

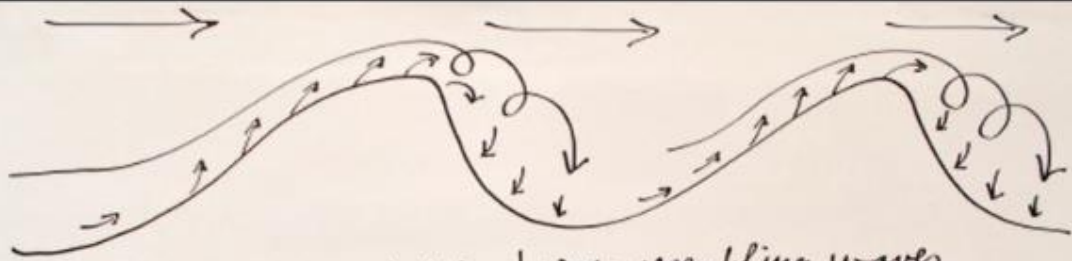
Sand

Michael Smither

Sand



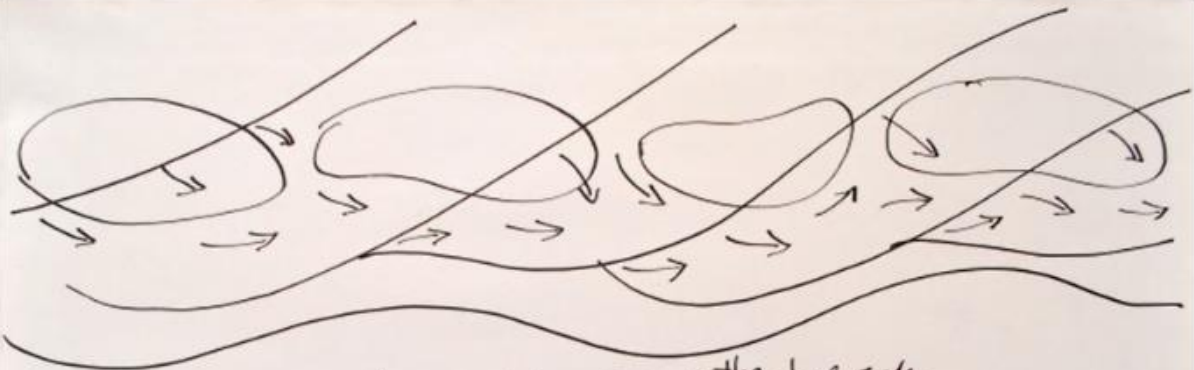
Sand is one of nature's basic elements,
on land an important factor
in the composition of soil,
at sea the bed and home of many
marine life forms,
an ever renewable source of sand.
The function of a beach
is one of collection and recycling
of debris from land and sea.
It forms a flexible and adaptable edge
between the land and sea.



