



Broken Anchor Bay WA08.01.02

Regional Setting

The dominant regional processes are the Mediterranean to arid climate; the El Nino Southern Oscillation (driving sea-level variability); Southern Annular Mode (driving south-westerly swells and storms); strong sea breezes; micro to meso tidal, mainly diurnal; south-westerly swells; southerly seas; and carbonate sediments with moderate northerly longshore transport.

This coastline is susceptible to regional hazards, including extra-tropical cyclones, mid-latitude cyclones (depressions), storm surges, and river flooding (sub-regions only).

This mixed sand and rock coast compartment extends from Bowes River to Broken Anchor Bay.

Justification of sensitivity

The sensitivity rating is a 4 as the coast is stable but likely to start eroding. Much of the coast is sheltered by shore-parallel reefs close to the shore, in some cases forming inshore lagoons. Sediment movement in the compartment is complicated by the distribution of reefs, shore platforms and the mouths of barred streams. It is not known in detail.

Other comments

Common landform assemblages:

Exposed high energy shorelines with eroded igneous or metamorphic rocks associated with overlying beachrock or eolean limestone (54%). Variable width sandy beach formed in areas protected by offshore reefs; may include some beachrock as low cliffs or headlands (26%). Narrow sandy beach without extensive beachrock, backed by



continuous, stable, well-vegetated high dunes which may include calcarenite (11%).
Narrow sandy beach with extensive beachrock (9%).

Geomorphological features include rock platforms and limestone cliffs.

This compartment has a SW aspect.

Confidence in sources

Low confidence: Limited or no information describing landforms or coastal landform change over the historical period is available. Interpretation of landform assemblages from satellite imagery, aerial photography, site surveys and published information.

Additional information (links and references)

Australian Beach Safety & Management Program (ABSAMP) database of over 12,000 beaches can be accessed at http://www.ozcoasts.gov.au/coastal/beach_intro.jsp (also see Surf Life Saving site);

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Richardson L, Mathews E & Heap A. (2005) Geomorphology and Sedimentology of the South Western Planning Area of Australia: Review and synthesis of relevant literature in support of Regional Marine Planning. Geoscience Australia Report Record 2005/17

Sharples C, Mount R, Pedersen T, Lacey M, Newton J, Jaskierniak D & Wallace L. (2009) The Australian Coastal Smartline Geomorphic and Stability Map. Version 1: Project Report. Geoscience Australia & Department of Climate Change, www.ozcoasts.gov.au/pdf/SmartlineProjectReport_2009_v1.pdf

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