



ENVIRONMENT
AGENCY



Sea Defence Scheme



Pevensey

Environment Agency Battles With



Storm conditions around Pevensey Bay



The Sea At Pevensy

Who We Are

As the guardians of the environment with responsibility to protect land, air and water throughout England and Wales, the Environment Agency is planning the biggest ever sea defence project in Sussex, a multi-million pound scheme to protect Pevensy Bay.

The Environment Agency came into existence in April 1996 and combines the expertise of the previous National Rivers Authority (NRA), Her Majesty's Inspectorate of Pollution (HMIP) and the County Council Waste Regulation Authorities.

The Agency took over the responsibility for sea defences at Pevensy Bay from the National Rivers Authority - covering a 9 kilometre stretch of coastline between Eastbourne and Bexhill.



Why Does Pevensey Need New



Protecting the local environment

Sea Defences?

When William the Conqueror first set foot on English soil at Pevensey in 1066, the castle was on a peninsula surrounded by the sea which at that time extended almost as far inland as the outskirts of Hailsham. The castle then had a harbour and even its own fishing fleet. Today the castle is over a mile from the sea as successive generations have drained the surrounding marshes and built new sea defences.

The nine kilometre long beach between Langney Point and Cooden provides the present defence against flooding from the sea. It protects a 50 square kilometre area including Pevensey Bay, Normans Bay, Langney, Westham and Pevensey itself. In this area there are:

- 2,000 properties
- Recreational areas
- Commercial sites
- Transport links - the A259/A27 roads and the mainline railway between Eastbourne and Hastings
- Wetlands of international importance
- Two important nature reserves - the Hooe Flats and Pevensey Levels

Today the sea defences are deteriorating faster than we can manage by regular maintenance. Although secure at present, if nothing is done the land will be reclaimed by the sea, causing extensive flooding and destruction to all the above.



What We Are Doing



Constructing timber groynes

The Environment Agency is developing a £40 million sea defence scheme - the largest ever in Sussex. Work should begin in 1998 and could take eight years to complete. In the meantime the Agency will ensure that residents are protected from flooding by replacing shingle and maintaining beach groynes.

The scheme was developed after extensive investigation and appraisal of a range of options to secure the defences for the future.

The first part of the investigation involved over two years of comprehensive data collection including continuous measurement of wave heights at three locations. Analysis of these wave height records, together with the much longer record of wind speeds from the off-shore Royal Sovereign lighthouse, enabled the long term wave climate to be calculated. Using this data a range of management options were evaluated in outline and together with beach recharge the following structures were identified for further investigation.

- Timber groynes
- Timber groynes with rock T-heads
- Rock strongpoints
- Off-shore rock breakwaters



Shingle being pumped onto the shore

About It

The off-shore breakwaters were quickly discounted on environmental grounds. The remaining three options were extensively modelled using both physical and mathematical methods. Hydraulics Research at Wallingford constructed a three dimensional basin model and a two dimensional flume model to study the coastal processes for all the options.