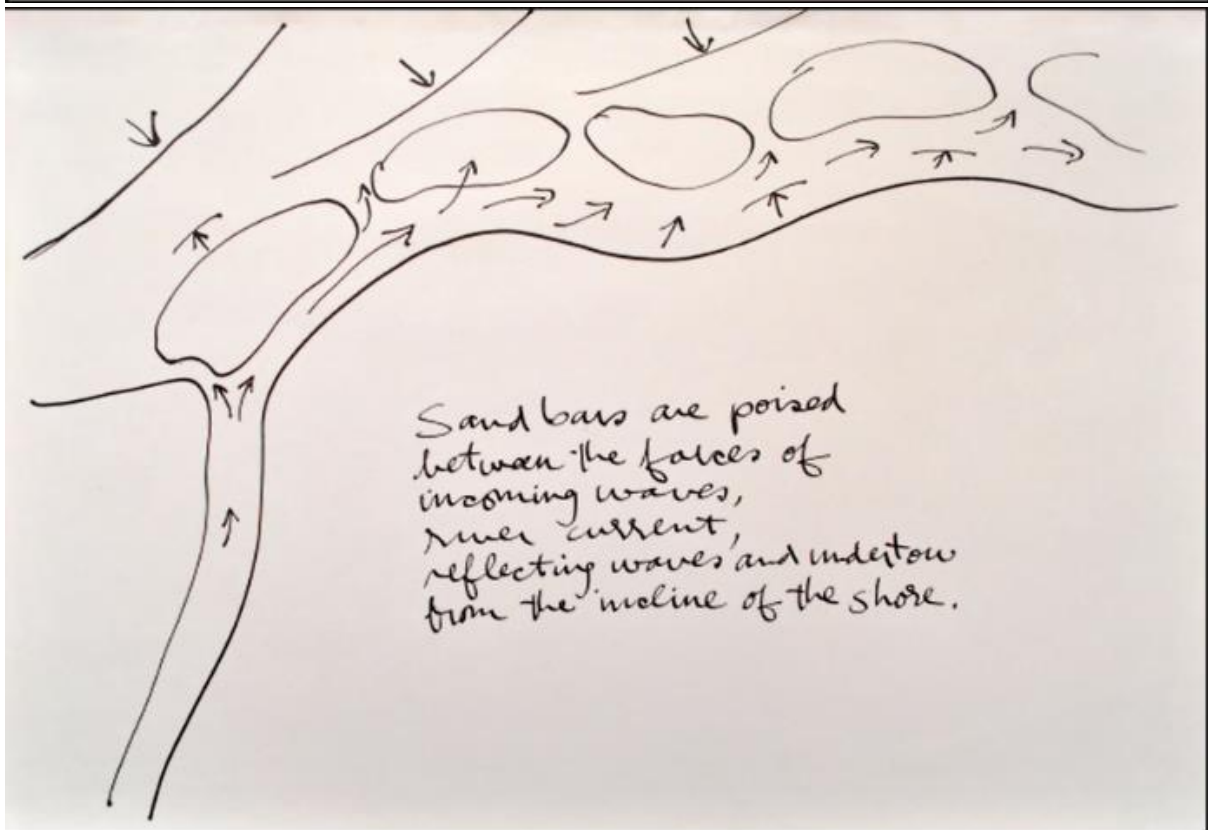
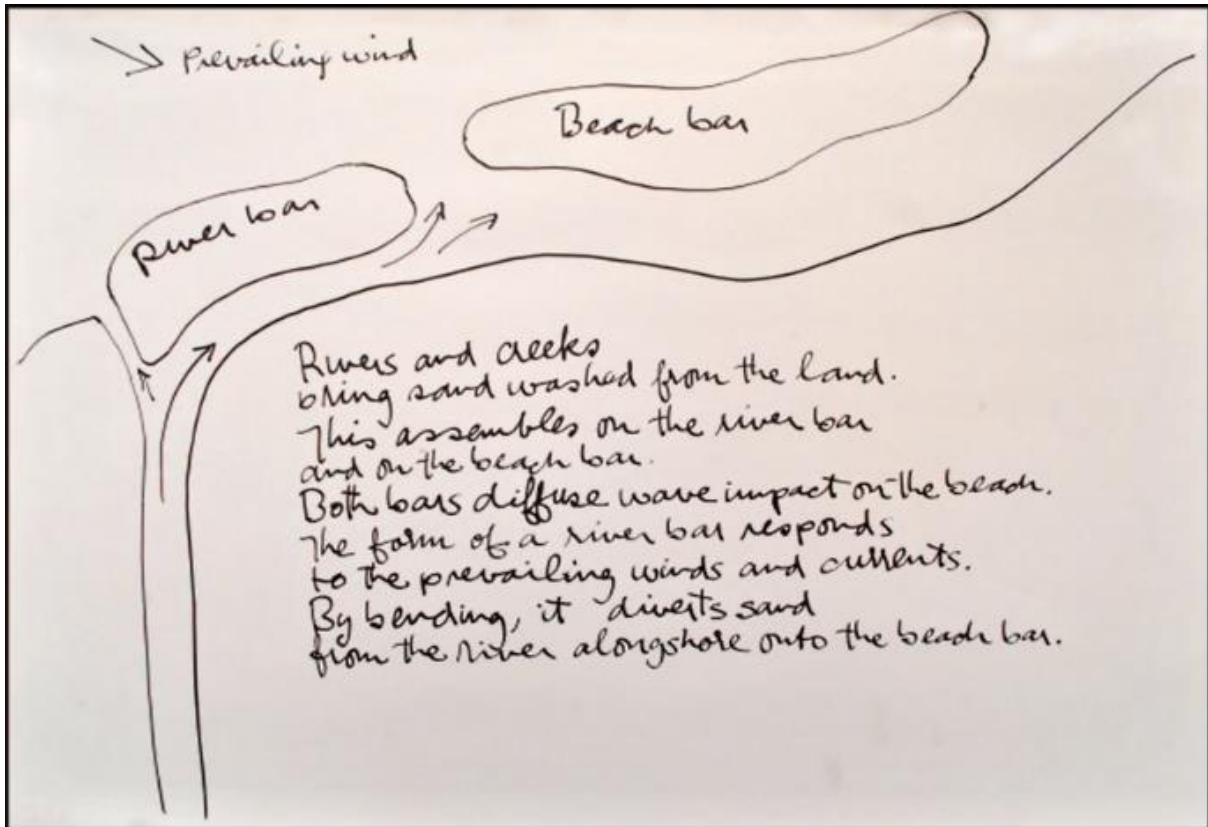
Dunes are shaped by wind in forms resembling waves. Wind speeds up on their crests and sand from the face of the dunes is sucked up into the low pressure space and carried over the dunes.

