

# PLANT COMMUNITY FIELD GUIDE



## Alluvial Tall Moist Forest



Map  
Unit  
5



# HCCREMS Extant Vegetation Mapping

Vegetation communities this guide have been classified and mapped according to Hunter Central Coast Regional Environment Management Strategy (HCCREMS) Vegetation Survey, using Mapping Units (MU). For more comprehensive and up-to-date information on this survey please contact HCCREMS.

<http://www.hccrems.com.au>

When you are starting out regenerating a bushland site, it may be that you don't know a lot of native species, but if you can provide a council vegetation officer, community support officer or local native plant nursery with some of the information from the Field Data sheet, it is likely that they would be able to identify the broader vegetation community.

The Site Orientation Booklet in this series has a useful contact list including:

Coastcare Officers

Landcare and Community Support Officers

National Parks Officers

Land Managers

# Field Data Sheet

Habitat Type: <i>please circle</i>			
River bank	Wetland	Floodplain	Drainage line
Open Forest	Closed Forest	Rainforest	Disturbed / Grazed (Livestock)
Shrub(2-4m)	Heath (< 2m)	Grassland	Other:
Position on Slope : <i>please circle</i> Watercourse   Flat   Lower Slope   Upper Slope   Crest   Dune			Altitude in metres
Geology		Aspect: <i>please circle</i> N   NE   E   SE   S   SW   W   NW	
Soil Description			
Colour	Type	pH	Sand Clay   Loam
Vegetation Description			
Vegetation community, association, type		Weed Invasion: <i>please circle</i> High   Medium   Low	
Dominant upper storey species		Species diversity: <i>please circle</i> High   Medium   Low	
Dominant middle storey species		Species diversity: <i>please circle</i> High   Medium   Low	
Dominant lower storey/groundcover species		Species diversity: <i>please circle</i> High   Medium   Low	

# Riparian Vegetation Communities

Of the Lower Hunter vegetation communities, the range of riparian vegetation communities is the most varied and complex.

Riparian communities tend to be linear as they follow the watercourse and so the species composition of such communities can vary greatly from the headwaters to the river or creek mouth.

Because of this also there will necessarily be some overlapping with vegetation communities discussed elsewhere:

- Map Unit 1a Coastal Warm Temperate- Subtropical Rainforest

Tends to be in the upper catchment of coastal creeks and rivers e.g. Martinsville valley in the upper Dora Creek catchment.

- Map Unit 4 Littoral Rainforest

May be in the lower catchment of creeks and rivers entering the sea or coastal lakes e.g. Glenrock Lagoon at the mouth of the Flaggy Creek catchment.

- Map Unit 40. Swamp Oak- Rushland Forest

Occurs in the lower catchments of Lake Macquarie, Hunter River system, and Port Stephens.

- Map Unit 40a. Phragmites Rushland Forest
- Occurs in the lower catchments of Lake Macquarie, Hunter River system, and Port Stephens.

- Map Unit 47. Mangrove Estuarine Complex

Occurs in the lower catchments of Lake Macquarie, Hunter River system, and Port



Swamp Oak- Rushland Forest



Mangrove Estuarine Complex

## Upper Catchment Riparian Communities

In the upper catchment of creek systems in the Lake Macquarie and Newcastle LGAs (i.e. Winding Creek, Flaggy/Little Flaggy Creeks, upper Cockle Creek, Blue Gum Creek, Styx/ Throsby Creeks, Wentworth Creek and Ironbark Creek, for example), vegetation community remnants resemble the following LHCCREMS profiles:

- Map Unit 5 Alluvial Tall Moist Forest  
These communities have been compromised by urban development, farming, mining, and urban infrastructure, such as power-line easements. The LHCCREMS profiles still form a useful guide for replanting, particularly in the mid-storey and understorey.
- Map Unit 11 Coastal Sheltered Apple-Peppermint Forest  
Again, these communities have been compromised by development.



