Wagoe Beach WA08.02.01

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 Broken Anchor Bay to Murchison River mouth.

Justification of sensitivity

The sensitivity rating is a 3 as the coast is currently stable and likely to remain stable. Inshore reefs, limestone platforms, perched beaches and mobile dunes are common features along the southern 75% of the coast; the limestone platforms and dune barriers sheltering inshore and coastal lagoons. This part of the shore is highly changeable but little is known about its patterns of sediment movement. Sandstone cliffs comprise of the coast in the northern 25% of the compartment.

Other comments

Common landform assemblages:

Narrow to wide sandy beach seaward of low bluffs (< 50m), in sedimentary rock including limestone (26%). Narrow sandy beach with extensive beachrock (24%). Narrow sandy beach without extensive beachrock, backed by continuous, stable, well-vegetated high

dunes which may include calcarenite (18%). Broad gently-sloping coarse grained sandy beach with some active dunes and unstable blowout areas (15%). Arcuate sandy beach, which may be cuspate or crenulate, formed between or in association with resistant headlands (10%).

Geomorphological features include limestone salient, limestone cliffs, beaches, dunes, Hutt Lagoon and the Murchison River.

This compartment has a WSW aspect.

Confidence in sources

Low: 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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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

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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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