

EA - Southern

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ENVIRONMENT
AGENCY



Sea Defence Scheme

East Hayling

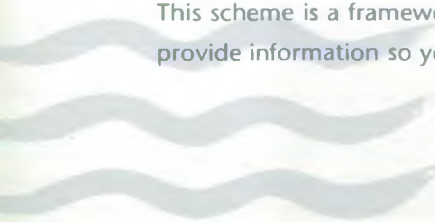
Who We Are And Have

The Environment Agency began work on April 1 1996 and combines the expertise of the National Rivers Authority (NRA), Her Majesty's Inspectorate of Pollution (HMIP) and the County Council Waste Regulation Authorities.

The Agency is one of the most powerful environmental regulators in the world with many responsibilities to help protect land, air and water. It does not own any of the defences along the eastern coastline of Hayling Island. However, the Agency has powers to help landowners where sea defences affect a wide population.

The predecessor authorities to the Agency have for many years helped in the maintenance of these defences. The NRA decided in 1994 to undertake a comprehensive look at them, to establish their condition, evaluate the potential risk, and to produce a strategy scheme.

This scheme is a framework to undertake detailed design work. Its aim is to provide information so you can make your views known to us.



Hayling

Why We Produced A Scheme



Dyke behind sea defences

This is the first stage in the consultation process. Please let us know your views because this scheme has a profound effect on the future of Hayling Island. A questionnaire is enclosed with this booklet. We would be grateful if you could complete the questionnaire and send it to David Jordan at the address shown on the questionnaire.

I s l a n d

Why Does East



Existing sea defences

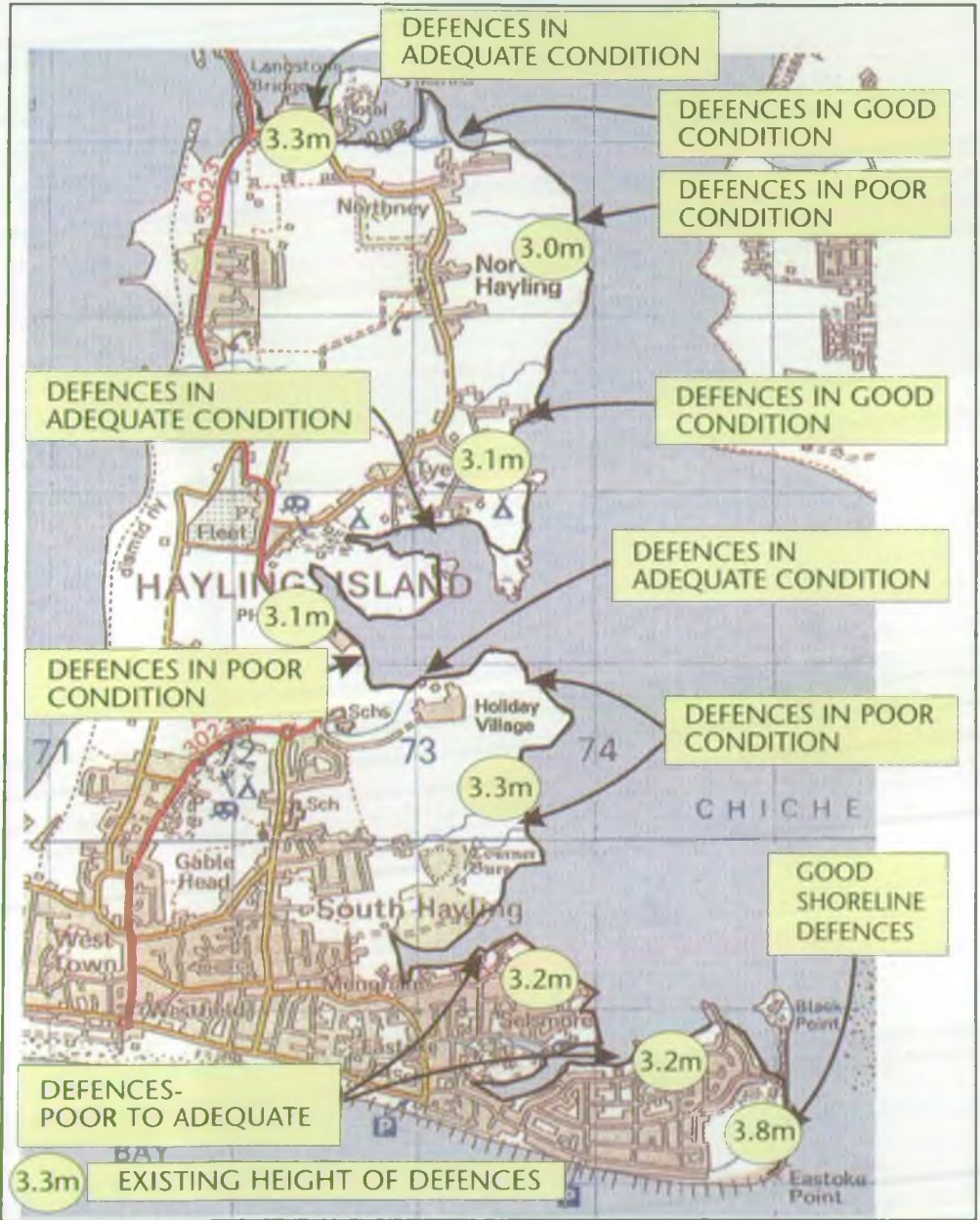
There is a large variation in the condition of the sea walls and embankments with some of the defences dating back to Napoleonic times.

