

**Survey of coastal vegetation
in Townsville City Council Reserve
at Rowes Bay**

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to Townsville City Council
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Prepared by

Dr Con Lokkers

for Earthworks Environmental Services Pty Ltd

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Methodology

A field survey of vegetation was conducted on 3 May, 2000, for the Townsville City Council Sanitary Reserve, located between Rowes Bay and the Belgian Gardens Cemetery (Figure 1). Landforms included beach ridges, swales and swamps. Ten sites were surveyed to identify vegetation types and species composition. Species classification follows Henderson (1997). Naturalised species are identified by an asterisk (*) symbol.

Each vegetation type is described and mapped using a tracing paper overlay of aerial photography (Figure 2). The relationships of the current vegetation communities to those mapped by Skull (1996) and the Regional Ecosystem (RE) model (Sattler & Williams 1999) are given in Table 1. Photographs of vegetation communities and noteworthy flora are presented in Appendix 1. The plant species recorded during this survey are listed in Table 2. The conservation significance of vegetation communities and species are discussed, and some general recommendations are given.

General information

A total of 123 plant species were recorded during the survey.

Vegetation community descriptions

1. Grasslands

1.a. Sporobolus grasslands

Landform: Swales. Inundated by extremely high tides a few times per year. Generally highly saline soils, but less saline than soils of samphire forblands.

Structure and composition: Forms dense swards.

Upper stratum: none

Mid stratum: Occasional *Sesbania cannabina*, *Macroptilium lathyroides*.

Av. height: 1.5m

% cover: <5%

Ground stratum: *Sporobolus virginicus* dominant. Scattered other grasses (eg *Chloris virgata*, *Eriochloa pseudoacrotricha*, *Leptochloa fusca*), herbs (eg *Vernonia cinerea*, *Aeschynomene indica*), sedges (eg *Cyperus* species, *Fimbristylis* species), and samphires (eg *Halosarcia indica*).

Av. height: 0.5m

% cover: 75-100%

1.b. Brachiaria closed grassland

Landform: Swales, in band between deeper wetland areas and dryland areas. Periodically inundated by shallow fresh water. Soils usually not saline.

Structure and composition: May be associated with *Melaleuca* forest. Forms dense swards.

Upper stratum: Scattered *Melaleuca dealbata* and *Melaleuca viridiflora*.

Av. height: 10m

% cover: <5%

Mid stratum: none

Ground stratum: *Brachiaria mutica* dominant. *Paspalum vaginatum* and various *Cyperus* species may be common in patches.

Av. height: 0.5m

% cover: 100%

2. Samphire forbland

Landform: Swales. Inundated by extremely high tides 10-100 times per year. Hypersaline soils.

Structure and composition: Scattered, highly salt tolerant shrubs (samphires), with large areas of bare mud.

Upper stratum: none

Mid stratum: Occasional *Sesbania cannabina*, *Clerodendrum inerme*, mangrove shrubs.

Av. height: 1m

% cover: <5%

Ground stratum: Scattered samphires (*Halosarcia* species, *Sarcocornia quinqueflora*, *Suaeda arbusculoides*), salt tolerant grasses (*Sporobolus virginicus*, *Chloris virgata**) and sedges (*Cyperus scariosus*).

Av. height: 0.1m

% cover: 10%

3. Eleocharis sedgeland

Landform: Swamp within swales. May be influenced by extremely high tides once every few years. Generally somewhat saline soils. Usually inundated by fresh water for 3-6 months per year.

Structure and composition: Forms dense swards, intermingled with patches of open water, which support submerged aquatic plants.

Upper stratum: none

Mid stratum: none

Ground stratum: *Eleocharis spiralis* dominant. *Schoenoplectus litoralis* and *Typha orientalis* may be dominant in patches. Floating aquatic ferns such as *Marsilea mutica* and *Lemna trisulca* are common.

Av. height: 1-1.5m

% cover: 50%

4. Submerged/floating forbland

Landform: Swamp within swales. Water too deep to allow grasses and sedges to establish.

Structure and composition: Floating lilies (eg *Nymphaea spp*) present. Submerged plants, such as *Hydrilla verticillata* and *Utricularia caerulea* common.

% cover: 50%

5. Woodlands/forests

5.a. Acacia woodland

Landform: Beach ridge, second dune back from beach.

