

## WHY WORRY IF SOME BEACHES ERODE AWAY?

### 1. BEACHES ARE THE BEST NATURAL PROTECTION FOR COASTLINES.

- They absorb wave energy, reducing wave impact on cliffs and sea walls.
- They protect low-lying areas from flooding by the sea from storms and high tide.
- Many towns and cities in South East England and North France, as well as railways and major roads, are situated on or very near the coast and are endangered by coastal erosion.
- These problems are set to get worse as global warming continues, and sea levels rise. Tide gauges show that sea level on the eastern Channel coasts is already rising at about 1 to 2 mm per year (that is 10 cm per century), and with global warming sea level is predicted to rise by 0.5 m by 2100.

In the UK 17 % of the population lives in the coastal zone, 40% of the manufacturing is close to the coast, and in England 30% of the coastal zone is covered in buildings, roads and recreational facilities.

Source: David Waugh (2000): *Geography, an integrated approach*. Nelson, Walton-on-Thames.

**2. BEACHES ARE IMPORTANT RECREATION AND TOURISM RESOURCES** on which many peoples' livelihoods depend. Erosion will may make them narrower and steeper, or in some cases cause them to disappear altogether.

**3. THE VARIOUS TYPES OF BEACHES ARE KEY WILDLIFE HABITATS**, providing a home for many rare and endangered species.

**4. WIDE, SHELTERED BEACHES FORM SAFE PLACES FOR DRAWING UP SMALL BOATS.** The fishing fleet at Hastings, for example, uses the beach.

### 5. SHALL WE ALL BE FLOODED?

a) Using maps of South East England, identify areas of low-lying coastal land. These could be flooded during storms and really high tides if global warming continues to cause sea level rise.

b) Label the areas at risk from flooding: Lower Ouse Valley, Lower Cuckmere valley, Pevensey Levels, Rye Harbour and Romney Marsh, Kent Marshes.



## 6. SHOULD THE COASTLINE BE PROTECTED OR SHOULD WE LET IT GO?

### WINNERS AND LOSERS.

Given that it will be too expensive and perhaps ecologically unsound to try to protect all low-lying areas, hard choices may have to be made about which areas to protect.

a) Imagine you have been asked to produce a Coastal Protection Plan for South East England for 2030 when the effects of rising sea level may have become very evident.

b) Work in groups. Your teacher will allocate one of the areas at risk for your group to study. Make a detailed study of the area, using OS maps, atlases, guide books and the internet find out as much as you can about this area and how important it is to protect it from flooding from the sea.

[www.streetmap.co.uk](http://www.streetmap.co.uk) is helpful for finding maps at different scales.

Organise different members of the group to look at different aspects:

- Population
- Size of major settlements
- Important transport links
- Important historical sites
- Agriculture
- Industry, etc.

c) Give a three-minute presentation to your class, either defending your area's right to be protected, or putting forward arguments for letting natural processes operate unchecked. You should try to predict what will happen to the coast if it is left to nature and allowed to develop naturally.

d) Imagine that the Government announces it can afford to finance only half the areas recommended by your class for protection.

