

EA - Southern Box 8



ENVIRONMENT
AGENCY



Sea Defences



East Kent

Environment Agency Battles With



Reculver prior to works



Sandwich Bay storm damage – winter 1996

E a s t

The Sea In East Kent

Who We Are

The Environment Agency operates and maintains 30 km of sea defences in East Kent. These help protect from 3,700 properties and over 30,000 Hectares of low lying land from flooding.

The Agency is one of the most powerful environmental regulators in the world and has many responsibilities to protect land, air and water. One of these responsibilities is flood defence. In this respect it has authority to spend money if a sea defence is in a poor condition and its failure would affect a wide population.



Dymchurch sea wall prior to improvement



K e n t

Why Do The East Kent Sea Defences

The shape of the Kent coastline has resulted from the changing elements over millions of years by waves, tidal currents and water levels.

Over the last century however the shape of the coastline has been increasingly influenced by human activities. In East Kent man has reinforced coastlines in order to protect land that is of particular value from flooding and erosion by the sea. Such land is frequently in urban use, for commerce, housing, industry or leisure. It also accommodates infrastructure, coastal facilities, high grade agricultural land and in most locations has both a nature conservation and a heritage value.

The natural state of the coastline before development began consisted of low lying land protected by a highly mobile shingle bank. Such banks would have been built up and drawn down by wave and tidal action. They would have been moved along the coast by the dominant storms. The long term rise in sea level has resulted in a gradual movement of the shingle bank inland. That natural state no longer exists. The coast has been fixed in position due to the need to protect the properties and infrastructure that has been built in the low lying areas to the rear of the sea defences.

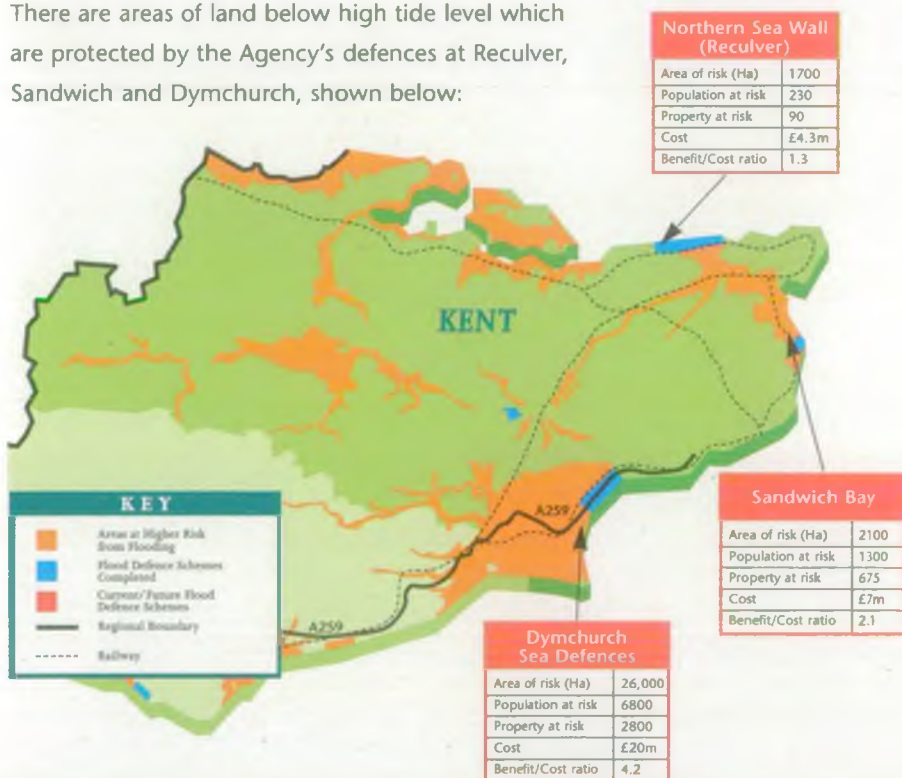


nt ces Need Improving?

As a consequence two things have happened:

- 1 Shingle has been lost so the beach cannot absorb the wave energy created by storms.
- 2 The lowering beach now permits high levels of wave energy to act directly on to the sea walls reducing their ability to provide flood protection. This in time could lead to the undermining and breaching of the defences.

There are areas of land below high tide level which are protected by the Agency's defences at Reculver, Sandwich and Dymchurch, shown below:



What Do The

Sea Defences with a shingle beach have to serve a number of purposes.

