

# Deposition Landforms

## Learning Objective:

**-Analyse** how deposition can create new coastal landforms

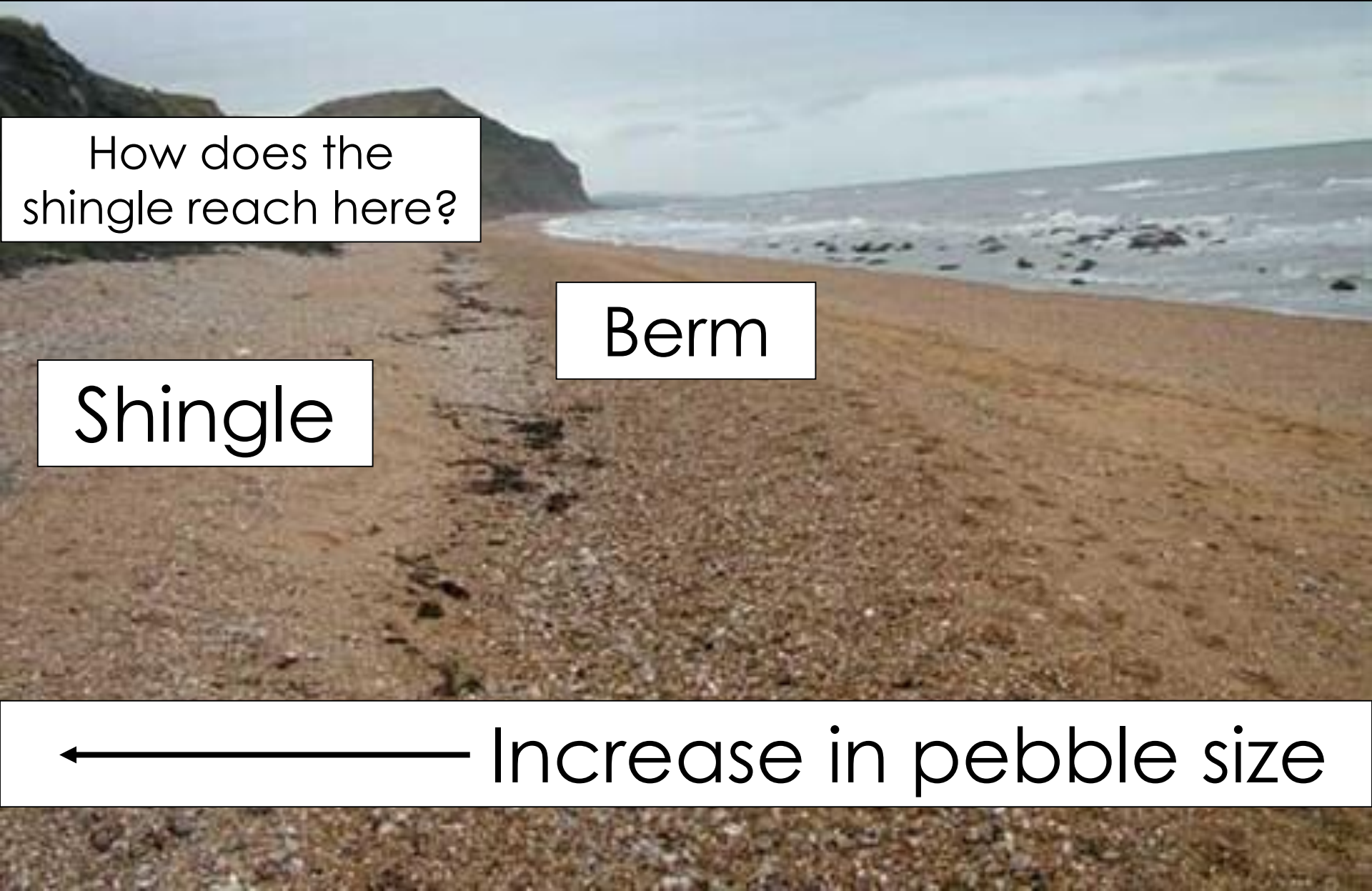




# Learning Outcomes:

- Describe** how *deposition* can form beaches and sand dunes
- Analyse** the characteristics and processes involved in spit formation
- Suggest** how a bar can form