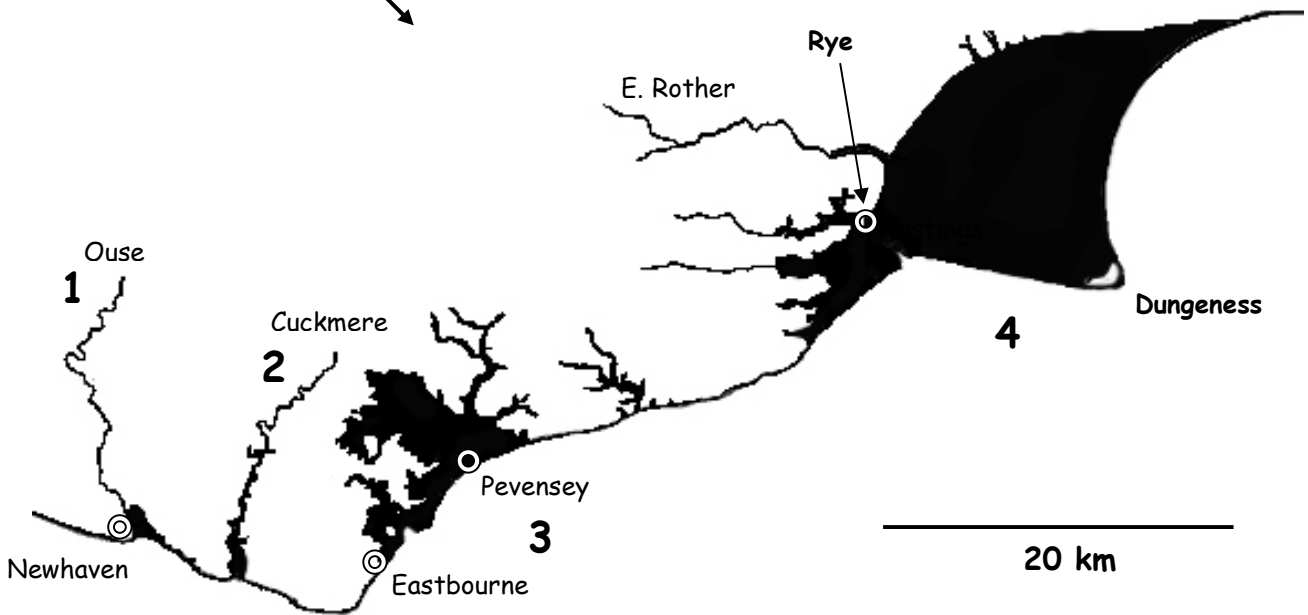
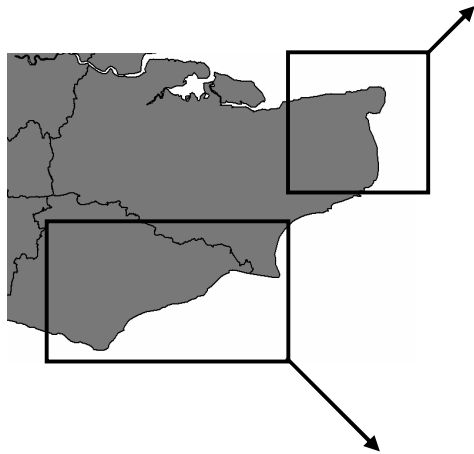
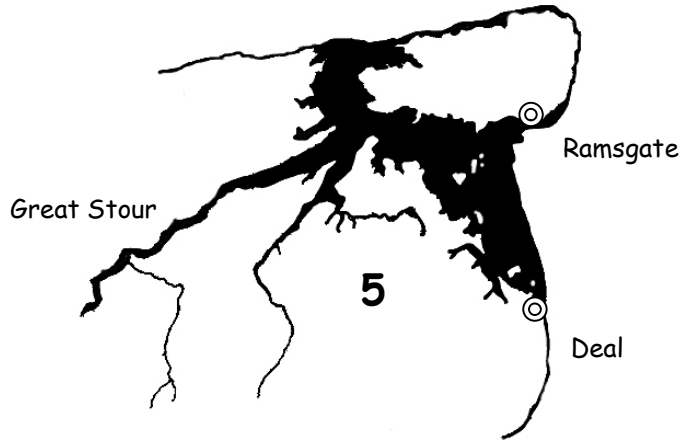
e) Agree as a group, which areas should have their defence plans financed, and which should be left to be eroded or flooded by the sea. You may find it helpful if each of you gives 2 points to areas that you think should be defended at all cost ('priority areas'), 1 to somewhat less important areas, and 0 to areas where letting go seems to be the best option. Compare your group's voting pattern with that of other groups, ranking the areas according to the number of votes cast by the whole class.

f) Write a short report for the Environment Agency to explain the class decisions about which areas are recommended for coastal protection and which are recommended for abandonment to the sea. Include your map of areas at risk, which you could annotate.



MAP TO SHOW AREAS AT RISK FROM COASTAL FLOODING

Areas below the 5m contour



Adapted from Shoreline Management Plans and data from the Environment Agency.



Beaches At Risk - KS3 Resource pack

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