Structure and composition: Open canopy of wattles, with occasional emergent trees. Well developed ground cover. About 20% of area is bare sand.

Upper stratum: Dominated by *Acacia crassicarpa*. *Corymbia tessellaris* and *Canarium australianum* are occasional emergents.

Av. height: 5m

% cover: 15%

Mid stratum: Various shrubs (*Clerodendrum floribundum*, *Lantana camara**) and tree saplings (*Acacia crasscarpa*, *Alphitonia excelsa*).

Av. height: 1.5m

% cover: 20%

Ground stratum: Scattered grasses, such as *Panicum maximum**, *Brachiaria subquadriflora*, *Cenchrus echinatus** and *Melinis repens**, and herbs, including *Xenostegia tridentata*, *Jasminium didymum*, and *Tribulus terrestris*.

Av. height: 0.5m

% cover: 75%

5.b. Vine thicket (mixed) woodland/open woodland

Landform: Beach ridge.

Structure and composition: Diverse range of vine thicket and ground stratum species. Scattered emergent trees reaching up to 15m. Vines conspicuous. 10-20% of area is bare sand/sandy loam.

Upper stratum: Various littoral vine thicket species, including *Acacia crasscarpa*, *Pleiogynium timorense*, *Pouteria sericea*, *Mimusops elengi*, *Alphitonia excelsa*, *Canarium australianum*, *Mallotus philippensis*, *Geijera salicifolia* and *Diospyros geminata*. occasional emergent *Corymbia tessellaris*.

Av. height: 6m

% cover: 15-25%

Mid stratum: Numerous shrub/trees, including *Planchonia careya*, *Pogonolobus reticulatus* and *Clerodendrum floribundum*, and tree saplings.

Av. height: 3m

% cover: 10-20%

Ground stratum: A variety of grasses (*Heteropogon contortus*, *Panicum maximum**, *Melinis repens**) and herbs (*Crotalaria* species, *Indigofera brevidens*, *Vigna lanceolata*, *Tridax procumbens**, *Commelina ensifolia*, *Evolvulus alsinoides*).

Av. height: 0.75m

% cover: 75%

Vine stratum: *Jasminium simplicifolium*, *Passiflora foetida**, Milky sapped vine species.

5.c. Melaleuca woodland/open forest

Landform: Swales, bordering swamps and lagoons.

Structure and composition: Occur around fringes of wetlands, such as eleocharis sedgeland. Vary from open forest (50-60% cover) to woodland (25-50% cover), with variable mid stratum and diverse ground stratum. Bordered in some saline areas by a narrow band of mangrove species, such as *Lumnitzera racemosa* and *Avicennia marina*.

Upper stratum: *Melaleuca dealbata* dominant. *Melaleuca viridiflora*, *Corymbia tessellaris* and *Acacia crasscarpa* may also be common. Mangroves such as *Lumnitzera racemosa* and *Avicennia marina* may be common along more saline wetland edges.

Av. height: 5-10m

% cover: 25-60%

Mid stratum: May contain vine thicket species (*Pouteria sericea*, *Alphitonia excelsa*, *Cupaniopsis anacardioides*). *Pandanus whitei* and *Clerodendrum inerme* may be common.

Av. height: 2-4m

% cover: 10-20%

Ground stratum: Grasses such as *Panicum maximum**, *Imperata cylindrica*, *Heteropogon contortus* and *Sporobolus virginicus*. Herbs including *Indigofera hirsuta* and

Crotalaria species. Sedges such as *Cyperus* species and *Fimbristylis* species. Samphires such as *Sesuvium portulacastrum* and grasses such as *Sporobolus virginicus* and *Paspalum vaginatum* may be common along more saline wetland edges.

