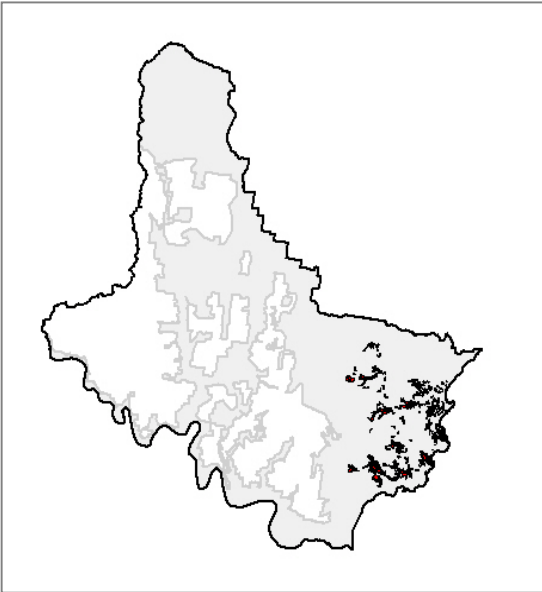


Narrabeen Coastal Blackbutt Forest

Coastal Narrabeen Shrub Forest

Unit E22a

REMS Unit 22



General Description:

Narrabeen Coastal Blackbutt Forest occurs on the Erina soil landscape on the hills and slopes around Gosford City and east, and down the Bouddi Peninsula. Vegetation here is clearly dominated by Blackbutt (*Eucalyptus pilularis*), *Syncarpia glomulifera* subsp. *glomulifera*, and *Allocasuarina torulosa* in the canopy, over a shrubby understorey of *Acacia longifolia*, *Duboisia myoporoides*, *Leucopogon margarodes*, *Gompholobium latifolium*, *Bossiaea obcordata*, *Hibbertia aspera*, *Lomandra obliqua*, *Xanthorrhoea macronema*, and *Pteridium esculentum*. McRae (1990) describes a similar community for parts of the Bouddi Peninsula near Gosford.

Known Floristic/ Structural Variations:

- (a) Type variant (mapped as E22ai) – tall forest dominated by *Eucalyptus pilularis* occurs over a sparse to moderate understorey of shrubs and a well developed grass layer.
- (b) *Angophora costata* variant (mapped as E22aii) – an ecotonal community occurs in places such as the northern slopes of Kincumber Mountain, where *Angophora costata* becomes more common in the canopy, and an increase in the diversity of shrub species.
- (c) Sheltered variant (mapped as E22aiii) – in sheltered locations, an understorey of more mesic shrub species occurs under the dominant *Eucalyptus pilularis*.

Distribution:

Within Gosford LGA – occurs over the Erina Hills landscape on Narrabeen Sandstones, generally east of West Gosford and down the Bouddi Peninsula.

Within LHCC Region – NPWS (2000) have mapped 7461ha of their Coastal Narrabeen Shrub Forest (Unit 22) as remaining in the region, although this also includes a variant in the Watagan Mountains in Lake Macquarie LGA.

Examples Within Gosford LGA

- Presidents Hill, Gosford (variant a)
- Bouddi Hill Road, McMasters Beach (variant a)
- Blackwall Mount, Ettalong (variant c)

Extent: *Extant* - 1010.23 ha

Relationship to Other Communities:

This community can be easily identified by the dominance of *Eucalyptus pilularis* in the canopy, together with a sparse to moderate understorey of shrubs and grasses. *Eucalyptus pilularis* is also present within the Coastal Sand Apple Blackbutt Forest (Unit E33a), but understorey species typical of coastal sands such as *Banksia serrata*, *Banksia aemula*, *Monotoca elliptica*, *Monotoca scoparia*, *Eriostemon australasius*, and *Amperea xiphoclada* var. *xiphoclada* are generally absent or poorly represented.

