Is there a problem of costal management at porlock bay? essay sample

Business, Management

Many coastlines in MEDC’s and LEDC’s are heavily populated. The coasts provide many people high with income from tourism and leisure activities. Some coastlines also have a high economic and land value. Coastlines are sometimes prone to flooding or erosion from costal processes. Coastlines are fragile natural environments, which are easily damaged by the whether and people. If they are destroyed, the ecosystems can take a long time to recover from the devastation.

Flooding is s problem at Porlock Bay; this is shown in the salt marsh that has formed from flooding in between Gore Point and Hulstone Point. This area is shown where the arrows are pointing

How would costal protection systems be suited for Porlock Bay?

Groynes

The groynes can be made of wood, steel or rock. The groynes are supposed to protect the beach by creating a barrier. This will stop the beach material being moved by long shore drift. There is a groyne barrier at Gore Point, which is used to protect the boats passage out of Gore Point. The advantage of this costal protection is that the groynes will keep the material in the bay. The disadvantage of using groynes is that it is high maintenance and the groynes are very unattractive. This type of protection costs roughly ï¿½340, 000 per kilometre. The groyne at Gore Point is shown below –

Sea Walls

The sea wall is a wall that is built at the base of cliffs; the sea wall may be used to protect a local settlement area. The waves are reflected back off the wall. Over 20-30 years the sea wall will be eroded. The sea wall can be in 2 shapes, it could be a curved sea wall or a vertical sea wall. The advantage of using a sea wall is that it is very effective and the sea wall can be used as recreational facility. The disadvantage is that it is very expensive to build and that the sea wall will not fit in with the national park surroundings. This type of protection costs roughly ï¿½820, 000 per kilometre. There is a sea wall based at Minhead which protects local settlements this is shown below –

Revetments

The revetments are wooden slatted barriers that are used to protect the cliff. The waves break back off the wooden revetments and the wave energy is absorbed. The cliff base is protected by the beach material, which is held between the barriers. This type of protection costs roughly ï¿½100, 000 per kilometre. A diagram of a revetment is shown below –

Boulder barriers

This barrier is similar to the sea wall in its purpose. The large rocks are piled up in areas prone to erosion. The rocks will absorb the wave energy and hold the beach material in place. The advantage of using this type of protection would be tat it fits in with natural rock, blends in with scenery. The disadvantage of this type of protection is it is very hard to transport the rocks to the area. This type of protection costs roughly 20, 000 per kilometre. A diagram of a boulder barrier is shown below –

Gabions

Boulders and rocks are wired into mesh cages and placed in front of areas vulnerable to erosion. The wave energy that is absorbed by the rocks limits the erosion. The disadvantage of this would be its appearance to the scenery. This type of protection costs roughly ï¿½25, 000 per kilometre. A diagram of a gabion is shown below –

Offshore breakwater

Huge concrete blocks and natural boulders are sunk offshore to alter the wave direction and it will limit the long shore drift. This type of protection will lead to wider beaches. However, it will protect the cliffs ad settlements behind the rocks. This type of protection costs roughly 150, 000 per kilometre. A diagram of a offshore breakwater is shown below –

Beach nourishment

Beach nourishment will replace the beach material that has been shifted by long shore drift. This type of costal protection is not very effective because the material will be shifted later in the year. The advantage of using beach nourishment would be that the level of protection would be high with the amount of material that is transported. This type of protection also looks better than a rock protection. The disadvantage of using this type of protection is that it is high maintenance and very expensive to keep taking out. This type of protection costs roughly 40, 000 per kilometre. A diagram of the beach nourishment is shown below-

Economic value

The way that councils and governments will decide weather the area needs costal protection is to consider the economic value of the land. The Minhead area has to be protected because of the area that it is protected. The area of Porlock Bay may not rate very highly in economic value because the area that is protected is just cliffs. However, the area could have an environmental value as it is in Exmoor National Park.

Porlock Bay Protection

At the moment, Porlock bay is not being protected. This means the area is having costal processors acting on Porlock Bay. The area is not being protected because Porlock Bay is in a national Park. This means that this ‘ do nothing’ approach means that there are no conflicts or arguments between environmental protesters, government officials or council workers. However, whilst this is helping long shore drift is shifting pebbles and sand from the beaches around Porlock Bay. This will cause inconvenience to farmers when their farmers land gets flooded and they demand compensation.

To protect the coast at Porlock Bay I would install a number of new costal protection systems. I would first install an offshore breakwater; I would install this type of costal management because it is relatively cheaper than the other systems. T would also choose beach nourishment because this system would be environmental friendly.

I would also use the beach nourishment system because this system would also be cheaper than the other types of management systems. I would also choose this system because it would be environmentally friendly as there are no big, ugly walls to stop the problem of costal management.

I have also not chosen to use groynes, sea wall or gabions because I feel that these types of protection are too expensive to use at Porlock Bay. This is because we would not get authority to spend this amount of money on costal management because of the low economic value of the cliffs it protected. I have also not chosen these other forms of costal protection because of the huge effect of visual protection. These types of systems do not fit in with the local environment that surrounds them.