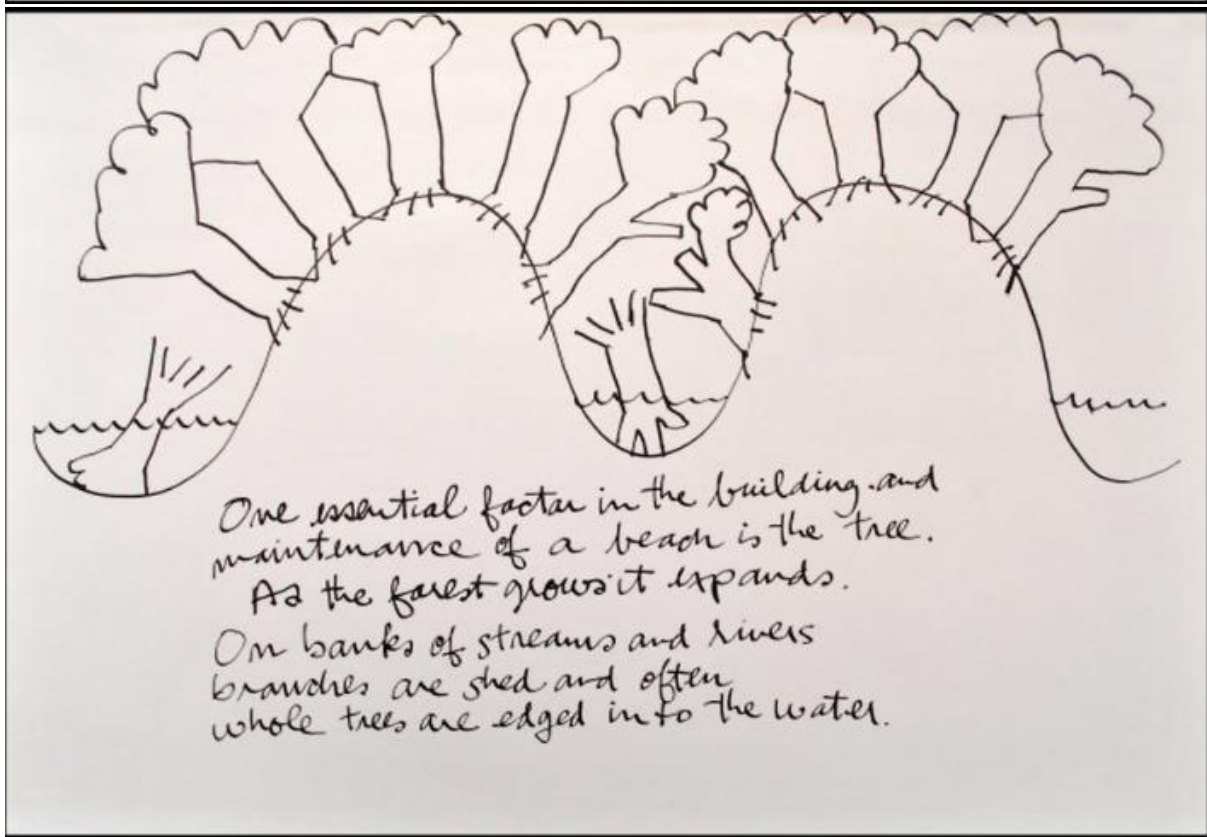
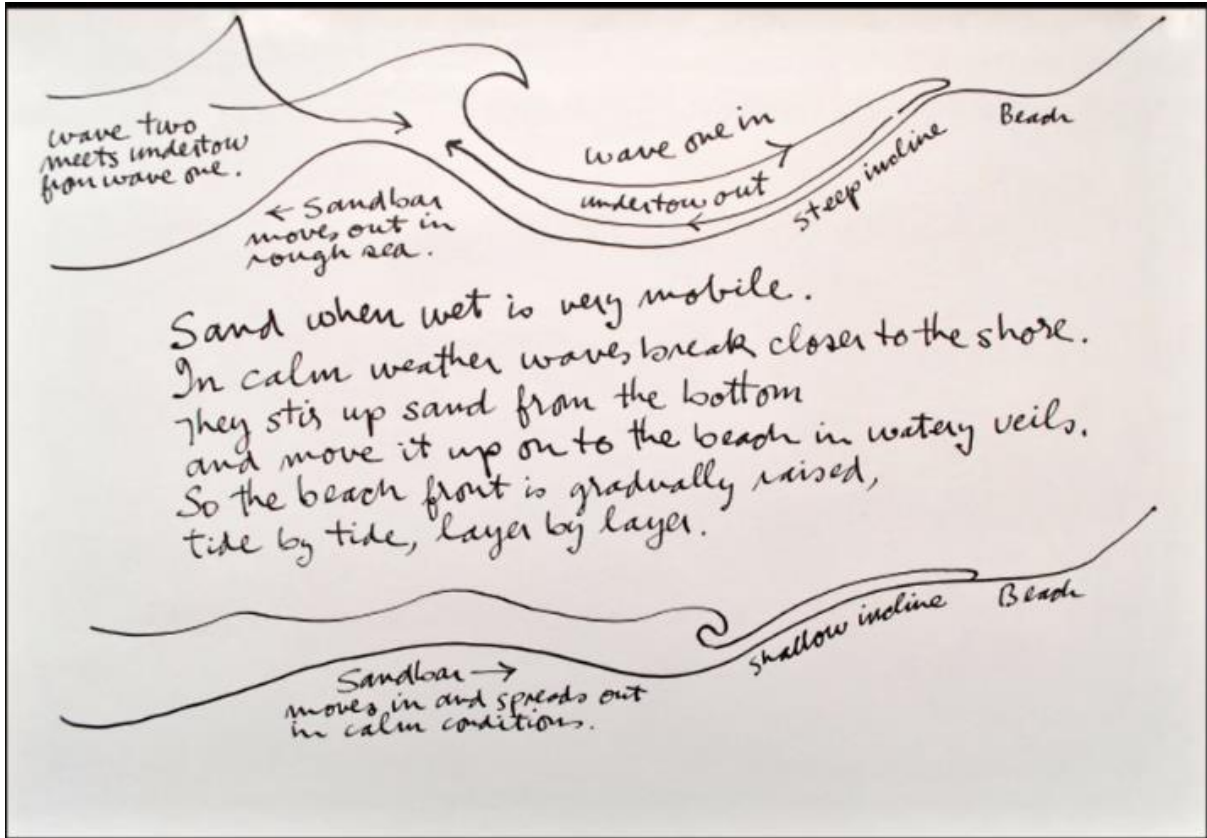


