

Photo 2: Example of current western edge of rainforest adjacent to site

This edge is in very good condition with a dense ground layer of Bracken Fern, Spiney Headed Matrush and Bladey Grass hampering weeds. The forest edge is however open at the shrub level.



This vegetated screen will be at most about 50m wide in the north, tapering southeast to the beach access as shown indicatively in figure 3.

3.1.2 Species Composition and Structure

3.1.2.1 Species Composition

Berrigan and Bray (2004) conducted a flora survey of most of the Crown land vegetation for Hastings Council as part of a management plan for the Middle Rock reserve. Table 2 lists the native species found in the reserve (excluding vines and epiphytes). Most of these species are rainforest species and indicate many of the species which are best suited to local edaphic conditions and maintenance of local genetic diversity. Vines and epiphytes occur in the littoral rainforest but are not to be planted in the revegetation works due to practicality and some vines may hinder early stages of regeneration (eg resulting in a vine thicket instead of littoral rainforest). These plants have the ability to colonise the vegetated screen in due course when environmental conditions are suitable.

Some of these species (eg Acacias) are only suitable for outer edge/ecotone, with true rainforest species to constitute the core part of the vegetated screen adjacent to the existing rainforest. These latter species are intended to close existing gaps and establish a broader closed canopy.

The threatened plant, *Cynanchum elegans* was found in the northern end of the littoral rainforest adjacent to where Middle Head Rd cuts through the reserve. The rainforest dominated vegetated screen will have the positive impact of increasing the potential habitat for this nationally threatened species.

Table 2: Species recorded in SEPP 26 #116 and suitable for vegetated screen planting

SPECIES NAME	COMMON NAME	FAMILY
Trees		
<i>Acacia implexa</i>	Hickory Wattle	Mimosoidaceae
<i>Acacia longifolia</i> v. <i>sophorae</i>	Sydney Golden Wattle	Mimosoidaceae
<i>Acacia maidenii</i>	Maiden's Wattle	Mimosoidaceae
<i>Acmena smithii</i>	Lilly Pilly	Myrtaceae
<i>Acronychia oblongifolia</i>	Common Acronychia	Rutaceae
<i>Alchornea ilicifolia</i>	Native Holly	Euphorbiaceae
<i>Alectryon coriaceus</i>	Beach Alectryon	Sapindaceae
<i>Arytera divaricata</i>	Coogera	Sapindaceae
<i>Baloghia inophylla</i>	Brush Bloodwood	Euphorbiaceae
<i>Banksia integrifolia</i>	Coastal Banksia	Proteaceae
<i>Callistemon salignus</i>	Willow Bottlebrush	Myrtaceae
<i>Canthium coprosmoides</i>	Coast Canthium	Rubiaceae
<i>Cassine australis</i> var. <i>australis</i>	Red Olive Plum	Celastraceae
<i>Casuarina equisetifolia</i>	Horse-Tail She-Oak	Casuarinaceae
<i>Casuarina glauca</i>	Swamp Oak	Casuarinaceae
<i>Claoxylon australe</i>	Brittlewood	Euphorbiaceae
<i>Croton verreauxii</i>	Native Cascarilla	Euphorbiaceae
<i>Cryptocarya microneura</i>	Murrogun	Lauraceae
<i>Cryptocarya rigida</i>	Forest Maple	Lauraceae
<i>Cupaniopsis anacardioides</i>	Tuckeroo	Sapindaceae
<i>Diospyros australis</i>	Black Plum	Ebenaceae
<i>Diospyros pentamera</i>	Myrtle Ebony	Ebenaceae
<i>Drypetes australasica</i>	Yellow Tulip	Euphorbiaceae
<i>Duboisia myoporoides</i>	Corkwood	Solanaceae
<i>Elaeocarpus obovatus</i>	Hard Quandong	Elaeocarpaceae
<i>Euroschinus falcata</i> v. <i>falcata</i>	Ribbonwood	Anacardiaceae
<i>Ficus fraseri</i>	Sandpaper Fig	Moraceae
<i>Ficus obliqua</i>	Small-Leaved Fig	Moraceae
<i>Ficus rubiginosa</i>	Rusty Fig	Moraceae
<i>Glochidion ferdinandi</i>	Cheese Tree	Euphorbiaceae
<i>Guioa semiglauc</i>	Guioa	Sapindaceae
<i>Jagera pseudorhus</i>	Foambark Tree	Sapindaceae
<i>Livistona australis</i>	Cabbage Palm	Arecaceae
<i>Lophostemon confertus</i>	Brush Box	Myrtaceae
<i>Melaleuca quinquenervia</i>	Broad-Leaved Paperbark	Myrtaceae
<i>Myoporum acuminatum</i>	Boobialla	Myoporaceae
<i>Neolitsea australiensis</i>	Green Bolly Gum	Lauraceae
<i>Notelaea longifolia</i>	Large Mock-Olive	Oleaceae
<i>Notelaea venosa</i>	Smooth Mock-Olive	Oleaceae
<i>Planchonella australis</i>	Black Apple	Sapotaceae
<i>Rhysotoechia bifoliata</i>	Twin Leaf Tuckeroo	
<i>Podocarpus elatus</i>	Plum Pine	Podocarpaceae
<i>Rapanea howittiana</i>	Brush Muttonwood	Myrsinaceae
<i>Rapanea variabilis</i>	Muttonwood	Myrsinaceae
<i>Rhodomyrtus psidioides</i>	Native Guava	Myrtaceae
<i>Sarcomelicope simplicifolia</i>	Bauerella	Rutaceae
<i>Scolopia braunii</i>	Flintwood	Flacourtiaceae
<i>Stenocarpus salignus</i>	Scrub Beefwood	Proteaceae
<i>Synoum glandulosum</i>	Scentless Rosewood	Meliaceae
<i>Tristaniopsis laurina</i>	Water Gum	Myrtaceae
<i>Wilkiea huegeliana</i>	Veiny Wilkiea	Monimiaceae

