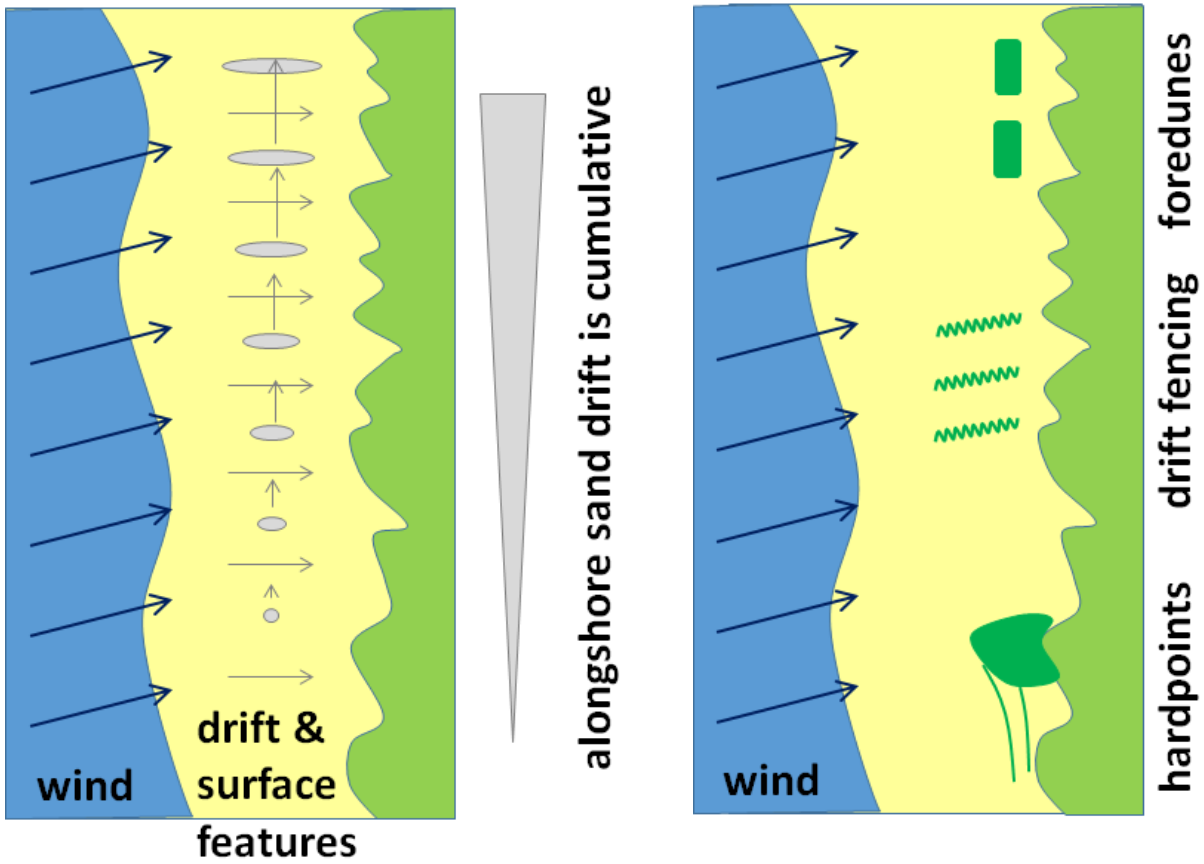
Alongshore Wind-blown Sand Drift

Management of wind-blown sand drift is a common issue for coastal councils in Western Australia. Alongshore sand drift can smother dune vegetation and often creates a challenge to stable beach access points.

Ledge Point – alongshore drift smothering dunes

Port Denison – dune growing over access

Much of Western Australia experiences strong sea breeze conditions, with the angle of wind approach causing wind blown sand to move along the beach and in front of the dunes. Dune orientation to the wind and condition of the dune face are the main features affecting sand drift. However, drift can also be strongly controlled by supply from the beach flat, with the greatest sand availability when the flat is wide and dry, typically during summer months.



Surface features on the beach flat such as ripples and ridges can also influence drift, allowing drift rates to increase alongshore.

Naturally occurring roles of dune orientation and surface features suggest potential pathways for management of drift issues. This can include dune hard points, constructed foredunes or drift fencing. Design needs to consider both onshore and alongshore transport. In most cases, the viability of drift management techniques is strongly affected by seasonal changes of beach width.

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