## Lower Catchment Riparian Communities

In the lower catchments of Lake Macquarie, Newcastle, Port Stephens LGAs, where river/creek systems are still fresh water systems, the following LHCCREMS vegetation community remnants occur:

- Map Unit 36 Tomago Sand Swamp Woodland - confined to Port Stephens
- Map Unit 37 Swamp Mahogany- Paperbark Forest  
Discussed elsewhere with reference to wetland vegetation communities
- Map Unit 38 Redgum Rough Barked Apple Forest  
Occurs on the foreshores of Lake Macquarie
- Map Unit 41 Swamp Oak Sedge Forest
- Map Unit 42 Riparian Melaleuca Swamp Woodland
- Map Unit 42a Melaleuca Scrub
- Map Unit 44 Coastal Wet Sand Cyperoid Heath-occurs in Port Stephens



Melaleuca Swamp Woodland

These riparian vegetation communities can contain the following Endangered Ecological Communities:

- Endangered Ecological Community- Littoral Rainforest
- Endangered Ecological Community- Lowland Rainforest.
- Endangered Ecological Community- Saltmarsh
- Endangered Ecological Community- Swamp sclerophyll forest on coastal floodplain
- Endangered Ecological Community- Swamp Oak Floodplain Forest
- Endangered Ecological Community- Freshwater Wetlands

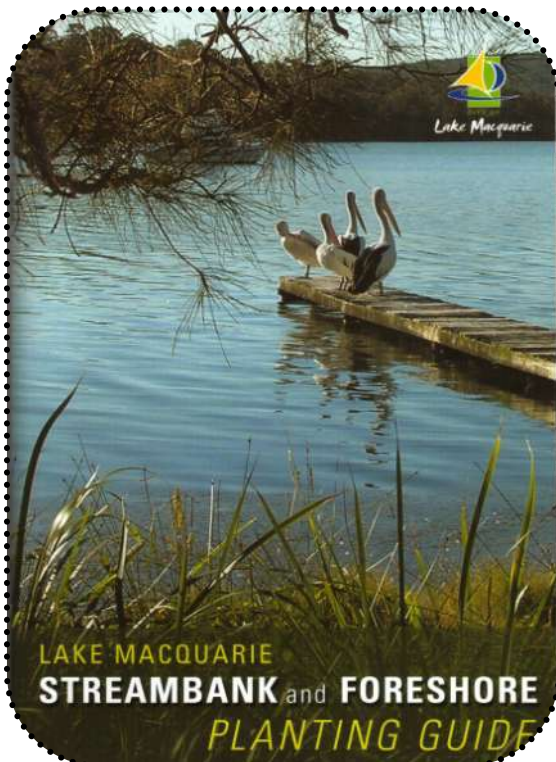
Littoral Rainforest



Salt marsh



Freshwater wetland



A useful guide to riparian planting in the Lake Macquarie LGA is the Lake Macquarie Streambank and Foreshore Planting Guide by the Lake Macquarie Catchment Management Committee April 2000, (updated 2005).

The information in this guide could be extrapolated to Newcastle and Port Stephens LGAs in combination with the LHCCREMS profiles to insure that only indigenous species were being planted.

# Description of an Upper Catchment Riparian Community

## MU5 . Alluvial Tall Moist Forest

Abridged from [http://www.lhccrems.nsw.gov.au/biodiversity/mu05\\_06.html#mu5](http://www.lhccrems.nsw.gov.au/biodiversity/mu05_06.html#mu5)

Canopy Label: *E. saligna* / *S. glomulifera* / *Glochidion ferdinandi*

Structural Classification (Specht): Tall Open Forest Open Forest

### Description

Alluvial Tall Moist Forest occurs in areas of higher rainfall on deep alluvial soils. The tallest stratum in this community ranges between a sparse eucalypt emergent and a tall open forest.

