Roebuck Bay WA12.03.02

Regional Setting

The dominant regional processes are the sub-tropical arid climate (Trade winds), El Nino Southern Oscillation (driving sea-level variability), mega to meso semi-diurnal tides, waves dominantly seas, episodic high river sediment discharges, mixed carbonate-terrigenous sediments, and tidal sediment transport.

This coastline is susceptible to regional hazards, including tropical cyclones, storm surges and river flooding.

This estuary-dominated compartment extends from Cape Villaret to Entrance Point.

Justification of sensitivity

The sensitivity rating is a 3 as the shoreline is stable and likely to remain stable. Much of the coast appears adapted to extreme events. Tidal creeks maintain the onshore-offshore sediment exchange in discrete cells between rocky headlands in the northern and southern sections of the compartment. There is strong evidence for onshore-offshore movement of sediment in the main, central sector of Roebuck Bay.

Other comments

Common landform assemblages:

Roebuck Bay has three landform assemblages: (1) Tidal creeks extending beyond spits and cheniers into infilled embayments with salt flats and backshore basins in the south; (2) An unusual pattern of regular; (3) Parallel tidal creeks and salt flats fronted by a 1km wide tidal terrace. The creeks and salt flats associated with them indicate three phases of salt water intrusion into the coastal lowlands of Roebuck Bay, the most inland merging with

dedritic channels draining an inland basin; and beaches abutting the mainly cliffed Pindan coast along the northern shore of the bay.

Geomorphological features include broad embayment, tidal flats, mangroves, tidal creeks, cheniers, spits, cliffs and embayments.

This compartment has a W aspect.

Confidence in sources

Moderate confidence: Limited or no information specifically describing landforms or coastal landform change is available for the historical period. However, multiple photographic runs and other regional investigations of landforms have been published.

Interpretation of landform assemblages from satellite imagery, aerial photography and site visits to Broome.

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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