# Beaches – shingle Vs sand



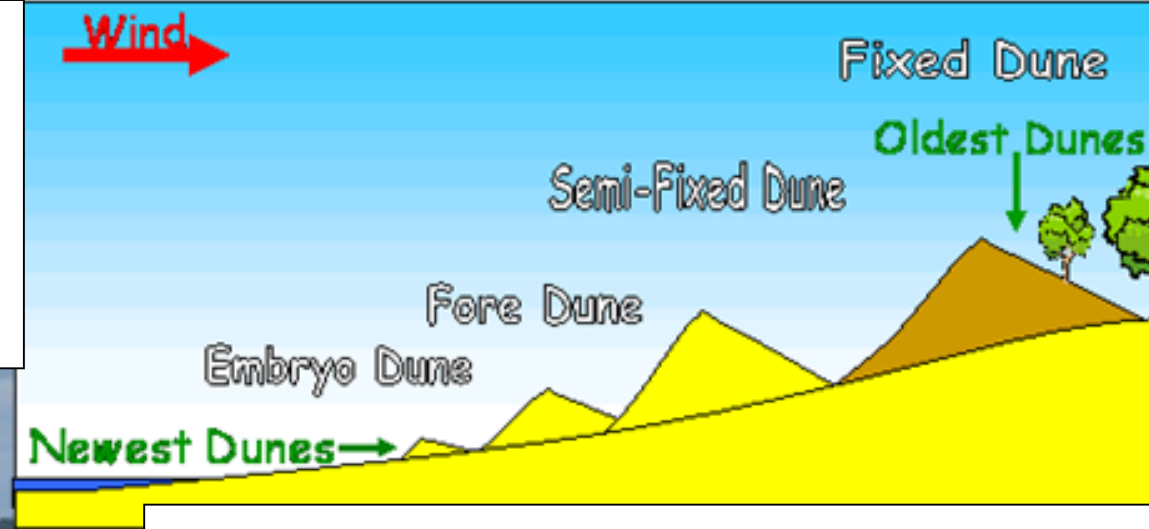
How does the shingle reach here?

Shingle

Berm

← Increase in pebble size

# What are dunes and how do they form?



- 1) Embryo dunes stabilise with vegetation to make fore dunes
- 2) Marram grass can cope with wind, has strong roots to bind sand together



What leads to more plants eventually colonising the older 'back' dunes?



What are  
these  
pigs  
worried  
about?

