

# 718111

## COASTAL HEATH

This land system stretches in a thin belt along the rocky coastline of the South West. It occurs mainly along the west coast where inland plains are at a low altitude, in comparison to the south coast, where mountain ranges and high cliffs form a discordant coastline. The land system covers the Maatsuyker Group of islands except for a part of De Witt Island. It also covers the Breaksea Islands, Mutton Bird Island and part of Ile du Golfe. Precambrian schist, quartzite and conglomerate are the main rock types forming rocky platforms, low rocky cliffs, deep gulches, occasional blowholes and small offshore islands and reefs.

It is very exposed to westerly and south westerly winds which together with salt spray, and in extreme cases wave action, restricts vegetation growth. As an ecological factor the affect of salt spray on vegetation has received very little attention in the South West. The most notable features, which are similar to those described by Parsons and Gill (1968) for an area at Wilsons Promontory, are growth to the landward side, canopy sloping up from the seaward side and stunted growth forms. They also found that the "... most important effect of salt spray on vegetation is the deposition of large amounts of salt on aerial plant parts, frequently causing the death of shoots and leaves from chloride toxicity ... " and that salt spray populations often become more succulent than their counterparts in sheltered locations. Boyce (1954) suggests that asymmetrical growth forms and sloping crowns are not a result of wind-pruning but rather of chloride toxicity, with chloride entry at sites of mechanical abrasion to twigs and leaves on more exposed seaward aspects. In the most exposed locations of this windswept land system wind pruning probably does occur. Possible evidence includes the shape of vegetation which develops on the leeward side of minor rock outcrops immediately above the rocky wave swept platform. In cross section the plants are typically mirror images of the small seaward outcrops, much the same as feldmark vegetation common in subalpine and alpine areas.

Soils are dominated by organic profiles with no B horizon although peaty gravels or sands may occur beneath the peat. Even the most exposed wave affected platforms and slopes tend to have organic accumulations in small cracks and crevices. This supports a sparse vegetation cover with rock outcrop dominating. The coastal heath forms a belt behind the windswept rocky exposures and is characterised by the following species: *Leptospermum scoparium* var. *eximium*, *L. nitidum*, *Melaleuca squamea*, *Banksia marginata*, *Westringia brevifolia*, *Correa backhousiana*, *Persoonia muelleri*, *Exocarpos sylvicola* and *Epacris impressa*. *Gymnoschoenus*

*sphaerocephalus*, *Boronia pilosa*, *Sprengelia incarnata*, *Restio complanatus* and *Calorophus elongatus* are found in more sheltered parts and probably "grade in" from the adjoining sedgeland/heath. In protected bays and small inlets vegetation similar to the heath flora occurs but is usually taller. Vegetation on De Witt Island is similar to that described above. More protected locations on De Witt Island are included in Land System 817251. Detailed lists of vegetation on various South West Islands can be found in White (1980). According to this author *Senecio spathulatus* dominates large areas of Mutton Bird Island while *Poa poiformis* is particularly common on Flat Witch Island. In addition to species listed above *Drimys lanceolata* appears to be widespread in some heaths on the offshore islands (White 1980).

Grey clay loam or light clay gradational soils cover most of Maatsuyker Island and usually have some organic accumulation on the surface. Mica flecks and fine sand are common in most profiles. There is very little variation in soil texture across the island which is probably a reflection of the relatively homogeneous geology. This makes it an ideal place to investigate factors controlling vegetation development which would mainly be effected by exposure, the presence or absence of sea bird burrows, sodium chloride toxicity and slope stability.