Equivalent Vegetation Types:

• Benson 1981 (Mangrove Creek):	n/a
• Benson & Fallding 1981 (Brisbane Water)	n/a
• Benson 1986 (Gosf-Lake Mac):	(?) Open-Forest (Unit 9g)
• Clarke & Benson 1986 (Dharug):	n/a
• Strom 1986 (Bouddi Peninsula):	(?) Open forest (Unit 4.3.1) & Low open forest (Unit 4.4.1)
• Clarke & Benson 1987 (Mt White/ Mt Olive):	n/a
• McRae 1990 (Bouddi Peninsula):	(?) Woodland (Unit 2.4)
• Binns 1996 (SF MFD):	n/a
• Payne 1997 (Cockle Bay/ Bouddi):	(?) Open forest on ridges, slopes & gullies (Unit 1.7)
• Bell 1998 (Popran NP):	n/a
• Bell 2002 (Wyong LGA):	Narrabeen Coastal Blackbutt Shrubby Forest (Unit 27)

Significant Species:

- Undescribed species – *none recorded*
- Threatened (TSC Act) – *none recorded*
- Rare (ROTAP) – *none recorded*

Community Conservation Status:

Reserve Representation - within Gosford, this vegetation type is known from Kincumber Mountain and Katandra Reserve, as well as parts of Bouddi NP.

TSC Act (1995) Status - not currently listed.

Mapping Reliability & Included Units:

High Resolution Area – this vegetation type has been mapped from aerial photographic interpretation and ground truthing.

Low Resolution Area – NPWS (2000) modelling of this community in areas such as Mangrove Creek dam requires validation, as it is not expected to occur in the low resolution area.

Vegetation Structure:

Stratum	Mean height (m)	Min height (m)	Max height (m)	Mean cover (%)	Sdev	n
Emergent						
Tallest	20.42	8.00	35.00	43	12.2	24
Middle 1	5.65	1.00	25.00	25	22.1	22
Middle 2	2.44	1.00	5.00	33	38.3	5
Middle 3	0.83	0.01	4.50	64	32.7	23
Lowest	0.48	0.10	0.80	36	43.1	4

Key Diagnostic Species [based on 24 plots]:

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Life Form	Species	Community		All others		Fidelity	
		c/a	Freq.	c/a	Freq.		
Tree	<i>Eucalyptus pilularis</i>	3	67%	3	11%	positive	
	<i>Allocasuarina torulosa</i>	3	58%	2	25%	positive	
	<i>Eucalyptus scias</i>	2	8%	0	0%	unique	
	<i>Angophora costata</i>	1	100%	3	27%	uninformative	
	<i>Corymbia gummifera</i>	1	46%	2	29%	uninformative	
	<i>Syncarpia glomulifera subsp. glomulifera</i>	1	21%	2	29%	uninformative	
	<i>Eucalyptus acmenoides</i>	3	17%	2	5%	uninformative	
Palm	<i>Livistona australis</i>	1	13%	1	16%	uninformative	
Small tree	<i>Glochidion ferdinandii</i>	2	42%	2	28%	positive	
	<i>Banksia serrata</i>	2	29%	2	25%	uninformative	
	<i>Allocasuarina littoralis</i>	2	25%	1	14%	uninformative	
Shrub	<i>Xanthorrhoea minor subsp. minor</i>	1	4%	0	0%	unique	
	<i>Persoonia levis</i>	1	71%	1	32%	uninformative	
	<i>Platylobium formosum</i>	1	71%	2	6%	uninformative	
	<i>Platysace lanceolata</i>	1	58%	2	13%	uninformative	
	<i>Polyscias sambucifolia</i>	1	58%	1	15%	uninformative	
	<i>Breynia oblongifolia</i>	1	46%	1	32%	uninformative	
	<i>Persoonia linearis</i>	1	46%	1	25%	uninformative	
	<i>Acacia ulicifolia</i>	2	38%	1	23%	uninformative	
	<i>Macrozamia communis</i>	2	38%	2	10%	uninformative	
	<i>Dodonaea triquetra</i>	1	38%	1	16%	uninformative	
	<i>Dillwynia retorta</i>	3	33%	2	4%	uninformative	
	<i>Podolobium ilicifolium</i>	2	29%	2	11%	uninformative	
	<i>Leptospermum polygalifolium</i>	2	25%	2	24%	uninformative	
	<i>Pimelea linifolia</i>	2	25%	1	20%	uninformative	
	<i>Banksia spinulosa</i>	1	25%	2	16%	uninformative	
	<i>Xanthorrhoea media</i>	1	25%	2	14%	uninformative	
	<i>Acacia suaveolens</i>	1	21%	1	28%	uninformative	
	<i>Duboisia myoporoides</i>	1	21%	1	5%	uninformative	
	<i>Pittosporum undulatum</i>	1	21%	1	14%	uninformative	
	<i>Platysace linearifolia</i>	1	21%	2	33%	uninformative	
	<i>Pultenaea flexilis</i>	1	21%	1	11%	uninformative	
	<i>Woolfsia pungens</i>	2	17%	1	9%	uninformative	
	<i>Xanthorrhoea macronema</i>	2	17%	2	2%	uninformative	
	<i>Banksia integrifolia subsp. integrifolia</i>	1	17%	1	7%	uninformative	
	<i>Leucopogon lanceolatus var lanceolatus</i>	1	17%	1	4%	uninformative	
	<i>Pultenaea daphnoides</i>	1	17%	1	7%	uninformative	
	<i>Xanthorrhoea arborea</i>	3	13%	1	7%	uninformative	
	<i>Acacia floribunda</i>	1	13%	1	5%	uninformative	
	<i>Gompholobium latifolium</i>	1	13%	1	15%	uninformative	
	<i>Hibbertia empetrifolia subsp. empetrifolia</i>	1	13%	1	11%	uninformative	
<i>Leptomeria acida</i>	1	13%	1	3%	uninformative		
<i>Maytenus silvestris</i>	1	13%	1	9%	uninformative		
<i>Notelaea longifolia</i>	1	13%	1	16%	uninformative		
<i>Pittosporum revolutum</i>	1	13%	1	12%	uninformative		
Herb	<i>Pratia purpurascens</i>	2	42%	2	20%	positive	
	<i>Isotoma fluviatilis</i>	1	4%	0	0%	unique	
	<i>Gonocarpus teucroides</i>	1	33%	1	14%	uninformative	
	<i>Pseuderanthemum variabile</i>	2	25%	2	16%	uninformative	
	<i>Opercularia aspera</i>	1	25%	1	4%	uninformative	
	<i>Pomax umbellata</i>	1	25%	2	16%	uninformative	
	<i>Actinotus helianthi</i>	2	21%	1	6%	uninformative	
	<i>Xanthosia pilosa</i>	1	21%	1	13%	uninformative	
	<i>Gonocarpus tetragynus</i>	2	13%	2	5%	uninformative	
	<i>Schelhammera undulata</i>	2	13%	2	8%	uninformative	
	<i>Goodenia heterophylla</i>	2	13%	1	6%	uninformative	
	<i>Plectranthus graveolens</i>	1	13%	2	1%	uninformative	
	Grass	<i>Themeda australis</i>	2	71%	2	21%	positive
		<i>Entolasia stricta</i>	2	83%	2	52%	constant
<i>Imperata cylindrica var major</i>		1	58%	2	27%	uninformative	