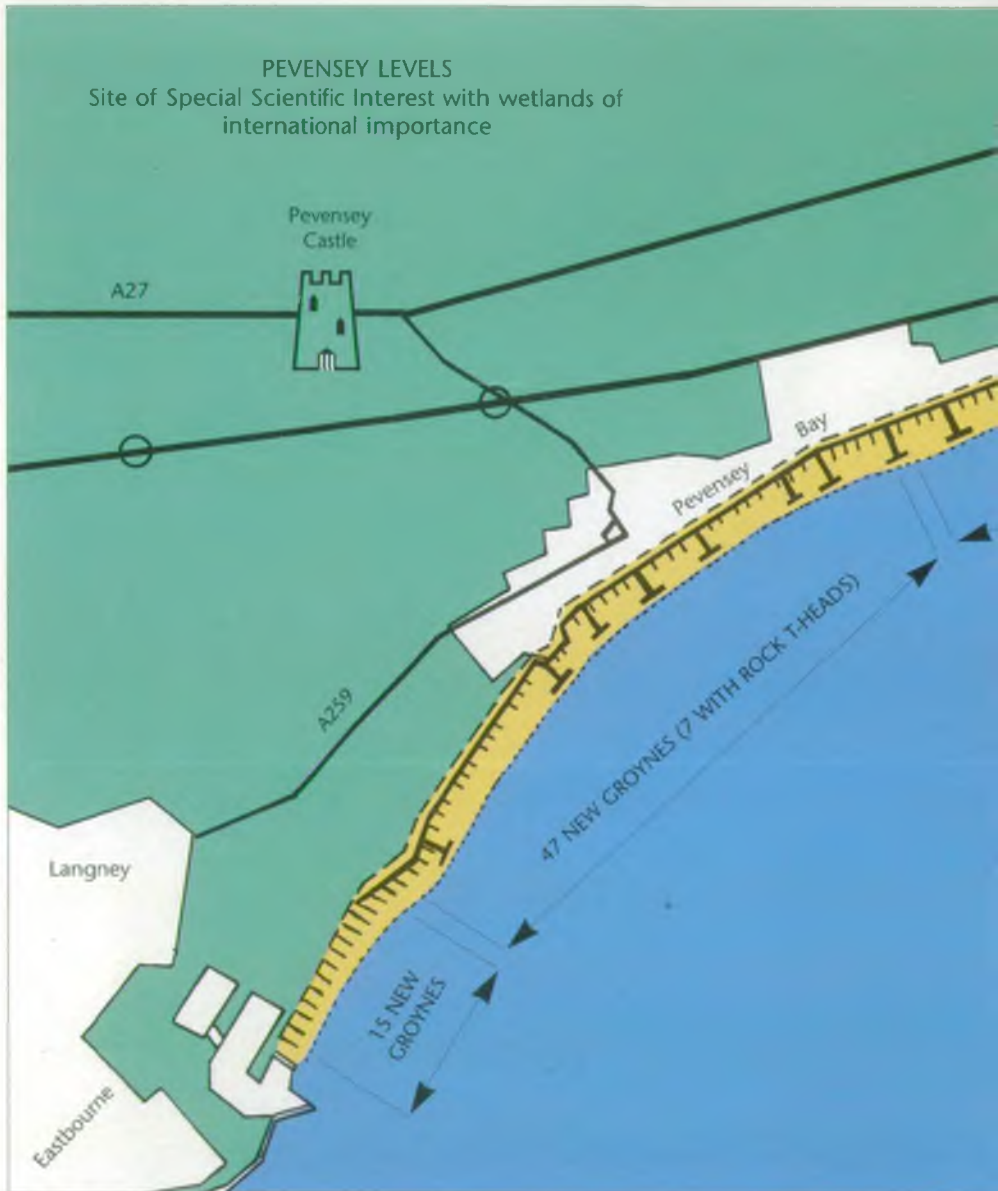
As a result the proposed scheme will comprise:

- Importing 1.8 million cubic metres of shingle to widen and extend the beach by 20 metres - the length of an average swimming pool - out to sea. Most of the shingle is likely to come from the English Channel.
- Replacing the existing groynes with 126 new timber groynes 70 metres apart.
- Constructing 23 two metre high rock T-head structures on the lower sandy foreshore at the end of timber groynes 300 metres apart. These will only be visible at low tide and will help restrict the movement of shingle.

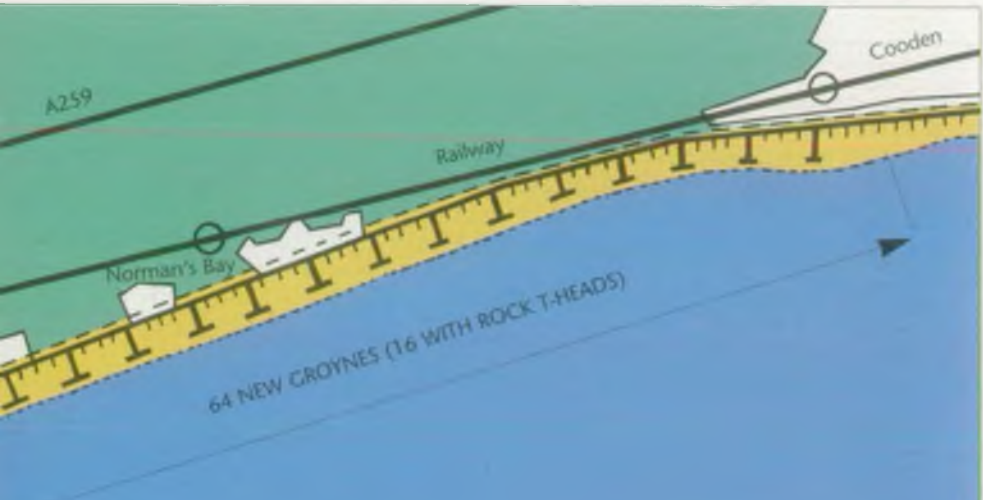
We will ensure there is minimum impact on the **environment** by bringing in most of the shingle and rock by barges.



