



Leeman Coast WA07.02.02

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 Green Head to Illawong.

Justification of sensitivity

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

The coast is mainly rocky with beaches and dunes over-riding calcarenite pavement reefs, rock platforms, and lithified eolian sediments. Perched beaches commonly abut low bluffs. The pattern of reefs directly affects coastal dynamics and the formation of local sediment cells. Sediment is derived from on and offshore, especially from biogenic sources, reef erosion and reworking of beach material.

Other comments

Common landform assemblages:

Variable width sandy beach formed in areas protected by offshore reefs, may include some beachrock as low cliffs or headlands (36%). Sandy beach, which may be



cusped or crenulate, formed between or in association with resistant headlands (21%). Broad sandy beach with well vegetated primary dune, often backed by parallel beach ridges or stabilised parabolic dunes (17%). Coarse-grained sandy beach with some active dunes and unstable blowouts (11%). Beachrock dominated beach with occasional sandy sections; may have a low undercut beachrock cliff face (10%).

Geomorphological features include Beagle Islands, limestone platforms, tombolos, cusped forelands, beaches and dunes.

This compartment has a W aspect.

Confidence in sources

Moderate: Coastal landforms are well described in available management literature. However, neither sediment movement along the rocky coast and especially through the offshore reef chain, nor the sediment budget for the coast is well known. More detail is available for the embayments near Green Head and Leeman. Interpretation of landform assemblages comes from satellite imagery and aerial photography, as well as site visits 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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