



Windy Harbour WA04.02.02

Regional Setting

The dominant regional processes are the Mediterranean to humid cool-temperate climate; southern annular mode (driving dominant south-westerly swells and storms); micro-tidal; high energy south-westerly swells; westerly seas; carbonate sediments; and interrupted swell-driven longshore transport.

This coastline is susceptible to regional hazards, including mid-latitude cyclones (depressions), storm surges and shelf waves.

This sandy coast compartment extends from West Cliff Point to Point D'Entrecasteaux.

Justification of sensitivity

Sensitivity rating is a 3 overall as the shoreline is currently stable and likely to remain stable.

Most of the coast is rocky, with steep bluffs cut in coastal limestone fronted by broad sandy beach. A higher rating (4) would apply to the foredune plain at Windy Harbour.

Other comments

This compartment has a SSW aspect.

Geomorphological features include granite islands, limestone headlands and cliffs, beaches, dunes and the Broke Inlet.

The majority of this compartment features exposed high energy shorelines with eroded igneous or metamorphic rocks associated with overlying beachrock or eolian limestone (80%). In areas protected by offshore reefs, variable width sandy beaches have formed; they may also include some beachrock as low cliffs or headlands (20%).



Confidence in sources

Low confidence. There is little information available describing landforms or coastal landform change over the historical period. Interpretation of landform assemblages comes from site visits, satellite imagery and aerial photography.

Additional information

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)

Australian Maritime Safety Authority (AMSA). (2006) Oil Spills Response Atlas. Australian Government Canberra. Available at <https://www.amsa.gov.au/environment/maritime-environmental-emergencies/national-plan/general-information/OSRA/index.asp>

Brearley A. (2005) Ernest Hodgkin's Swanland: Estuaries and Coastal Lagoons of Southwestern Australia, University of Western Australia Press, Crawley.

Eliot I, Nutt C, Gozzard B, Higgins M, Buckley E & Bowyer J. (2011). Coastal Compartments of Western Australia: A Physical Framework for Marine & Coastal Planning. Report to the Departments of Environment & Conservation, Planning and Transport. Damara WA Pty Ltd, Geological Survey of Western Australia and Department of Environment & Conservation, Western Australia.

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



Short AD. (2005) Beaches of the Western Australian Coast: Eucla to Roebuck Bay: A guide to their nature, characteristics, surf and safety. Australian Beach Safety and Management Program. University of Sydney Coastal Studies Unit and Surf Life Saving Australia. Sydney University Press. Sydney, New South Wales