

Physical Landscape of the UK – MARK SCHEME

Question 1a

Using Figure 8, how long is the coastline between points X and Y?

One mark for the correct answer:

B. 2.8km

No credit if more than one circle shaded.

Question 1b

Using Figure 8, what direction would you be facing from the lighthouse at 676421 to the dunes at 690433?

One mark for the correct answer:

North east

Question 1c

Using Figure 8, describe one piece of evidence which suggests that Hunstanton is a tourist resort.

There is a tourist information centre (1).

There is a wide sandy beach (1).

A golf course is located to the north east of Hunstanton (1).

There are several hotels/camp/caravan sites (1) where tourists can stay when they are on holiday (d) (1).

There is a Sea Life centre on the coast (1) which will be popular with families (d) (1).

There is a nature reserve nearby/in grid square 6939(1) which would be an attraction for bird watchers (d) (1).

Max 1 mark for naming an attraction or list of attractions eg camping/caravan sites, sea life centre, hotel, motel, tourist Information centre.

Question 1d

Suggest one type of mass movement that is affecting these cliffs.

Rockfall/slumping/landslip.

Question 2

Discuss the costs and benefits of soft engineering strategies in protecting coastlines.

Use Figure 10 and Figure 11 and your own understanding.

- **Level 3 (5-6)(detailed)** will be developed responses clearly discussing both costs and benefits of named soft engineering strategies. Appropriate terminology will be used.

Indicative content

- Credit different soft engineering strategies. Beach nourishment, reprofiling and dune regeneration are listed in the specification.
- Figure 10 and Figure 11 show beach nourishment and dune regeneration and so there should be some discussion of the costs and benefits of these approaches. Other types of soft engineering may also be credited.
- Beach nourishment replaces beach or cliff material that has been removed by erosion or longshore drift. The main advantage is that beaches are a natural defence against erosion and coastal flooding. It usually looks natural and can improve the attractiveness of a stretch of coast. It creates a useful amenity for tourism, it is a relatively cheap option and easy to maintain.
- However, it does require constant maintenance to replace the beach material as it is washed away. This is particularly the case after winter storms. People may be prevented from using the beach for several weeks during maintenance. Costs up to £500 000 per 100 metres (but cost can vary greatly depending on transport costs and quantity).
- Beach reprofiling is the artificial re-shaping of a beach using existing beach material. For example, after winter storms, bulldozers may move shingle back up the beach. The costs and benefits are similar to those for beach nourishment. The disruption caused by reprofiling may have negative impacts on beach habitats.

- Dune regeneration is the artificial creation of new sand dunes or the restoration of existing dunes using strategies such as marram grass planting or fencing them off from human impact. Sand dunes act as a physical barrier between the sea and the land. They absorb wave energy and water and in doing so protect the land from the sea. This strategy is considered natural by most people and can produce an attractive amenity for tourists. They may also increase biodiversity, providing a greater range of natural habitats for plants, animals and birds. However, they can be easily damaged by storms and it can be time-consuming to plant the grass and maintain the area/it can also deter tourists at this time. Costs £400-£2000 per 100 metres.
- Overall assessment - soft engineering works with nature rather than against it, blends in with the environment and can improve it eg adding sand to beaches, doesn't interfere with processes elsewhere and affect other areas; is sustainable. Disadvantages of soft engineering – areas can just be left at the mercy of the sea, more gentle intervention may not be effective, people can lose homes, livelihoods.