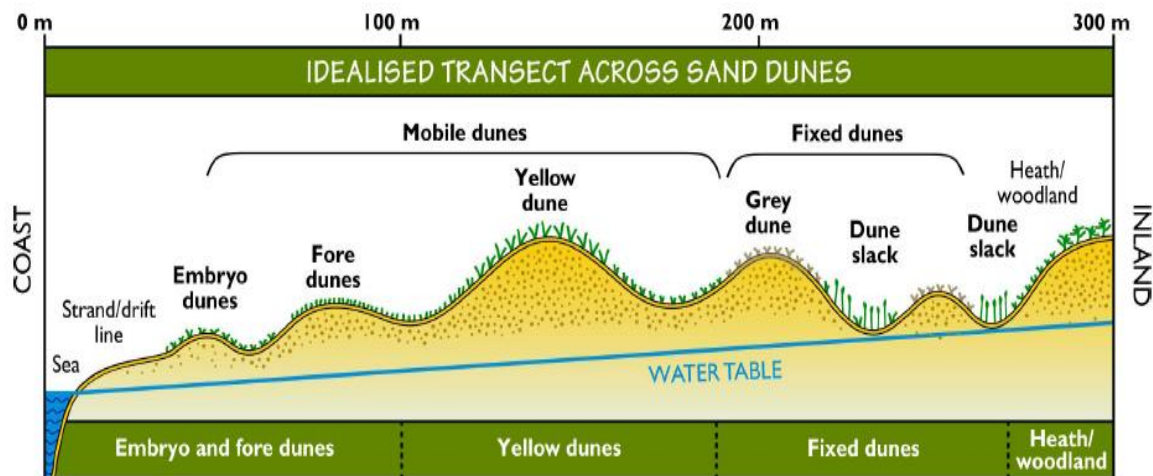


## Pod 2. Sand dunes- small scale ecosystems



What is an ecosystem?

A community of plants, animals (Biotic) and their environment (Abiotic).

Strand line - The maximum line of sea weed, rocks or other sea debris after a storm surge.

Embryo and fore dunes are mobile as the plant system isn't established enough to hold the sand.

Yellow dunes are found on average around 150m inland from the sea.

The vegetation on yellow dunes is more established than embryo and fore dunes.

Yellow dunes are the largest of all the dunes as they are protected by the fore dune and embryo dunes but still receive a large amount of sediment.

Yellow dunes is when the vegetation begins to decompose and add nutrients back to the sand and sediment.

Yellow dunes are covered in Marram grass.

Yellow dunes are the largest dune of out of the three mobile dunes.

On grey dunes Heather has out competed the pioneer species.

These are some adaptations of plants living in sand dune ecosystems?

- Deep root systems.
- Waxy leaves to protect against salt spray.
- Can live in alkaline rich soils.
- Can survive where fresh water is limited.

### How can we protect an ecosystem such as sand dunes?

- Sand dune stabilisation – Marram grass and Christmas trees. We can plant marram grass and Christmas trees in sand dune ecosystems to help stabilise the forming sand dunes and prevent erosion.
- We can put signs up and fences to encourage people to stay on footpaths to reduce erosion.
- We can educate people about the importance of protecting the sand dune ecosystems and about the benefits they can bring to different stakeholders (GROUPS of people), such as local residents, environmentalists and businesses.
- We can create zones for activities such as bird watching, and discourage other activities such as picnics and BBQ's

### Questions

1. What is a sand dune an example of? Tick **one** answer.  
Small scale ecosystem  
Medium scale ecosystem  
Large scale ecosystem
2. What is an ecosystem?
3. What vegetation is found only on a grey dune? Tick **one** answer  
  
Marram grass  
Heather  
Pine trees
4. Name 3 characteristics or adaptations you would find of plants living in sand dune ecosystems?
5. Define the term strand line.
6. Why put up signs to protect the sand dunes?
7. Why are BBQs dangerous for the sand dunes?