Napier Broome Bay (Kalumburu) WA13.03.04

Regional Setting

The dominant regional processes are the wet-dry tropical climate (trade winds, monsoons); El Nino Southern Oscillation (driving high sea-level variability); Madden-Julian Oscillation (driving weather patterns including monsoons and tropical cyclones); mega to meso (limited) semi-diurnal tides; waves dominantly seas; episodic high river sediment discharges; mixed carbonate-terrigenous sediments; tidal sediment transport, and limited longshore transport. Tidal range is unusually low in West Bay, on the east coast of Anjo Peninsula.

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

This rocky coast compartment extends from Anjo to Cape Londonderry.

Justification of sensitivity

The sensitivity rating is a 3 as the shoreline is stable and likely to remain stable. The low susceptibility is attributed to the rocky cliffed coast. A higher susceptibility rank (4) is attributable to the depositional landforms, which are stable but likely to start eroding in future.

Other comments

The King Edward and Carson Rivers coalesce and flow into the southern headwaters of Napier Broome Bay. The larger Drysdale River discharges into an inlet on its north-east shore, south of Cape Talbot. These rivers have deltas with tidal creeks and mudflats in their estuarine reaches. Two landform assemblages are apparent along the shores away from the river mouths: The first includes beachrock and fringing reefs, low cliffs and rock

platforms, as well as beaches between structurally controlled headlands (54%). The second common assemblage features tidal channels and flats, which may back onto low cliffs and sand ridges or form bars across the mouths of small embayments (35%). Many beaches, especially those along the west coast, are perched on rock platforms or fringing coral reefs.

Geomorphological features include fringing coral reefs, broad embayment, mangroves, the Drysdale River and the King Edward River.

This compartment has a NW 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, available literature, aerial photography and site visits to Anjo Peninsula and Napier Broome Bay.

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);

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

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