Av. height: 0.5-1.5m

% cover: 10-75%

Conservation significance:

- No rare and threatened flora species were recorded during this half-day survey. However, a number of species may be present in this littoral habitat, but not observed in the short time available. These include *Tylophora williamsii*, *Aponogeton queenslandicus*, and *Grewia graniticola*. *Aponogeton queenslandicus* (**Rare**) is a water plant, which has been recorded from the Town Common (Queensland Herbarium records). It has also been collected from Stuart Creek. *Tylophora williamsii* (**Vulnerable**) is a vine found in coastal vine thickets (R. Cumming, pers. comm.). The Queensland Herbarium has records from vine thicket on Mt Stuart and the Pinnacles. *Grewia graniticola* (**Rare**) is a shrub, recorded in woodlands on hill slopes or coastal dunes, in sandy or skeletal soils. One specimen was collected from a coastal dune on Magnetic Island (Queensland Herbarium records).
- Vine thicket woodland on coastal dunes is equivalent to low microphyll rainforest on coastal dunes (RE 11.2.3 – Sattler & Williams 1999), and is considered to be a regional ecosystem of concern, as it is a naturally restricted type. It plays an important role in coastal dune stabilisation, and clearing is considered inappropriate in the Bowen Tree Clearing Guidelines for Leasehold lands (DNR undated).
- Very limited areas of beach scrub (mapped in the present survey as vine thicket woodland) occur in the mainland Townsville region (Lavarack 1991), and much has been degraded by clearing, fire, tracks and weed invasion. The area has been protected from fire by surrounding wetlands and the cemetery. This site represents probably the closest intact vine thicket remnant to the Townsville urban area, and is thus valuable for its high conservation values, and as a potential educational and eco-tourism resource. Numerous vine thicket species, including *Canarium australianum*, *Pouteria sericea* and *Exocarpos latifolius*, produce fruit which are an important food source for frugivorous fauna (eg Torresian Pigeon)
- The freshwater wetland area in this reserve is remarkably weed-free, with only a narrow fringe of para grass* along the north-eastern edge. This is in marked contrast to the wetlands in the Town Common, which have been heavily invaded by para grass. The low weed levels may be attributable to the regular cycling of the wetland from saline to fresh. The site has retained good connectivity with the sea via Mundi Creek, so extremely high tides inundate a large proportion of the wetlands. Para grass* is intolerant of high salinity, thus regular salt-water intrusion may be limiting its spread. Substantial areas of *Eleocharis* and other native water plants grow in the site. *Eleocharis*, in particular, is an important food source for brolgas. The site provides habitat for a range of water birds, with brolgas, jabiru, spoonbills and egrets observed during the survey.

- The wetlands in the Sanitary Reserve are included in the Town Common wetlands, which were considered by Lukacs (1996) to have high conservation values. QNPWS (1987) attributed the following conservation values to the Town Common:
 - internationally significant waterbird habitat;
 - regionally important habitat for broilgas and magpie geese;
 - habitat for a range of native fauna;
 - an area which can be effectively managed for wildlife purposes.These values are equally applicable to the Sanitary Reserve.
- Sedgeland in the Sanitary reserve are classified as “sedgeland in depressions on Quaternary estuarine deposits”, regional ecosystem 11.1.3 (Sattler & Williams 1999). This ecosystem is considered “of concern”, as it is a naturally restricted type.

Recommendations:

- The surveyed area contains the closest intact example of beach scrub to the Townsville urban region. It provides habitat and food for a range of native animals. Its easy accessibility also makes it a valuable potential resource for educational and eco-tourism activities. It is strongly recommended that the area is conserved and managed for these high conservation, educational and eco-tourism values.
- The wetlands in the Sanitary Reserve provide high quality habitat for a variety of water birds, fish and other native animals. It is recommended that these wetlands are conserved and managed to retain their high conservation, educational and eco-tourism values. They also provide some fire protection for the enclosed vine thicket woodland area.
- Retain connectivity with the sea via Mundi Creek, allowing the site to cycle naturally between saline and fresh water conditions. This will assist in control of para grass*, and maintain the site’s value as marine nursery habitat.
- It would be valuable to use the mapping from this survey (Figure 2) to update existing GIS digital mapping of the Sanitary Reserve. Guidelines for converting the present detailed mapping to the broader scale Townsville City Council vegetation mapping (Skull 1996) are given in Table 2.
- A number of invasive weeds have the potential to degrade the area, including *Panicum maximum*, *Brachiaria mutica*, *Lantana camara* and *Zizyphus mauritiana*. It is recommended that a weed management plan be developed and implemented for strategic control of these species.