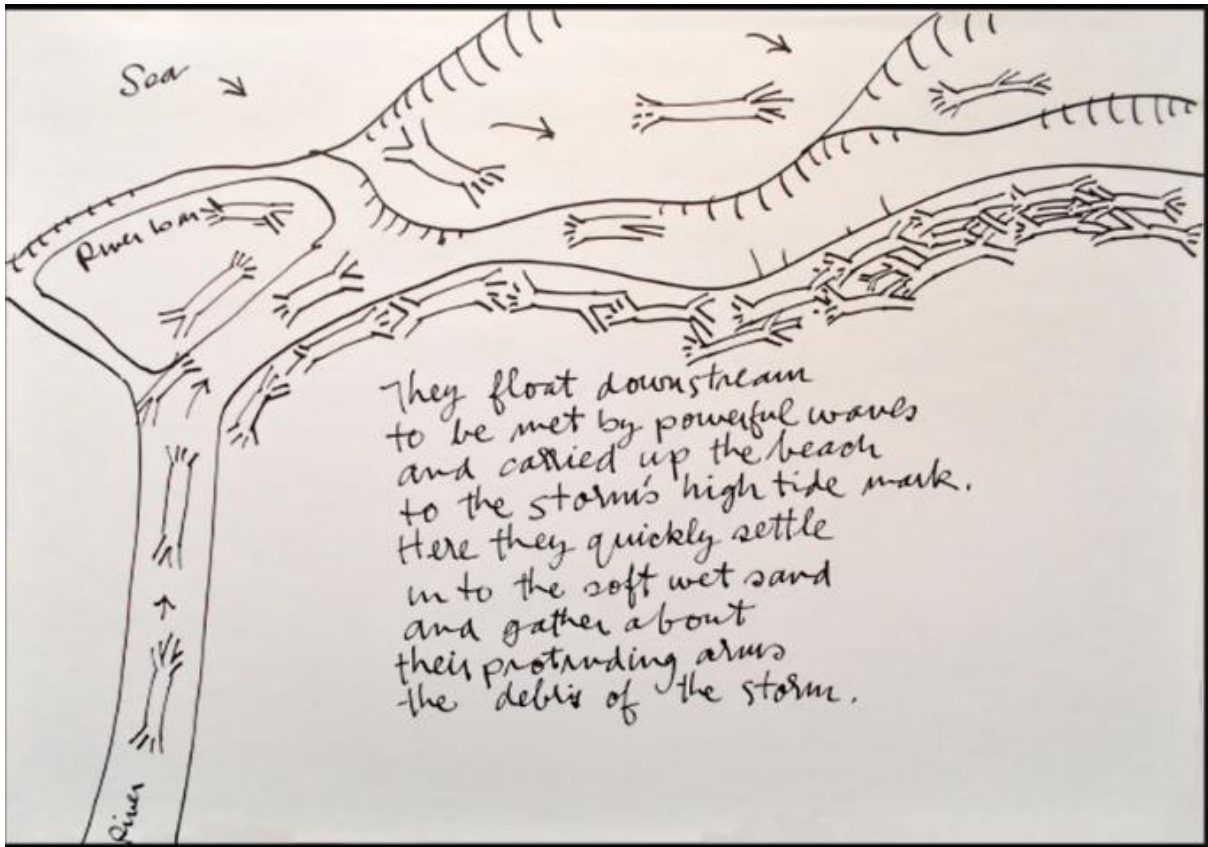
Along a beach, the low pressure made by the aerodynamic features of the dunes often cause the winds to sweep inland and deposit sand on dunes behind the foredune.



