

Coastal protection methods

Break water.

Break water Is a way of protecting against **long shore drift**. Break wasters is used to reduce the power of the wave. They are built to protect a **beach** that is **sloping**. The **depth** of the water and the **tidal range** depend weather its **fixed** or **floating**.

When waves **hit the breakwaters**, the **power of the waves are reduced** on the breakwater structure so it **wont eroded the cliffs as much**.



Advantages: The advantage of the breakwater structure is that the waves wont be as eroding.

Disadvantages: Unprotected areas of the beach will not receive any new sediment and the beach may shrink slowly.

Gabions

Gabions is a **strong wire cage** with pebbles, stones and rocks inside. Gabions **protect the coast line by stopping the waves hitting the cliffs**. it **reduces the power of the waves** when it **hits the small rocks inside the cage**.

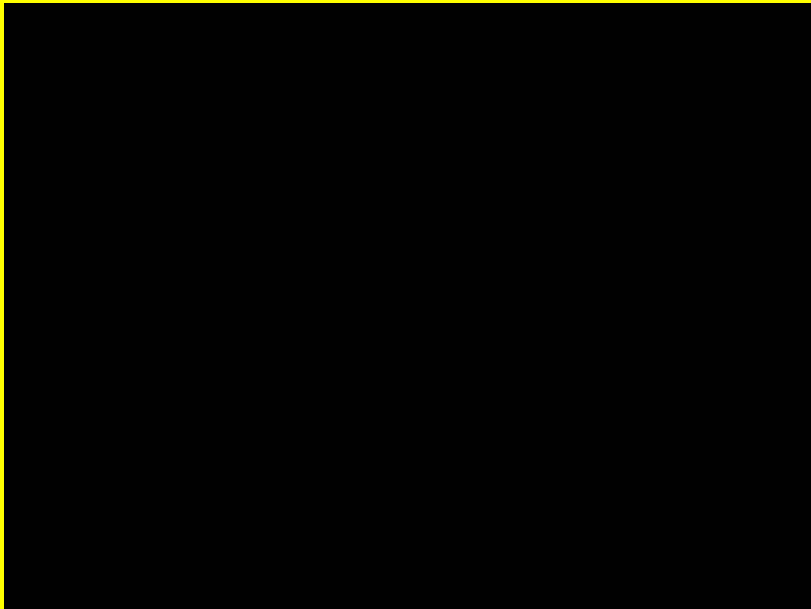
The advantages: Gabions are made out of natural materials and are very cheap to make.

Disadvantages: They can take up a lot of space, and when the rocks and stones all erode , the whole cage will have to be taken away and replaced.



Groynes

Groynes are **fences** that go along the beach at angles to **prevent long shore drift**. The energy from the waves is absorbed in the groynes. It also catches and traps sediment to prevent it from moving up the beach.



Advantages: It slows down long shore drift.

Disadvantages: They have to be replaced every 15-20 years.

Revetments

Revetments are **sloping structures** placed on banks or cliffs in such a way as to **absorb the energy of incoming water**.

Advantages: They catch sediment from long shore drift which helps to build up a beach.

Disadvantages: It stops the rest of the beach further down from getting any more sediment, so the beach may become smaller.



Sea walls

Sea walls are a curved concrete walls that stop strong waves hitting the cliffs.



Advantages: It protects the foot of the cliff from erosion and can also prevent flooding.

Disadvantages: They are expensive to build and it makes the back swash very strong when the wave hits the sea wall.