



## Port Hedland WA11.04.02

### 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 coastal lowlands compartment extends from Cape Cossigny to Beebingara Creek coast (E).

### Justification of sensitivity

The sensitivity rating is a 4 as the shoreline is stable but likely to start eroding. The coast is stable between Cape Cossigny and Cape Thoin due to the presence of a fringing reef and reworking of sediment from the Yule River delta. East of Cape Thoin, the Turner River mainly debouches onto a wide outwash plain. Salt flats and intertidal flats on this section of coast have been dissected by tidal creeks, exposing lithified barrier ridges in the vicinity of Port Hedland and extending over 7km landward.

### Other comments

Common landform assemblages:

Between Cape Thoin and the Turner River, the shoreline is highly irregular with gaps of 1-2 km between successive rock outcrops along the coast. Wide tidal creeks are connected to tidal channels flowing across tidal flats in the inshore waters. Sandy



beaches are located along the seaward margins of rocky headlands, lithified chenier ridges and spits. There is a broad complex of tidal channels and flats, some with relict sandy beaches, some with tidal flat development between headlands (81%). In places, narrow sandy or silty beach with a high tide range may be marked by cheniers, beach ridges or low cliffs (15%).

Geomorphological features include eroded lithified cheniers, eroded deltas, mud flats and mangroves.

This compartment has a NNW aspect.

### **Confidence in sources**

High confidence: Detailed information describing landforms and metocean processes is available from multiple sources, particularly near Port Hedland where harbour development has taken place.

Interpretation of landform assemblages from satellite imagery, aerial photography, available literature and site visits to Port Hedland.

### **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](http://www.ozcoasts.gov.au/coastal/beach_intro.jsp) (also see Surf Life Saving site)

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