References:

- Henderson, R.J.F. (ed.) 1997. *Queensland Plants: Names and Distribution*. Queensland Herbarium, Department of Environment.
- Lavarack, P.S. 1991. *The beach scrubs of the central Queensland coast*. ANPWS report.
- Lukacs, G. 1996. *Wetlands of the Townsville area*. ACTFR report to Townsville City Council.
- QNPWS. 1987. *Townsville Town Common Environmental Park management plan*. Queensland National Parks and Wildlife Service, Townsville.
- Sattler, P. & Williams, R. (eds) 1999. *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.
- Skull, S. 1996. *Townsville City Council Region: Vegetation communities and conservation priorities*. ACTFR report to Townsville City Council.

Legislation:

- DNR 1997. *Broadscale Tree Clearing Policy*. Qld Dept. Natural Resources.
- Anon (no date, c. 1998). *Local Tree Clearing Guidelines for Leasehold Land for Bowen Shire Locality*.
- Queensland Fisheries Act, 1994.
- Queensland Nature Conservation Act, 1992.
- Queensland Nature Conservation (Wildlife) Regulation, 1994.
- Queensland Nature Conservation (Protected plants in trade) Conservation Plan, 1995.

Table 1: Comparison of mapping units used in this survey, Skull (1996) and the Regional Ecosystem model (Sattler and Williams, 1999).

Vegetation type	Skull (1996)	Regional ecosystem
1.a Sporobolus grasslands	Coastal grassland	11.1.1
1.b Brachiaria closed grasslands	Para grass	11.1.3/11.2.4
2. Samphire forbland	Salt-marsh	11.1.2
3. Eleocharis sedgeland	Sedgeland	11.1.3 (of concern)
4. Submerged/floating forbland	Open water associated with sedgeland	11.1.3/11.2.4
5.a Acacia woodland	Melaleuca/eucalypt woodland	11.2.5?
5.b Vine thicket (mixed) woodland/open woodland	Beach scrub	11.2.3 (of concern)
5.c Melaleuca woodland/open forest	Melaleuca swamps	11.2.5

Table 2: Plant species recorded during Sanitary Reserve survey.

* denotes naturalised species.

Family	Sp name	Common name	Growth form
Aizoaceae	<i>Sesuvium portulacastrum</i>	sea purslane	herb
Amaranthaceae	* <i>Alternanthera bettzickiana</i>	alternanthera	herb
Amaryllidaceae	<i>Crinum angustifolium</i>	spider lily	herb
Anacardiaceae	<i>Pleiogynium timorense</i>	burdekin plum	tree
Anacardiaceae	* <i>Schinus terebinthifolia</i>	Brazilian pepper tree	shrub/tree
Apocynaceae	* <i>Catharanthus roseus</i>	pink periwinkle	herb
Asclepiadaceae	<i>Gymnanthera oblonga</i>	vine	vine
Asteraceae	* <i>Eclipta prostrata</i>	white eclipta	herb
Asteraceae	* <i>Emilia sonchifolia</i>	purple emilia	herb
Asteraceae	<i>Pterocaulon serrulatum</i>	ragwort	herb
Asteraceae	<i>Sphaeranthus africanus</i>	sphaeranthus	herb
Asteraceae	* <i>Tridax procumbens</i>	tridax daisy	herb
Asteraceae	<i>Vernonia cinerea</i>	purple top	herb
Azollaceae	<i>Azolla pinnata</i>	ferny azolla	aquatic
Burseraceae	<i>Canarium australianum</i>	mango bark	tree
Caesalpiniaceae	<i>Chamaecrista mimosoides</i>	five leaf cassia	herb
Campanulaceae	<i>Wahlenbergia gracilis</i>	blue bells	herb
Capparaceae	<i>Capparis canescens</i>	wild orange	shrub/tree
Capparaceae	<i>Capparis sepiaria</i>	bumble	shrub/vine
Capparaceae	<i>Cleome viscosa</i>	tick weed, spider flower	herb
Chenopodiaceae	<i>Halosarcia indica</i>	samphire	herb
Chenopodiaceae	<i>Sarcocornia quinqueflora</i> subsp. <i>quinqueflora</i>	samphire	herb
Chenopodiaceae	<i>Suaeda arbusculoides</i>	seablite	herb
Chenopodiaceae	<i>Tecticornia australasica</i>	tecticornia	herb
Combretaceae	<i>Lumnitzera racemosa</i>	black mangrove	tree
Combretaceae	<i>Terminalia muelleri</i>	Mueller's damson	tree
Commelinaceae	<i>Commelina ensifolia</i>	native wandering jew	herb
Convolvulaceae	<i>Evolvulus alsinoides</i>	tropical speedwell	herb
Convolvulaceae	<i>Xenostegia tridentata</i>	convolvulus	herb
Cyperaceae	<i>Cyperus difformis</i>	rice sedge, dirty dora	sedge
Cyperaceae	<i>Cyperus iria</i>	rice sedge, variable sedge	sedge
Cyperaceae	<i>Cyperus polystachyos</i>	bunchy sedge	sedge
Cyperaceae	<i>Cyperus scariosus</i>	sedge	sedge
Cyperaceae	<i>Eleocharis spiralis</i>	eleocharis	sedge
Cyperaceae	<i>Fimbristylis ferruginea</i>	fringe rush	sedge
Cyperaceae	<i>Schoenoplectus litoralis</i>	club rush	sedge
Ebenaceae	<i>Diospyros geminata</i>	native ebony	tree
Euphorbiaceae	<i>Euphorbia tannensis</i>	euphorbia	herb
Euphorbiaceae	<i>Flueggea virosa</i> subsp. <i>melanthesoides</i>	white currant bush	shrub
Euphorbiaceae	<i>Mallotus philippensis</i>	red kamala	shrub/tree
Fabaceae	<i>Abrus precatorius</i>	gidee gidee	vine
Fabaceae	* <i>Aeschynomene indica</i>	budda pea	herb
Fabaceae	* <i>Alysicarpus vaginalis</i>	buffalo burr	herb

