

Groynes

You have been given groynes as your method of coastal protection. Your job is to record how groynes work and make a note of their advantages and disadvantages. You then need to prepare a short presentation that will inform the rest of the class how groynes work and give information about their strengths and weaknesses. Be as creative as you can during your presentation.

How do groynes work?

What are the strengths of groynes?

What are the weaknesses of groynes?

Draw a labelled diagram to show how groynes work.



Groynes

A method of hard engineering, groynes are structures that can be made of either rock or wood. They are a little bit like fences and are built at a right angle to the coast so that they jut out into the sea.

They are useful where the process of longshore drift is in operation, moving sediment along the coastline. The job of groynes is to stop waves removing sediment from the beach. They do this by trapping it and keeping it on the beach, stopping the waves from taking it any further along the coast. This allows sand to build up a steep beach, which is very effective in dissipating the energy of waves, reducing the amount of coastal erosion that takes place.

Groynes actually use the natural process of longshore drift to protect the beach, trapping the sand as it is being transported. As well as being an effective way to reduce coastal erosion, groynes also have an economic benefit because having a good, sandy beach is great for tourism and will attract more visitors. To top it off, groynes aren't all that expensive when you compare them with sea walls and rip rap.

Because they are often made of wood, though, they need regular maintenance and will eventually need replacing when they become rotten. Groynes made of rock will last longer, but people do criticise both types of groynes for being unsightly on the beach.

One of the biggest problems with groynes is that they can have an impact further along the coast by stopping longshore drift. By trapping the sediment, groynes starve towns and villages of sediment further down the coast. This means those places will have a less substantial beach than they are used to, which could increase the rate of erosion taking place.

Groynes tend to be placed at 200-metre intervals, so you don't need them all along the coastline. Each groyne costs between £5000 and £10 000, depending on what it is made of and how long it is.