Below this is a moderately dense small tree canopy consisting of rainforest species and *Melaleuca* spp. In the Wyong and Ourimbah Creek valleys, the *Melaleuca* component of this small tree canopy is replaced by substantial development of rainforest. Understorey vegetation consists largely of mesic small trees, herbs and ferns.

The tree stratum is highly varied with combinations of *Eucalyptus saligna*, *Syncarpia glomulifera*, *Angophora floribunda*, and *Eucalyptus robusta* most common. In Gosford and Wyong *Eucalyptus pilularis* tends to be the canopy dominant. On the Williams River at Port Stephens and near Minmi at Newcastle *Eucalyptus grandis* replaces *E. saligna*. In drier environment west of Wallsend at Mount Sugarloaf trees may include *Corymbia maculata*, *E. microcorys* and *E. acmenoides*. As alluvial valleys fan outward *E. tereticornis* becomes dominant.

The small tree stratum is typified by *Glochidion ferdinandi*, *Acmena smithii*, *Melaleuca styphelioides*, *Ficus coronata*, *Melaleuca linariifolia*, *Callistemon salignus* and *Backhousia myrtifolia*.

The shrub layer is floristically variable but commonly includes species *Breynia oblongifolia*, *Gahnia clarkei* and *Acacia irrorata* subsp. *irrorata*.

The understorey in this community also supports a moderately high diversity of climbers and twiners (11 species), the most common being *Geitonoplesium cymosum* and *Dioscorea transversa*.

The moderately dense ground layer is comprised of grasses, ferns and herbs such as *Adiantum aethiopicum*, *Pseuderanthemum variabile*, *Entolasia marginata*, *Lomandra longifolia*, *Oplismenus imbecillis* and *Pratia purpurascens*.

Alluvial Tall Moist Forest represents the gradient between well -developed rainforest on alluvium and Swamp Mahogany - Paperbark Swamp Forest. Distinguishing between these map units will need to consider the variation in abundance of swamp species and mesic species.

Interestingly there is no equivalent community described or mapped in the north coast region (NPWS, 1999(a)). Further analysis may be required to establish relationships between sites north and south of the Hunter River. No community profile provided an indication of the characteristic combination of swamp (eg. *Melaleucas* spp. and *Ghania* spp.) and mesic species which mark this assemblage. One explanation is could be that alluvial valleys remain relatively unsampled on the north coast.

# Description of MU 5

## Alluvial Tall Moist Forest

Stratum	Species	% within community	Common Name
Emergents	<i>Eucalyptus saligna</i>	50%	
	<i>Syncarpia glomulifera</i>	38%	
	<i>Eucalyptus grandis</i>	7%	
	<i>Angophora floribunda</i>	26%	
	<i>Eucalyptus robusta</i>	23%	
	<i>Eucalyptus pilularis</i>	15%	
	<i>Eucalyptus tereticornis</i>	11%	
	<i>Eucalyptus deanei</i>	7%	
	<i>Eucalyptus microcorys</i>	7%	
	<i>Eucalyptus piperita</i>	7%	
	<i>Eucalyptus acmenoides</i>	7%	
	<i>Eucalyptus resinifera</i> subsp <i>resinifera</i>	7%	
	<i>Casuarina glauca</i>	7%	
	<i>Corymbia maculata</i>	7%	
	<i>Corymbia gummifera</i>	3%	
<i>Eucalyptus acmenoides</i>	3%		
Tallest	<i>Glochidion ferdinandi</i>	76%	
	<i>Acmena smithii</i>	57%	
	<i>Melaleuca styphelioides</i>	50%	
	<i>Ficus coronata</i>	46%	
	<i>Melaleuca linariifolia</i>	42%	
	<i>Backhousia myrtifolia</i>	38%	
	<i>Callistemon salignus</i>	38%	
	<i>Alphitonia excelsa</i>	38%	
	<i>Symplocos stawellii</i>	3%	
	<i>Allocasuarina torulosa</i>	26%	
	<i>Melaleuca biconvexa</i>	7%	
	<i>Livistona australis</i>	3%	
Lower Mid	<i>Gahnia clarkei</i>	50%	
	<i>Gymnostachys anceps</i>	46%	
	<i>Breynia oblongifolia</i>	76%	
	<i>Acacia irrorata</i> subsp <i>irrorata</i>	65%	