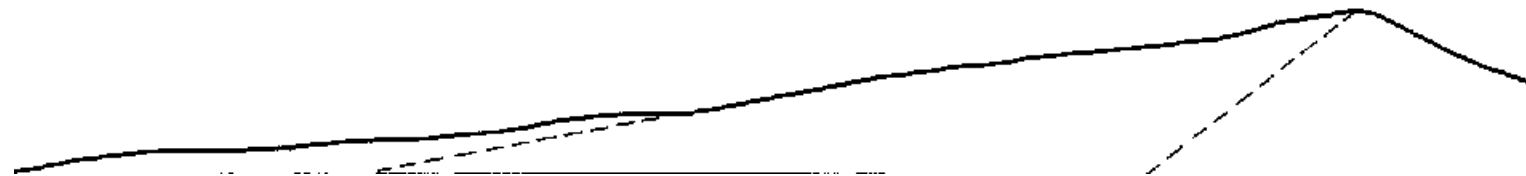
Exposed slopes and those effected by mass movement are densely covered by *Tetratheca* sp., *Senecio* sp., *Carpobrotus rossii*, *Poa poiformis*, and various herbs. This grades further upslope into coastal heath with *Leptospermum scoparium* (? var *eximium*), *Westringia brevifolia*, *Correa backhousiana*, *Cyathodes juniperina*, *Olearia phlogopapa*, *Drimys lanceolata* and *Pimelia* sp. common. Vegetation stripes occur on the south west tip below the light house with the species described above forming the stripes and *Poa* spp. occurring in between. Towards the north eastern tip exposed edges near the top of gulches or cliff edges have very little or no soil accumulation and have a feldmark appearance, woodland covers most higher parts of the Island with *Leptospermum scoparium*, *Melaleuca squarrosa*, *Cyathodes juniperina* and *Banksia marginata* common. Various ferns and mosses occur in the understorey and up the 'trunks' of woodland species.

Nature conservation is the main land use in this land system but Maatsuyker Island is Commonwealth land managed by the Department of Telecommunications. Salt spray limits vegetation development at many sites and sheet erosion will result if burning occurs. In this respect most of this land system is extremely vulnerable as it is in very inaccessible areas where fires are difficult to prevent or combat. There is a high landslip hazard resulting from wave action which undercuts slopes.

LAND SYSTEM  
COASTAL HEATH

718111

Area (ha): 4597



ALTITUDINAL RANGE (m)	0-300	APROXIMATE ANNUAL RAINFALL (mm)		
SITE NO./ ALTITUDE (m) / ASPECT	174/15/W	175/20/W	183/15/-	181/2/N
TOPOGRAPHY		Rocky coastal platform and associated slopes and flats		
Position	Rocky wave affected platform	Exposed coastal slope (on schist)	Very exposed coastal slope (on conglomerate)	Slopes in protected bays
Typical Slope (°)	10-30	0-5	0-5	10
Proportion (%)	45	45		10
GEOLOGY		Precambrian schist, quartzite and conglomerate		
NATIVE VEGETATION Structure	Sparse low vegetation cover - rode outcrop dominates	Closed to open heath	Closed to open-heath	Closed to open-scrub
Floristic Association (See Appendix 1 for common names)	Leptospermum scoparium var eximium Cyathodes abietina Plantago triantha Cakile edentula Stipa teretifolia Poa poiformis Westringia brevifolia Samolus repens	Melaleuca squamea Sprengelia incarnata Aotus ericoides Banksia marginata Leptospermum glaucescens Exocarpus syrticola Parsoonia muelleri Epacris heteronema Gymnoschoenus sphaerocephalus Restio complanatus	Leptospermum scoparium var. eximium L. nitidum Correa backhousiana Sprengelia incamata Westringia brevifolia Persoonia muelleri Banksia marginata Dillwynia glaberrima Leucopogon eriooides	Lertospermum nitidum L. glaucescens Banksia marginata Westringia brevifolia Cbrrea backhousiana Leucopogon ericoides L. parviflorus
SOIL Surface (A or P)	Black (5 YR 2. 5/1) sandy gritty fibrous peat in cracks and	Black (10 YR 2/1) fibrous peat over a very dark grey (10 YR 3/1)	Black (5 YR 2. 5/1) fibrous peat	Black (7. 5 YR 2/0) fibrous peat
Subsoil (or B horizon) colour (moist) and texture	No B horizon	Peaty gravels	No B horizon	Sandy B horizon likely in places
Primary Profile form	Organic	Organic	Organic	Organic
Depth surface horizon (m)	0. 10	0. 55	0. 35	0. 50
Typical total depth (m)	0. 10	0. 55	0. 35	0. 50
Permeability	High	High	High	High
LAND USE	Nature conservation			
HAZARD	High sheet erosion if burnt frequently			