



Eventually, a dune's community may develop into a grassland community, and then a woodland community (as shown in the final stage of the diagram on the previous page), although this takes much longer and is usually a fair bit inland. This is representative of the UK as a whole, as most climax communities in the UK are grassland ecosystems.

The following steps outline the succession process for a sand dune, shown in the diagram on the previous page:

- 1 Pioneer plants such as **sea rocket** and **prickly sandwort** colonise the sand just above the high water mark: these are able to tolerate the little salt water spray they receive, the lack of fresh water, and the unstable sand (which other species cannot tolerate, and so only these pioneer species exist here)
- 2 Wind-blown sand builds up around the base of these plants, forming a 'mini dune', and as plants die and decay, nutrients accumulate in this mini dune – as the dune gets bigger and bigger, plants like **sea couch grass** and **marram grass** (which you may remember from your studies of transpiration and xenophytes) colonise there (these plants often have their own root systems which help to stabilise this small environment)
- 3 With more stability and further accumulation of nutrients, plants like **Hare's foot clover** and **Bird's foot trefoil** start to grow
- 4 As the sand dune and nutrients continue to build up, other plants may then colonise the sand
- 5 Eventually, the dune areas far inland may become grassland, and overtime woodland, allowing the much larger species of plant, including large trees, to grow