- They have to be high enough to prevent the waves overtopping
- They have to be big and strong enough not to breach and to withstand the energy released by a storm.
- They have to be wide enough to stop water seeping through.
- They must not stop the natural drift of shingle if such an action will cause problems further along the coast.

Renourishment works
- January 1997



Emergency works at Sandwich - winter 1996

East Kent Sea Defences Do?



The Problem

Sea defence engineers have to design methods of protection which are sufficiently strong to withstand storm attack; are high enough to stop the waves overtopping and do not interrupt the natural drift of shingle along the coast. At the same time such works must have regard to the valued amenity of the beaches for residents and visitors alike.

The Agency's yearly survey of all the East Kent beaches has shown a continuing reduction in the amount of shingle present. This is despite continued maintenance activities.

The defences in their current condition protect:

- **At Reculver, 1700 Hectares of land and 90 properties**
- **At Sandwich, 2100 Hectares of land and 675 properties**
- **At Dymchurch, 26,000 Hectares of land and 2800 properties**

What We Have

When the Agency's predecessors reviewed the condition of the East Kent Sea defences during the early 1990's, they identified considerable lengths of coastline which required improvement. Since that review the following works have been undertaken:

R e c u l v e r

An in depth study was undertaken into the entire length of sea defences between Reculver and Minnis Bay. This highlighted and justified the need for

sea defence improvement works over 4.7Km. These involved the placing of a full shingle beach in front of the existing wall, achieved by the construction of 14 Rock groynes and the importation of 260,000 tonnes of marine dredged shingle.



Sandwich Bay

A detailed review of the adequacy of the existing defences at Sandwich has been initiated. An Interim report produced in late 1995 identified the need for a major shingle renourishment contract comprising the importation and placing of 240,000 tonnes of shingle, over 2.1Km. This has now been completed.



Dymchurch

The Agency operates a total frontage of 7km at Dymchurch. A detailed condition survey and feasibility report identified an urgent need to stabilise and improve the existing sea walls. Since the publication of this report five contracts have been let to improve and refurbish 3km of sea wall. Presently works are underway to reconstruct the Grand Redoubt Outfall which allows flood water from inland to be discharged into the sea.



The Agency has recently been involved in the entire English and Welsh preparation of Shoreline Management Plans (SMP) for the coastline. These have been developed in conjunction with other shoreline operators such as the local maritime District Councils and conservation bodies, and provide the basis for sustainable coastal defence policies within a length of coastline.

Two plans have been produced for Kent, covering the length of coastline between the Isle of Grain and Dover Harbour and Dover Harbour to Beachy Head, East Sussex. The boundaries of these plans were agreed with the Ministry of Agriculture Fisheries and Food (MAFF) who are responsible for defining broad policy for coastal defence.



The SMP's have defined a "hold the line" policy for the Agency's three major East Kent frontages. This means that the existing Sea Defences at Reculver, Sandwich and Dymchurch should be maintained in a way which retains the existing line of defences.

Each frontage will now be the subject of an independent Strategy Plan which seeks to establish the optimum sustainable Sea Defence policy.

They will also investigate in detail all available options for providing sea defences over a fifty year period and prescribe the works necessary within the next five years in order to provide the recommended level of flood protection.

Forward

Future Works

Despite the recent works carried out on each of the three frontages, adequate levels of flood protection will only be retained by an ongoing commitment to capital schemes.

Each strategy plan will recommend the scope and timing of such future works. The detailed design of any works will take into account specific requirements such as the programming and extent of works so as to mitigate their environmental effect and cause the least possible disruption to the local community and users of the beaches.

Each scheme will be assessed to show that the cost of the works is less than the damage which is likely to occur if the improvement works were not carried out. This financial yardstick is used to ensure that public money is spent wisely.

Future works will be funded by the Environment Agency (which raises a levy on the Local Authorities in Kent) and by Government grant-in-aid.

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— Area Administrative Boundaries

— Regional Boundary

● Area Office

▲ Regional Headquarters

If you think flood warnings are in force in your area call our 24-hour 'dial and listen' information line.

**ENVIRONMENT AGENCY
F L O O D C A L L**

0645 88 11 88

For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

**ENVIRONMENT AGENCY
GENERAL ENQUIRY LINE**

0645 333 111

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

**ENVIRONMENT AGENCY
EMERGENCY HOTLINE**

0800 80 70 60

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