Fabaceae	<i>Aphyllodium biarticulatum</i>	thick trefoil	herb
Fabaceae	* <i>Clitoria ternatea</i>	butterfly pea	vine
Fabaceae	* <i>Crotalaria goreensis</i>	rattle pod	herb
Fabaceae	* <i>Crotalaria laburnifolia</i>	bird flower	shrub
Fabaceae	<i>Crotalaria medicaginea</i>	trefoil rattlepod	herb
Fabaceae	* <i>Crotalaria pallida</i>	rattle pod	herb
Fabaceae	* <i>Desmodium tortuosum</i>	Florida beggar weed	herb
Fabaceae	<i>Galactia muelleri</i>	galactia	vine
Fabaceae	<i>Indigofera brevidens</i>	desert indigo	herb
Fabaceae	<i>Indigofera hirsuta</i>	hairy indigo	herb
Fabaceae	* <i>Macroptilium atropurpureum</i>	siratro	vine
Fabaceae	* <i>Macroptilium lathyroides</i>	phasey bean	herb
Fabaceae	<i>Sesbania cannabina</i>	sesbania pea	shrub
Fabaceae	<i>Vigna lanceolata</i>	maloga bean	vine
Hydrocharitaceae	<i>Hydrilla verticillata</i>	hydrilla	aquatic
Lamiaceae	<i>Clerodendrum floribundum</i>	lolly bush	shrub/tree
Lamiaceae	<i>Clerodendrum inerme</i>	beach lolly bush	shrub
Lamiaceae	* <i>Hyptis suaveolens</i>	mint weed	herb
Lamiaceae	<i>Premna serratifolia</i>	creek premna	shrub/tree
Lauraceae	<i>Cassytha filiformis</i>	dodder laurel	vine
Lauraceae	<i>Litsea glutinosa</i>	scrub laurel	tree
Lecythidaceae	<i>Planchonia careya</i>	cocky apple	shrub/tree
Lemnaceae	<i>Lemna trisulca</i>	duckweed	aquatic
Lentibulariaceae	<i>Utricularia caerulea</i>	bladderwort	aquatic
Lythraceae	<i>Ammannia multiflora</i>	jerry-jerry	herb
Malvaceae	* <i>Sida cordifolia</i>	flannel weed	herb
Malvaceae	<i>Sida rhombifolia</i>	Paddy's lucerne	herb
Marsileaceae	<i>Marsilea mutica</i>	nardoo	aquatic
Menispermaceae	<i>Pachygone ovata</i>	vine	vine
Menispermaceae	<i>Stephania japonica</i>	tape vine, snake vine	vine
Mimosaceae	<i>Acacia crasscarpa</i>	beach wattle	tree
Mimosaceae	<i>Acacia holosericea</i>	silver-leafed wattle	shrub
Mimosaceae	* <i>Albizia lebbbeck</i>	Indian siris	tree
Moraceae	<i>Ficus opposita</i>	sandpaper fig	shrub/tree
Myrtaceae	<i>Corymbia clarksoniana</i>	bloodwood	tree
Myrtaceae	<i>Corymbia tessellaris</i>	Moreton Bay ash	tree
Myrtaceae	<i>Melaleuca dealbata</i>	silver-leafed paperbark, cloudy tea-tree	tree
Myrtaceae	<i>Melaleuca viridiflora</i>	broad leaf paperbark, broad leaf tea-tree	tree
Nyctaginaceae	<i>Boerhavia dominii</i>	tar vine	herb
Oleaceae	<i>Jasminum didymum</i>	native jasmine	vine
Oleaceae	<i>Jasminum simplicifolium</i>	stiff jasmine	vine
Onagraceae	<i>Ludwigia octovalvis</i>	willow primrose	herb
Pandanaceae	<i>Pandanus whitei</i>	pandanus, screw pine	palm-like tree
Passifloraceae	* <i>Passiflora foetida</i>	stinking passionfruit	vine
Philesiaceae	<i>Eustrephus latifolius</i>	wombat berry	vine
Phormiaceae	<i>Dianella caerulea</i>	blue flax lily	herb
Poaceae	* <i>Brachiaria mutica</i>	para grass	grass