Between the sand bars and the beach are channels dug by the breaking of the waves. These channels carry alongshore currents stimulated by the angle of wave fronts to the shore. They transfer sand along the shore line. This system ensures that beaches all along the coast receive supplies of new sand to build with.



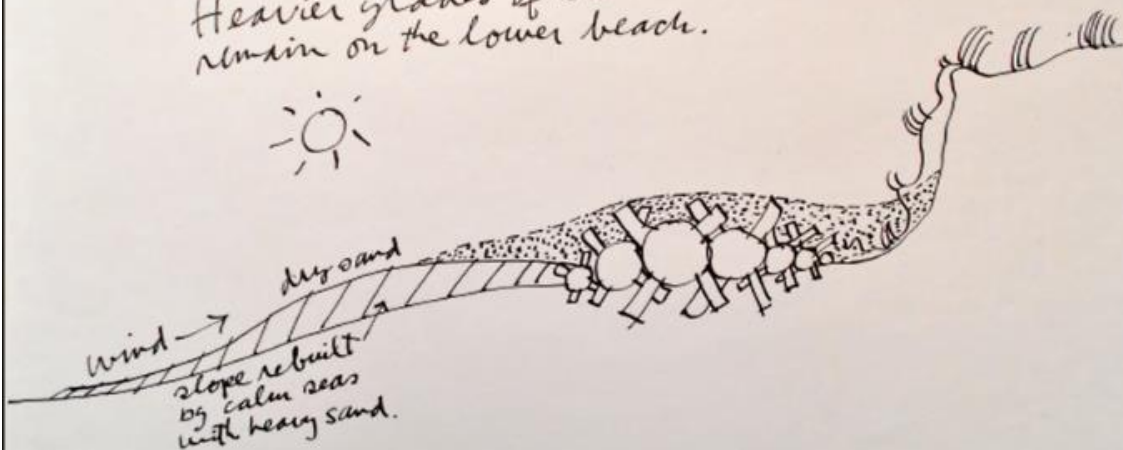


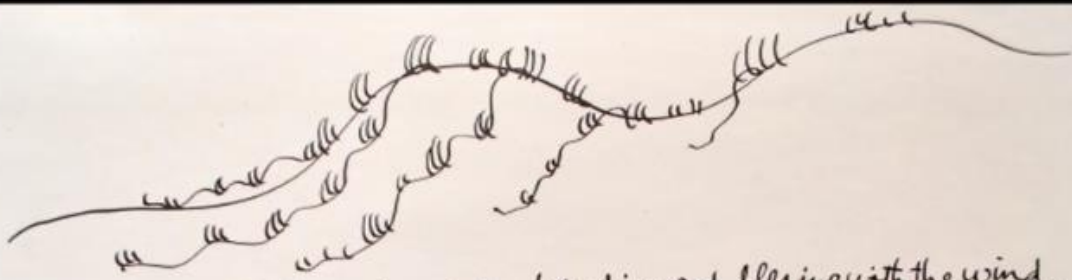


During the storm
 sand taken from the beach
 by the fierce undertow
 was assembled on the beach bar.
 Now large swells generated by the storm
 break on the bar, stir up its sand
 and with long powerful strokes
 sweep it in to the driftwood raft.

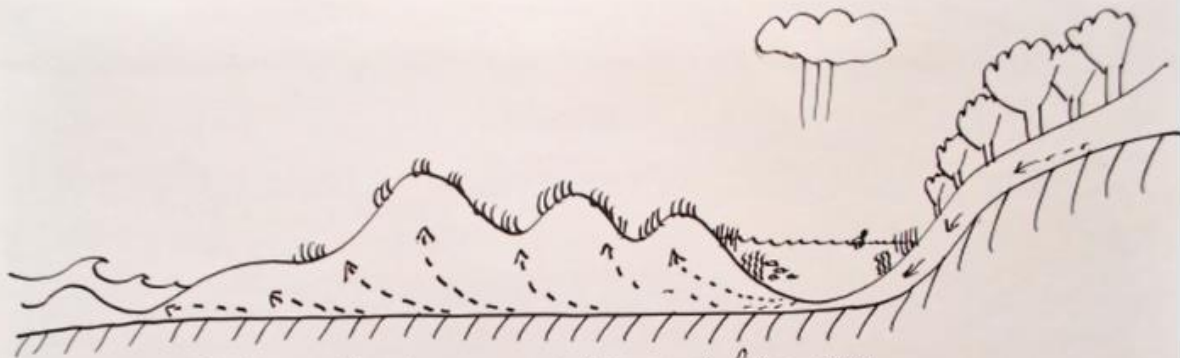


The sun shines, the fine upper layer of sand dries,
 the wind blows it along the beach.
 This sand makes ramps against the driftwood
 travels up the ramps
 and covers the driftwood rafts.
 Heavier grades of sand
 remain on the lower beach.





Plants stabilize dunes by banding and flexing with the wind. They trap flying sand and bind the dune with roots. Dune plants are nourished by flotsam and sea spray, which induces them to grow towards the sea. After storms these leaders fall into the cuts made by waves and quickly repair the slope of the beach.



Behind the dunes, marshes and lagoons filter drainage from the land, provide moisture for the dune plants, stabilize the land's water table and provide shelter for many forms of life. This system has served the planet since the first trees fell into rivers formed by rain that scoured the land for sand.