry plantations created from non-native species such as Radiata Pine (<i>Pinus radiata</i>) and Slash Pine (<i>Pinus elliottii</i>). Distribution is mainly within Barcoongere State Forest but other smaller occurrences are spread throughout the LGA.
CH_P03	Environmental plantings	Derived	Plantation	This unit is contains completely derived stands of native or non-native species that reflects a landuse for native regeneration purposes. The floristic composition of this unit typically does not warrant a community allocation. Common examples include highway construction replanting, rural windbreaks, roadside plantings, and volunteer group regeneration plantings.