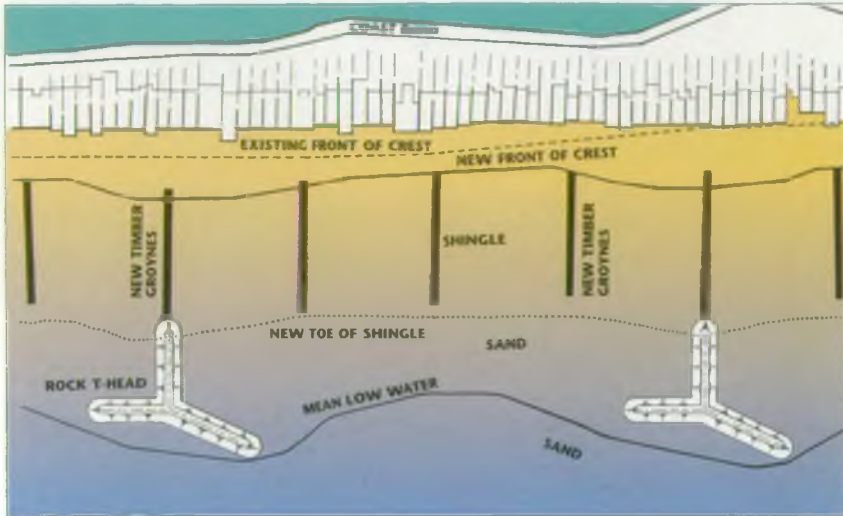
Testing the scheme



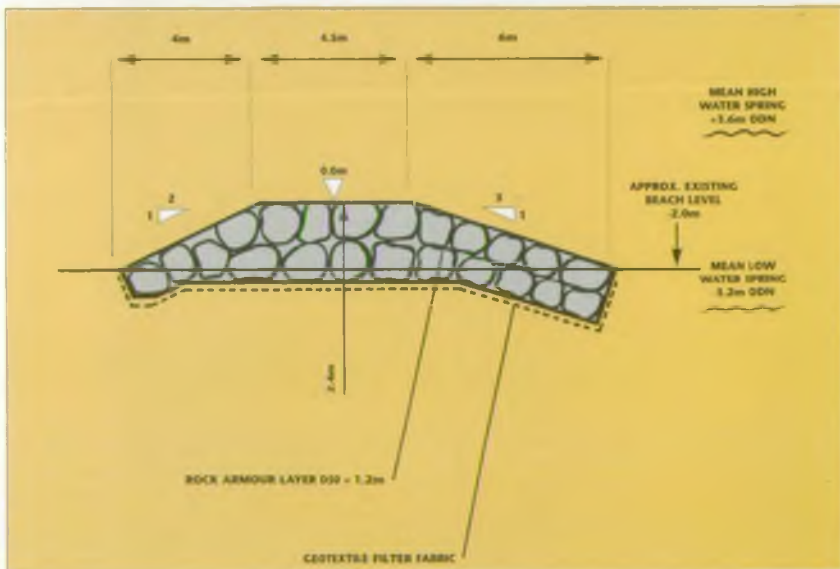
Scheme Plan



Typical Detail of Timber Groyne And Rock T-head Scheme



Cross-section Through Seaward End Of Rock T-Head



Funding The Scheme

The work will be carried out by the Environment Agency and funding will come from the Ministry of Agriculture, Fisheries and Food (MAFF) and

contributions from local authorities. All schemes have to be approved by MAFF and show that the cost of the works is less than the damage which may occur if the sea defences are not strengthened.

The works will be carried out in four or more stages with the first part starting at Cooden and then moving towards Langney Point. Existing sea defences will be maintained during the project's lifetime.



Side tipping barge delivering rocks

If you would like more information on the Environment Agency's Pevensey scheme please contact:

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

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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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