# Where will Piggy's house end up?





Dungeness  
National  
Wildlife  
Refuge

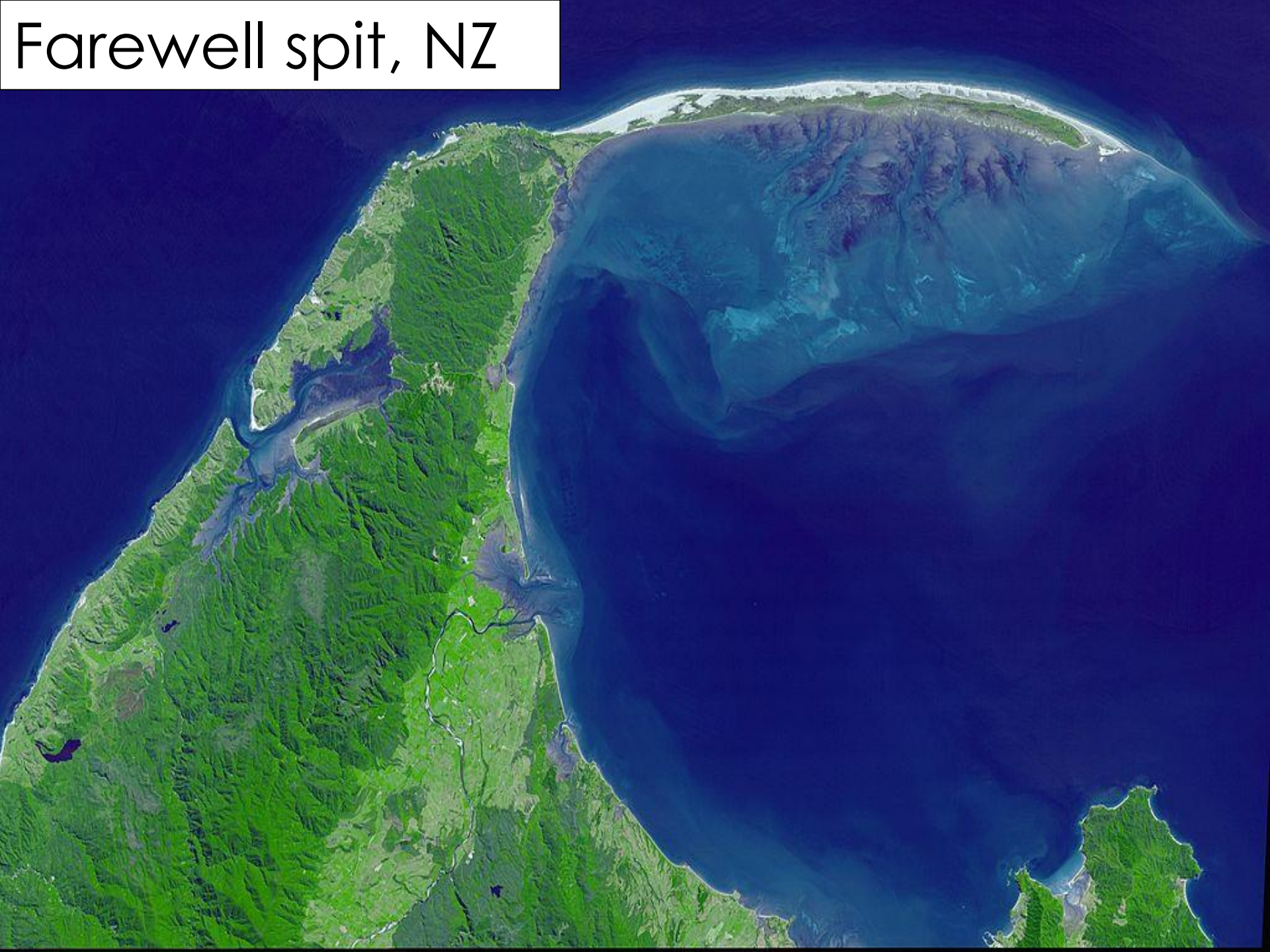
Dungeness Bay

Dungeness

E Anderson Rd

E Anderson Rd

# Farewell spit, NZ







Saltmarshes and mudflats

Recurved end

Hurst Castle Spit



77



76

75

12

13

14

Hurst Castle =

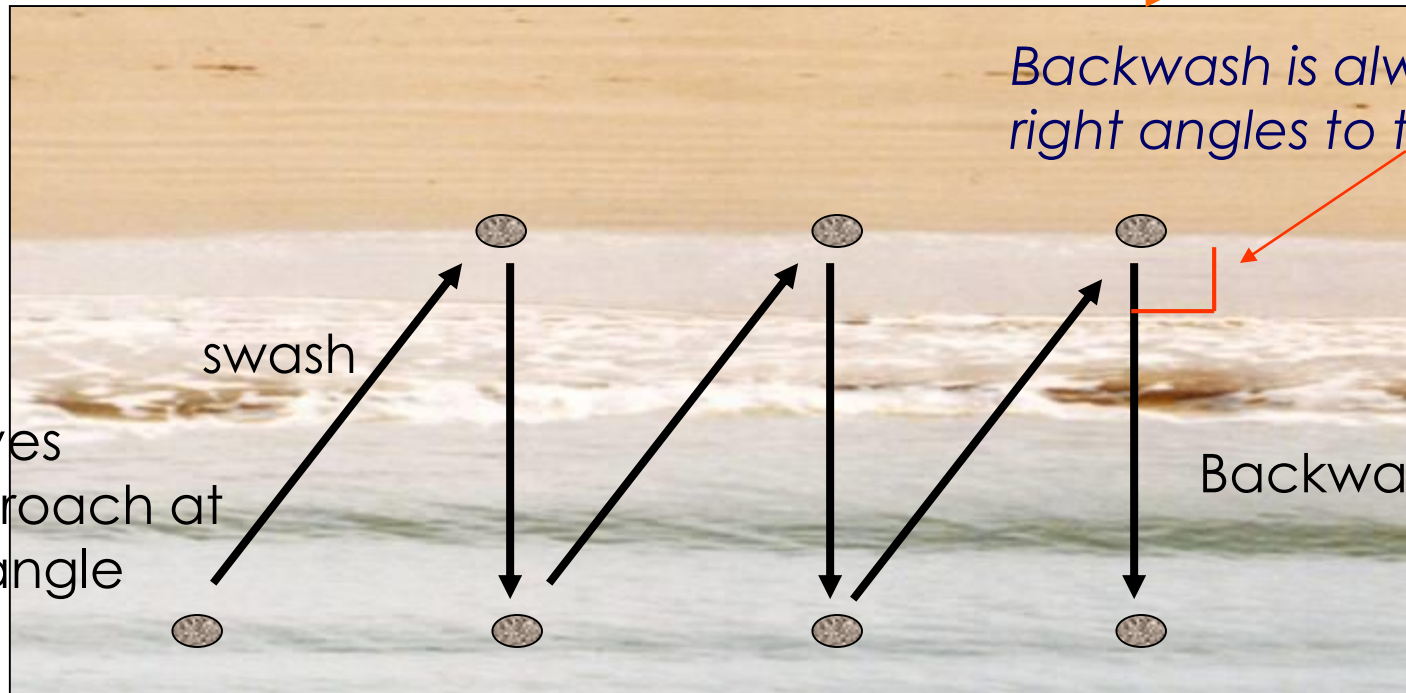
13 75

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138 751

# Longshore drift.

Direction of longshore drift



*Backwash is always at right angles to the beach*

swash

Backwash

Waves approach at an angle

This movement of sediment along the coastline is called **longshore drift**. The **prevailing wind** can make waves approach the shoreline at an angle. If this happens, sediment is moved up the beach at an angle as **swash**. As the water runs back down the beach, the **backwash** drags material down the **steepest gradient**, due to gravity. This is generally at **right angles** to the shoreline. Over time the sediment moves in a **zig-zag** fashion down the coast. If the material is carried some distance it will become smaller and more rounded.

Draw a sketch of Hurst Castle Spit. Label the **characteristic features** and the **processes** responsible for the spit's formation.



# Explain the formation of a bar. (4 marks)

L1 (1-2) – Partial sequence. Partial explanation:

*'A bar is formed when swash and backwash move sand along the beach. The sand goes out to the sea and can form a spit. Then the spit can join up with more land to make a bar'*

L2 (3-4) – Complete sequence. Clear explanation for 4 marks:

*'A bar is formed by deposition. Longshore drift happens when waves approach the shore in the direction of the prevailing wind, and material is deposited onshore by swash and taken out to the sea again by backwash. This is then transported along the beach. When there is a bend in the coastline the sand extends out to sea and can form a spit, but when another piece of land juts out (sticks out) to the sea, the spit joins up with the land to make a bar. Behind the bar is a lagoon, which is sheltered from the sea.'*