Shrubs		
<i>Breynia oblongifolia</i>	Breynia	Euphorbiaceae
<i>Citriobatus pauciflorus</i>	Orange Thorn	Pittosporaceae
<i>Clerodendrum tomentosum</i>		Verbenaceae
<i>Commersonia fraseri</i>	Brush Kurrajong	Sterculiaceae
<i>Cordyline stricta</i>	Palm Lily	Agavaceae
<i>Pittosporum revolutum</i>	Hairy Pittosporum	Pittosporaceae
<i>Polyscias elegans</i>	Celery Wood	Araliaceae
<i>Psychotria loniceroides</i>	Hairy Psychotria	Rubiaceae
Groundcovers/Herbs		
<i>Alocasia brisbanensis</i>	Cunjevoi	Araceae
<i>Calanthe triplicata</i>	Xmas Orchid	Orchidaceae
<i>Carex sp.</i>	Sedge	Cyperaceae
<i>Crinum pedunculatum</i>	Swamp Lily	Amaryllidaceae
<i>Dianella sp (caerulea?)</i>	Blue Flax Lily	Liliaceae
<i>Doodia aspera</i>	Rasp Fern	Blechnaceae
<i>Doodia caudata</i>	Small Rasp Fern	Blechnaceae
<i>Einadia hastata</i>	Berry Saltbush	Chenopodiaceae
<i>Gahnia aspera</i>	Saw Sedge	Cyperaceae
<i>Gahnia clarkei</i>	Saw Sedge	Cyperaceae
<i>Gahnia sieberiana</i>	Saw Sedge	Cyperaceae
<i>Gymnostachys anceps</i>	Settlers Flax	Araceae
<i>Isolepis nodosa</i>	Knobby Club Rush	Cyperaceae
<i>Lastreopsis microsora</i>	Creeping Shield Fern	Dryopteridaceae
<i>Lepidosperma laterale</i>	Sword Sedge	Cyperaceae
<i>Lomandra longifolia</i>	Mat Rush	Lomandraceae
<i>Lomandra spicata</i>	Mat Rush	Lomandraceae
<i>Pellaea falcata v. falcata</i>		Sinopteridaceae
<i>Pteris tremula</i>	Tender Brake	Pteridaceae
<i>Tetragonia tetragonoides</i>	New Zealand Spinach	Aizoaceae
<i>Viola hederaceae</i>	Ivy-Leaved Violet	Violaceae

The proponent's bush regenerator has advised that some species found in the adjacent littoral rainforest (Berrigan and Bray 2004) are difficult/impossible to propagate (especially some of the groundcovers and herbs). These species are not recommended to be incorporated in the screen for efficiency and to maximise establishment success.