



Hunter TAS02.03.07

Regional Setting

This compartment extends from Woolnorth Point to Cape Keraudren.

It is directly exposed to south-westerly swells and storms, and to seas generated by strong westerly winds. The tidal range is micro-tidal to meso-tidal, with steep gradient to meso-tides in the east resulting in strong tidal currents through Hunter Passage.

The dominant regional processes influencing coastal geomorphology in this region are the Mediterranean to humid cool-temperate climate, micro-tides, high energy south-westerly swells, westerly seas, carbonate sediments, interrupted swell-driven longshore transport, and the Southern Annular Mode (driving dominant south-westerly swells and storms).

Regional hazards or processes driving large scale rapid coastal changes include: mid-latitude cyclones (depressions), storm surges and shelf waves.

Justification of sensitivity

Sensitivity rating is a 3 overall. The coastline comprises stable resilient rocky shoreline. Several small sandy beaches may be squeezed out against backing bedrock slopes by sea-level rise, but significant shoreline recession is unlikely.

The windblown sand blanketing much of the islands in this compartment was derived from sands exposed on the shelf during glacial phase low sea stands, and was probably worked landwards by a combination of wind transport during glacial low sea-stands with arid climates, and by waves during post-glacial marine transgressions. The ultimate source of the sands was probably river transport to the shelf during low sea-stands from glaciated and mass-wasting inland source areas. Although sediment transport modelling ([Harris & Heap 2014](#)) suggests there is potential for onshore sand transport at the present time, the dominance of bare rocky



shoreline, with small sandy beaches in only a few embayed locations, suggests high wave energies keep the shorelines scoured, with sand probably mobilised around the north and south ends of Hunter Island into the next sediment-rich compartment to the east.

Most of the shorelines in this compartment are sloping, hard rock shorelines which can be expected to be resilient and show negligible shoreline recession with sea-level rise. Sea-level rise is likely to squeeze out the several small sandy beaches on Hunter Island against their backing bedrock slopes, but the resulting rocky shoreline should then show little further recession.

Other comments

Few areas beyond immediate shore-faces are susceptible to coastal inundation in this compartment, due to moderately rising backshores in most areas. There is little infrastructure at risk from coastal hazards in this compartment.

Confidence in sources

High confidence: No previous detailed coastal studies. However, good quality geological and topographic mapping demonstrate simple resilient hard rocky shores.

Additional information

Good quality geological and topographic mapping at 1:25000 scale is available for this compartment. The following reference is additionally relevant:

Harris, PT & Heap, A 2014, 'Geomorphology and Holocene Sedimentology of the Tasmanian Continental Margin', in KD Corbett, PG Quilty & CR Calver (eds), Geological Evolution of Tasmania, Geological Society of Australia (Tasmania Division), pp. 530-539.



Figure 1: Compartment TAS02.03.07 Hunter.