Poaceae	<i>Brachiaria subquadriflora</i>	green summer grass	grass
Poaceae	* <i>Cenchrus echinatus</i>	Mossman River grass	grass
Poaceae	<i>Chloris lobata</i>	lobed chloris	grass
Poaceae	* <i>Chloris virgata</i>	feathertop rhodes grass	grass
Poaceae	<i>Cynodon dactylon</i>	green couch	grass
Poaceae	* <i>Echinochloa colona</i>	awnless barnyard grass	grass
Poaceae	<i>Eriochloa pseudoacrotricha</i>	early spring grass	grass
Poaceae	<i>Heteropogon contortus</i>	black speargrass	grass
Poaceae	<i>Heteropogon triticeus</i>	giant speargrass	grass
Poaceae	<i>Imperata cylindrica</i>	blady grass	grass
Poaceae	<i>Leptochloa fusca</i>	beetle grass	grass
Poaceae	* <i>Melinis repens</i>	red Natal grass	grass
Poaceae	* <i>Panicum maximum var. maximum</i>	guinea grass	grass
Poaceae	<i>Paspalum vaginatum</i>	saltwater couch	grass
Poaceae	<i>Sorghum nitidum</i>	brown sorghum	grass
Poaceae	<i>Sporobolus virginicus</i>	saltwater couch	grass
Portulacaceae	<i>Portulaca oleracea</i>	pigweed, purslane	herb
Portulacaceae	* <i>Portulaca pilosa subsp. pilosa</i>	hairy pigweed	herb
Rhamnaceae	<i>Alphitonia excelsa</i>	red ash	tree
Rhamnaceae	<i>Colubrina asiatica var. asiatica</i>	beach berry bush	shrub/vine
Rhamnaceae	* <i>Ziziphus mauritiana</i>	chinee apple	shrub/tree
Rhizophoraceae	<i>Ceriops tagal</i>	yellow mangrove	shrub/tree
Rubiaceae	<i>Pogonolobus reticulatus</i>	dye bush	shrub
Rutaceae	<i>Geijera salicifolia</i>	scrub wilga	tree
Santalaceae	<i>Exocarpos latifolius</i>	native cherry	tree
Sapindaceae	<i>Alectryon connatus</i>	alectryon	shrub/tree
Sapindaceae	<i>Cupaniopsis anacardioides</i>	tuckeroo	tree
Sapindaceae	<i>Dodonaea viscosa</i>	hop bush	shrub
Sapotaceae	<i>Niemeyera antiloga</i>	brown pearwood, milky plum	tree
Sapotaceae	<i>Pouteria sericea</i>	native plum, creek plum	tree
Tiliaceae	* <i>Corchorus olitorius</i>	jute	herb
Typhaceae	<i>Typha orientalis</i>	bulrush, cumbungi	sedge
Verbenaceae	<i>Avicennia marina</i>	grey mangrove	tree
Verbenaceae	* <i>Lantana camara var. camara</i>	lantana	shrub
Verbenaceae	<i>Phyla nodiflora var. nodiflora</i>	phyla	herb