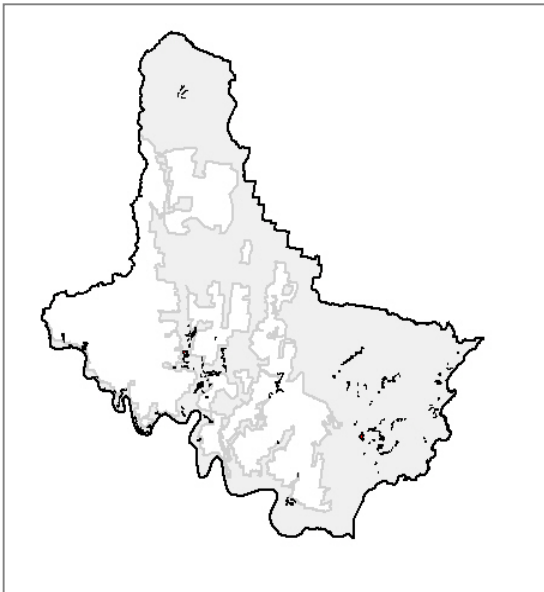


Estuarine Swamp Oak Forest

Swamp Oak – Rushland Forest

Unit E40
REMS Unit 40



General Description:

Estuarine Swamp Oak Forest occurs adjacent to tidal estuaries in slightly higher ground than the nearby mangrove-related vegetation types. Swamp Oak (*Casuarina glauca*) clearly dominates this community, with an understorey of sedges and rushes such as *Juncus kraussii* subsp. *australiensis* and *Baumea juncea*, and the herb *Apium prostratum*.

Known Floristic/ Structural Variations:

- (a) Type variant (mapped as E40i) – monospecific stands of Swamp Oak over *Baumea juncea* and *Juncus kraussii* subsp. *australiensis* forms the typical variant.
- (b) Rainforest ecotone variant (mapped as E40ii) – at the interface between saline and freshwater influences, an ecotonal zone exists where an overstorey of *Casuarina glauca* occurs over an understorey of sedges and rainforest species, such as *Glochidion ferdinandi*, *Ficus coronata*, *Livistona australis* etc. These areas can be quite distinct.

Distribution:

Within Gosford LGA – generally occurs locally around coastal estuaries, but is also present in back swamps associated with major tributaries of the Hawkesbury River system.

Within LHCC Region – NPWS (2000) have mapped 2449ha of their Swamp Oak-Rushland Forest (Unit 40) remaining in the region.

Examples Within Gosford LGA

- Upper reaches of Avoca Lake (variant b)
- Floodplain of Erina Creek, south of Wells Road (variant c)

Extent: *Extant* - 355.44 ha

Relationship to Other Communities:

The clear dominance of *Casuarina glauca* separates this community from all others, although in some locations, understorey components are shared with Mangrove and Saltmarsh communities (Units E47 & E47a).

Equivalent Vegetation Types:

• Benson 1981 (Mangrove Creek):	n/a
• Benson & Fallding 1981 (Brisbane Water)	Reedland/ Rushland with <i>Casuarina glauca</i> (Unit 11)
• Benson 1986 (Gosf-Lake Mac):	Low Open-Forest (Unit 4a)
• Clarke & Benson 1986 (Dharug):	Forest – She-oak Swamp (Unit A3)
• Strom 1986 (Bouddi Peninsula):	Woodland with Reedland/ Rushland (Unit 1.3.1)
• Clarke & Benson 1987 (Mt White/ Mt Olive):	She-oak Swamp Forest (Unit A3)
• McRae 1990 (Bouddi Peninsula):	n/a
• Binns 1996 (SF MFD):	n/a
• Payne 1997 (Cockle Bay/ Bouddi):	n/a
• Bell 1998 (Popran NP):	Estuarine Swamp Oak Forest (Unit SF1)
• Bell 2002 (Wyong LGA):	Estuarine Swamp Oak Forest (Unit 3)

Significant Species:

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

Community Conservation Status:

Reserve Representation - within Gosford, small areas of this vegetation type are present in Cockle Bay NR, together with several of the island reserves in Brisbane Water.

TSC Act (1995) Status - not currently listed.

Mapping Reliability & Included Units:

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

Low Resolution Area – as modelled by LHCCREMS, with some limited ground truthing.