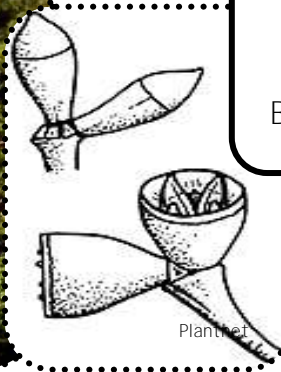
# Description of MU 5

## Alluvial Tall Moist Forest

Stratum	Species	% within community	Common Name
Lowest (<1m)	<i>Adiantum aethiopicum</i>	73%	
	<i>Pseuderanthemum variable</i>	73%	
	<i>Entolasia marginata</i>	65%	
	<i>Lomandra longifolia</i>	61%	
	<i>Oplismenus imbecillis</i>	61%	
	<i>Pratia purpurascens</i>	61%	
	<i>Oplismenus aemulus</i>	53%	
	<i>Dichondra repens</i>	53%	
	<i>Pteridium esculentum</i>	53%	
	<i>Hydrocotyle laxiflora</i>	42%	
	<i>Viola hederacea</i>	42%	
	<i>Doodia aspera</i>	38%	
	<i>Austrosteenisia blackii</i>	3%	
	<i>Sparganium subglobosum</i>	3%	
	<i>Youngia japonica</i>	3%	
	<i>Hypolepis muelleri</i>	30%	
	<i>Calochlaena dubia</i>	30%	
Vines and Epiphytes	<i>Geitonoplesium cymosum</i>	84%	
	<i>Dioscorea transversa</i>	65%	
	<i>Morinda jasminoides</i>	61%	
	<i>Smilax australis</i>	57%	
	<i>Glycine clandestina</i>	50%	
	<i>Pandorea pandorana</i>	38%	
	<i>Parsonsia straminea</i>	69%	
	<i>Stephania japonica var discolor</i>	61%	
	<i>Cissus antarctica</i>	42%	
	<i>Eustrephus latifolius</i>	42%	
	<i>Sarcopetalum harveyanum</i>	38%	