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	<i>Anisopogon avenaceus</i>	1	13%	2	16%	uninformative
Graminoid	<i>Dianella caerulea</i>	1	83%	1	49%	uninformative
	<i>Lomandra longifolia</i>	1	67%	2	43%	negative
	<i>Lomandra obliqua</i>	2	17%	2	20%	uninformative
Ground fern	<i>Schizaea fistulosa</i>	1	4%	0	0%	unique
	<i>Pteridium esculentum</i>	3	79%	2	40%	constant
	<i>Calochlaena dubia</i>	3	33%	3	17%	uninformative
	<i>Cheilanthes sieberi subsp. sieberi</i>	1	21%	2	6%	uninformative
	<i>Blechnum cartilagineum</i>	2	17%	2	16%	uninformative
	<i>Adiantum aethiopicum</i>	2	13%	2	12%	uninformative
Climber	<i>Billardiera scandens</i>	1	63%	1	27%	uninformative
	<i>Eustrephus latifolius</i>	1	33%	1	24%	uninformative
	<i>Geitonoplesium cymosum</i>	1	33%	1	23%	uninformative
	<i>Glycine clandestina</i>	1	29%	2	22%	uninformative
	<i>Hibbertia scandens</i>	1	29%	1	14%	uninformative
	<i>Parsonsia straminea</i>	1	29%	1	19%	uninformative
	<i>Pandorea pandorana subsp. pandorana</i>	2	25%	1	24%	uninformative
	<i>Cissus hypoglauca</i>	1	21%	1	18%	uninformative
	<i>Smilax glycyphylla</i>	1	17%	1	20%	uninformative
	<i>Stephania japonica var. discolor</i>	1	17%	1	17%	uninformative
	<i>Cassytha glabella forma glabella</i>	1	13%	2	15%	uninformative
Sedge/ Rush	<i>Lepidosperma laterale</i>	1	38%	2	26%	uninformative
	<i>Gahnia clarkei</i>	2	13%	2	11%	uninformative