Vegetation Structure:

Stratum	Mean height (m)	Min height (m)	Max height (m)	Mean cover (%)	Sdev	n
Emergent						
Tallest	12.13	4.00	18.00	41	21.4	4
Middle 1	6.50	5.00	8.00	80		1
Middle 2	0.55	0.10	1.00	90		1
Middle 3						
Lowest	0.85	0.10	2.00	69	22.9	4

Key Diagnostic Species [based on 7 plots]:

Life Form	Species	Community		All others		Fidelity
		c/a	Freq.	c/a	Freq.	
Tree	<i>Casuarina glauca</i>	4	100%	2	4%	positive
	<i>Melaleuca quinquenervia</i>	5	14%	2	3%	uninformative
Small tree	<i>Melaleuca styphelioides</i>	1	43%	2	3%	uninformative
	<i>Melaleuca linariifolia</i>	2	29%	2	6%	uninformative
Shrub	<i>Melaleuca ericifolia</i>	2	43%	2	3%	positive
	<i>Avicennia marina subsp. australasica</i>	2	14%	4	1%	uninformative
	<i>Acacia longifolia</i>	1	14%	2	12%	uninformative
	<i>Aegiceras corniculatum</i>	1	14%	3	0%	uninformative
	<i>Duboisia myoporoides</i>	1	14%	1	6%	uninformative

Estuarine Swamp Oak Forest – E40

	<i>Leptospermum polygalifolium</i>	1	14%	2	24%	uninformative
	<i>Goodenia ovata</i>	1	43%	1	3%	uninformative
Herb	<i>Apium prostratum</i> var <i>prostratum</i>	2	43%	2	0%	positive
	<i>Lobelia alata</i>	2	57%	1	1%	positive
	<i>Mimulus repens</i>	3	29%	0	0%	unique
	<i>Eclipta platyglossa</i>	2	29%	0	0%	unique
	<i>Leptinella longipes</i>	2	29%	0	0%	unique
	<i>Triglochin striatum</i>	2	29%	0	0%	unique
	<i>Epaltes australis</i>	2	14%	0	0%	unique
	<i>Gratiola pedunculata</i>	2	14%	0	0%	unique
	<i>Mitrasacme paludosa</i>	2	14%	0	0%	unique
	<i>Pratia pedunculata</i>	2	14%	0	0%	unique
	<i>Atriplex australasica</i>	1	14%	0	0%	unique
	<i>Bacopa monnieri</i>	1	14%	0	0%	unique
	<i>Samolus repens</i>	1	57%	3	1%	uninformative
	<i>Alternanthera denticulata</i>	1	29%	2	0%	uninformative
	<i>Sarcocornia quinqueflora</i> subsp. <i>quinqueflora</i>	4	14%	5	1%	uninformative
	<i>Viola hederacea</i>	2	14%	2	13%	uninformative
	<i>Commelina cyanea</i>	1	14%	1	7%	uninformative
	<i>Cotula australis</i>	1	14%	2	0%	uninformative
	<i>Senecio linearifolius</i>	1	14%	2	1%	uninformative
	<i>Suaeda australis</i>	1	14%	2	0%	uninformative
Grass	<i>Phragmites australis</i>	4	86%	2	1%	positive
	<i>Typha orientalis</i>	1	29%	0	0%	unique
	<i>Sporobolus virginicus</i>	4	29%	5	0%	uninformative
	<i>Sacciolepis indica</i>	2	29%	2	0%	uninformative
	<i>Tetrarrhena juncea</i>	2	14%	2	3%	uninformative
	<i>Zoysia macrantha</i>	2	14%	2	0%	uninformative
	<i>Hemarthria uncinata</i>	2	14%	2	1%	uninformative
	<i>Entolasia marginata</i>	1	14%	2	17%	uninformative
	<i>Oplismenus imbecillis</i>	1	14%	2	17%	uninformative
	<i>Entolasia stricta</i>	0	0%	2	54%	negative
Graminoid	<i>Lomandra longifolia</i>	0	0%	2	45%	negative
Ground fern	<i>Hypolepis muelleri</i>	2	14%	2	7%	uninformative
	<i>Blechnum nudum</i>	1	14%	2	3%	uninformative
	<i>Calochlaena dubia</i>	1	14%	3	18%	uninformative
	<i>Pteridium esculentum</i>	0	0%	2	43%	negative
Epiphytic fern	<i>Platycterium bifurcatum</i>	1	14%	1	1%	uninformative
Epiphytic orchid	<i>Dendrobium teretifolium</i>	1	14%	0	0%	unique
Climber	<i>Parsonsia straminea</i>	1	57%	1	19%	uninformative
Sedge/ Rush	<i>Baumea juncea</i>	5	71%	2	3%	positive
	<i>Juncus kraussii</i> subsp. <i>australiensis</i>	5	57%	2	0%	positive
	<i>Eleocharis equisetina</i>	2	14%	0	0%	unique
	<i>Cladium procerum</i>	1	14%	0	0%	unique
	<i>Fimbristylis ferruginea</i>	1	14%	0	0%	unique
	<i>Carex appressa</i>	3	29%	2	4%	uninformative
	<i>Isolepis nodosa</i>	2	29%	2	1%	uninformative
	<i>Isolepis inundata</i>	2	14%	1	1%	uninformative
	<i>Juncus continuus</i>	2	14%	1	1%	uninformative
	<i>Juncus planifolius</i>	2	14%	1	0%	uninformative
	<i>Carex fascicularis</i>	1	14%	1	1%	uninformative
	<i>Gahnia clarkei</i>	1	14%	2	11%	uninformative
	<i>Juncus usitatus</i>	1	14%	1	0%	uninformative