



Alexander Bay WA02.01.03

Regional Setting

This mixed sand and rock coast compartment extends from Tagon Point to Hammer Head.

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 mid-latitude cyclones (depressions), storm surges and shelf waves.

Justification of sensitivity

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

Arcuate embayments have formed between rocky headlands and tombolos. There is some visual evidence of bi-directional sediment exchange between adjacent beaches.

Other comments

This compartment has a S aspect.

Geomorphological features include the Recherche Archipelago, granite headlands and coast, beaches and dunes.

The coastline is mainly (86%) comprised of broad, arcuate sandy beaches, which may be cusped or crenulate, formed between or in association with resistant headlands. Exposed high energy shorelines are also present (14%), with eroded igneous or metamorphic rocks associated with overlying beachrock or eolian limestone.



Confidence in sources

Low confidence: Interpretation of landform assemblages comes from satellite imagery and aerial photography. There is limited or no information available describing landforms or coastal landform change over the historical period.

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.

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.