# A picture guide to Plants in MU5- Alluvial Tall Moist Forest

## Emergents



*Eucalyptus saligna*  
Sydney Blue Gum



*Syncarpia glomulifera*  
Terpentine



*Eucalyptus robusta*  
Swamp Mahogany



## Tall trees



*Glochidion ferdinandi*  
Cheese Tree



# Tall trees



*Melaleuca styphelioides*  
Prickly-leaved Paperbark



*Acmena smithii*  
Creek Lillypilly

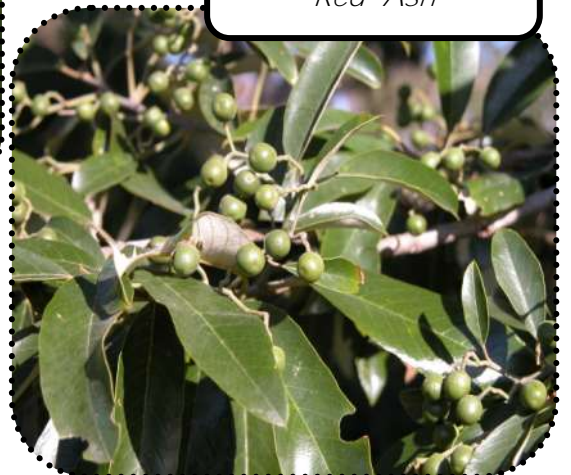


*Ficus coronata* Creek Sandpaper Fig

*Backhousia myrtifolia*  
Grey Myrtle



*Alphitonia excelsa*  
Red Ash

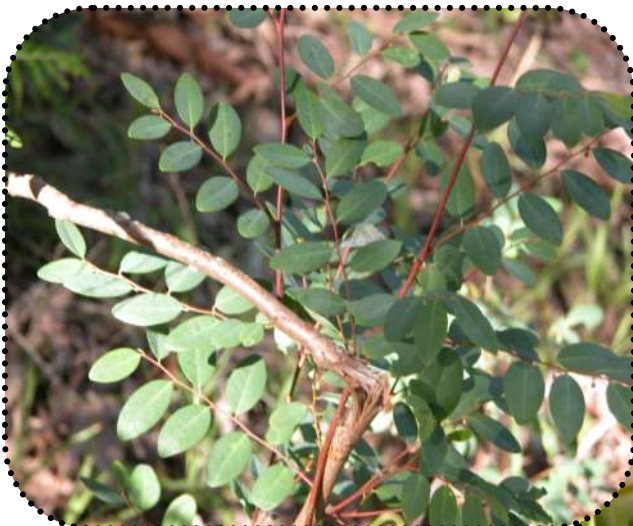


# Lower Mid

*Gahnia clarkei*  
Saw Sedge



*Gymnostachys anceps* Settlers Flax



*Breynia oblongifolia*  
Coffee Bush



Lowest < 1m



*Adiantum aethiopicum*  
Maidenhair Fern



*Pseuderanthemum variabile*  
Pastel Flower



*Lomandra longifolia* Mat Rush



*Pteridium esculentum*  
Bracken Fern

45 *Doodia aspera*  
**Rasp fern**  
Fern

A Loughran 2006

**Similarities**  
Native and weed  
• Fronds (fern leaves) similar shape.  
• Erect fronds.

*Doodia aspera*  
Rasp Fern

51 *Oplismenus* spp.  
**Basket grass**  
Matlike grass

A Loughran 2006

**Similarities**  
Native and weed  
• Leaf shape.  
• Panicle arising on leaves.  
• Trailing habit.

*Oplismenus* spp. Basket Grass

# Vines



*Dioscorea transversa*  
Yam



*Smilax australis*



*Pandorea pandorana*  
Wonga Wonga Vine



*Cissus Antarctica*  
Native Grape



*Glycine clandestina*  
Love Creeper



## References

Hunter Councils Inc (2003) Lower Hunter and Central Coast Regional Environmental Strategy [http://www.lhccrems.nsw.gov.au/biodiversity/mu05\\_06.html](http://www.lhccrems.nsw.gov.au/biodiversity/mu05_06.html) (Accessed 27.08.07)

Threatened Species lists -Department of Environment and Climate Change (2005) Threatened Species, Populations & Ecological communities of NSW [http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/home\\_species.aspx](http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/home_species.aspx) (Accessed 12.05.07)

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## Image Credits

All plant photographs unless otherwise stated are by Peter Saunderson, TIN volunteer.

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Cover - Botanical Clip Art -Down Under Collection Deluxe CD-New Horizons Educational Software .[www.nh.com.au](http://www.nh.com.au)

Page 5-Littoral Rainforest <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10867> (accessed 10/8/07)

Page 5-SaltMarsh <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10866> (accessed 10/8/07)

Page 5-Freshwater Wetland- Michael Murphey <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10929> (accessed 10/8/07)

Page 5-Streambank & Foreshore Planting guide (2005) Lake Macquarie Catchment Management Committee. Lake Macquarie City Council

Page 9 Eucalyptus saligna- Photo T.M. Tame <http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Eucalyptus-saligna> (accessed 10/8/07)

Page 12 Oplimemus and Doodia: Ann Loughran (2006) Native plant or Weed-Pick the Difference. Dept Primary Industry ISBN 0 7313 0598 1

## Useful people

The Site Orientation Booklet in this series has a useful contact list including

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