Importance of dune vegetation

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Vegetation of the Mulgrave Shire northern beaches (continued)

Frontal ridge vegetation (continued)

Horsetail she-oak low open forest to low woodland occurs immediately behind and adjacent to the herbland on sandy areas that are sufficiently stable and protected to allow the growth of shrubs and trees. Other trees present include coconut palm, sea almond and small carbeen. The shrub understorey, where present, includes beach hibiscus, beach calophyllum, wattles *Acacia* spp., red ash *Alphitonia excelsa* and lolly bush *Clerodendrum inerme*. Ground cover under the trees and shrubs is frequently a landward extension of the herbland community. Prostrate shrubs of vitex *Vitex trifolia var. simplicifolia* are often present in more open areas.

Secondary ridge vegetation

Tall shrubland dominated by wattles occurs on sandy ridges in the lee of the horsetail she-oak community in the southern and central sections of the study area. Brown salwood and *Acacia polystachya* are predominant in the canopy.

Low closed forest to open scrub is found on sandy ridges in the central and northern sections of the study area. The canopy includes red coondoo *Mimusops elengi*, black ash *Planchonella obovata*, brown salwood, sea almond, red ash and carbeen. *Eucalyptus* spp.-*Acacia* spp. woodland to open woodland is considered to be the climax vegetation community on the secondary ridges.

A she-oak *Casuarina equisetifolia* dominated low woodland community growing right to the foredune on Palm Cove Beach. The pioneer herbland zone is intermittent and is dominated by goat's foot convolvulus *Ipomoea pes-caprae*.

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The canopy is uneven and the predominant trees are pink bloodwood *Corymbia intermedia*, carbeen, brown salwood and *Acacia polystachya*.

Vegetation management

The colonisation and stabilisation of bare sand on the upper beach and frontal beach ridge by pioneer plants of the herbland, and the development of shrubland, scrub, woodland and forest communities on secondary ridges, represent the natural vegetation zonation at beaches within the study area.

The herbland and woodland vegetation is vital for stability of the frontal ridges and it should be protected and improved where necessary by correct management practices. Clearing, mowing, burning and uncontrolled pedestrian and vehicular traffic can result in its destruction and replacement by less effective sand-binding plants.

At beaches exposed to strong onshore winds, removal of vegetation from frontal ridges can result in wind erosion of bare areas. The volume of sand in the frontal ridge is decreased by wind erosion and ridge height is lowered by wind action. Storm waves can then travel further inland and beach erosion rates are accelerated.

The establishment, maintenance and protection of vegetation on the frontal ridges of the Mulgrave Shire northern beaches are therefore important aspects of beach protection and coastal management.

Reference:

Beach Protection Authority (1984). *Mulgrave Shire Northern Beaches.* BPA, Brisbane.

The fallen timber, the absence of herbland plants and she-oak communities typical of the foredune, and the exposure of *Eucalyptus* and *Acacia* woodland at the beachfront indicate recent erosion and a long-term erosion trend.

On this section of Clifton Beach, a narrow herbaceous zone of goat's foot convolvulus *Ipomoea pes-caprae* lies seaward of a foredune dominated by horse-tail she-oak.