Due to rising sea levels and the land tilting within the next fifty years the heights of the defences will be too low to prevent overtopping. Waves are also getting larger. This is because the severity of storms is increasing -something which is happening right across the northern hemisphere.

Hayling Need A Scheme?



Poor sea defences



OVERVIEW OF EXISTING SEA DEFENCES

What Is The Scheme?

In its current form, the Scheme sets out the broad approach which the Environment Agency believes should be taken to the flood defences of East Hayling. This follows intensive studies undertaken for us by contractors, using national standard guidelines issued by the Ministry of Agriculture, Fisheries and Food.

In broad terms, the scheme states that the defences should be built or improved, to withstand a 1 in 100 year event. That is a storm which has a 1 in 100 chance of happening in any one year. For South Hayling the standard is 1 in 200 years because of the density of population.

The scheme also sets out those areas which should be protected, based on benefit-cost analysis. This means the cost of the works must at least equal the financial benefit of protecting each area. There are strict rules for these calculations based on the value of property protected. By the same method, the scheme identifies those areas which would not be protected under the current proposals. Such areas, which are principally farmland, could continue to be protected by the individual landowners concerned but this would be without public expenditure support.



Proposed surge barrier at Fisherman's Creek

The Surge Barriers

East Hayling has a number of tidal creeks. To provide protection for residents the choice is between building sea walls or embankments around the creek, or building a surge barrier across the entrance. The barrier would be an embankment with a floodgate. The gate would normally lie flat on the sea bed, so the creek would continue to be tidal. In the event of a storm the gate would be raised to block waves threatening to overtop the existing defences in the creek.



Mill Rythe Holiday Village



Example of concrete block revetment

There are two areas where surge barriers are being considered. One is at Fisherman's Creek and at the other is the top end of Mill Ryth. Much detailed research will have to be carried out to ensure they do not have an adverse effect on the environment. There will also be extensive consultations to assess the preferred option.

While the causes of the change in climate are open to debate, the effects can be measured. These measurements show the existing defences are generally too low. The map shows the area at potential risk from flooding as these weather patterns change over the next fifty years.



How High Should

The

Examples of chalk revetment



The defences have to be built to a set standard. Guidance from the Ministry of Agriculture, Food and Fisheries states that in densely populated areas such as South Hayling the defences should offer protection from a storm

with a chance of happening once in 200 years. In the lesser populated areas of Middle and North Hayling the defences should be able to withstand a storm with a chance of happening once in 100 years.

The predicted rate the sea level will rise is 6mm a year. This means in 50 years time the average sea level will be 300mm higher than it is today. The increased severity of the storms also has to be taken into account along with tidal surges.

When all these calculations are taken into account research shows that the defences in South Hayling should be 4.5m (a rise of between 0.7m and 1.2m on the existing levels) whilst in North Hayling they should be 4.1m (a rise of 0.8m). The actual heights will be determined at detailed design stage. This is because the predicted wave heights will depend on which way the coastline is facing - some lengths are more sheltered than others.

Wherever possible the defences will be designed so they can be extended should the rise in sea levels continue after the next 50 years.

Defences Be?



View of shoreline before flood embankment constructed



View of shoreline after embankment constructed



THE PROPOSED SCHEME

How Much Will It Cost And Who Pays?



South of the Island

The total estimated damage which could be caused by the defences failing is in the region of £47M with some 2800 properties being affected. The cost of strengthening and raising the sea defences is estimated to be about £7M.

Each section of the Scheme has to show that the cost of the works is less than the damage which may occur if the sea defences are not strengthened. This financial yardstick is used to ensure that public money is spent wisely.

The Scheme will be funded by the Environment Agency (which raises a levy on the local authorities in Hampshire) and by grant aid from MAFF. Fortunately some of the defences are still in a reasonable condition and do not need to be strengthened in the near future. This enables the Agency to spread the cost over seven years.

The Programme

The period of public consultation will continue until the end of August. After this the Agency will consider the responses it has received.

The plan will be submitted to MAFF in the autumn for approval in principle. At the same time detailed consultation will continue with Havant Borough Council, Chichester Harbour Conservancy and English Nature as well as MAFF.

The Agency hopes to start detailed design work before Christmas. The spring and summer of next year will be spent obtaining the various approvals such as planning permission. Preliminary construction work should start in late 1997.

We would welcome your views. Please fill in the questionnaire and send it to us. If you feel you would like further information please write to:

David Jordan
Hampshire Area Manager
The Environment Agency
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Sarum Road
WINCHESTER
Hampshire SO22 5DP



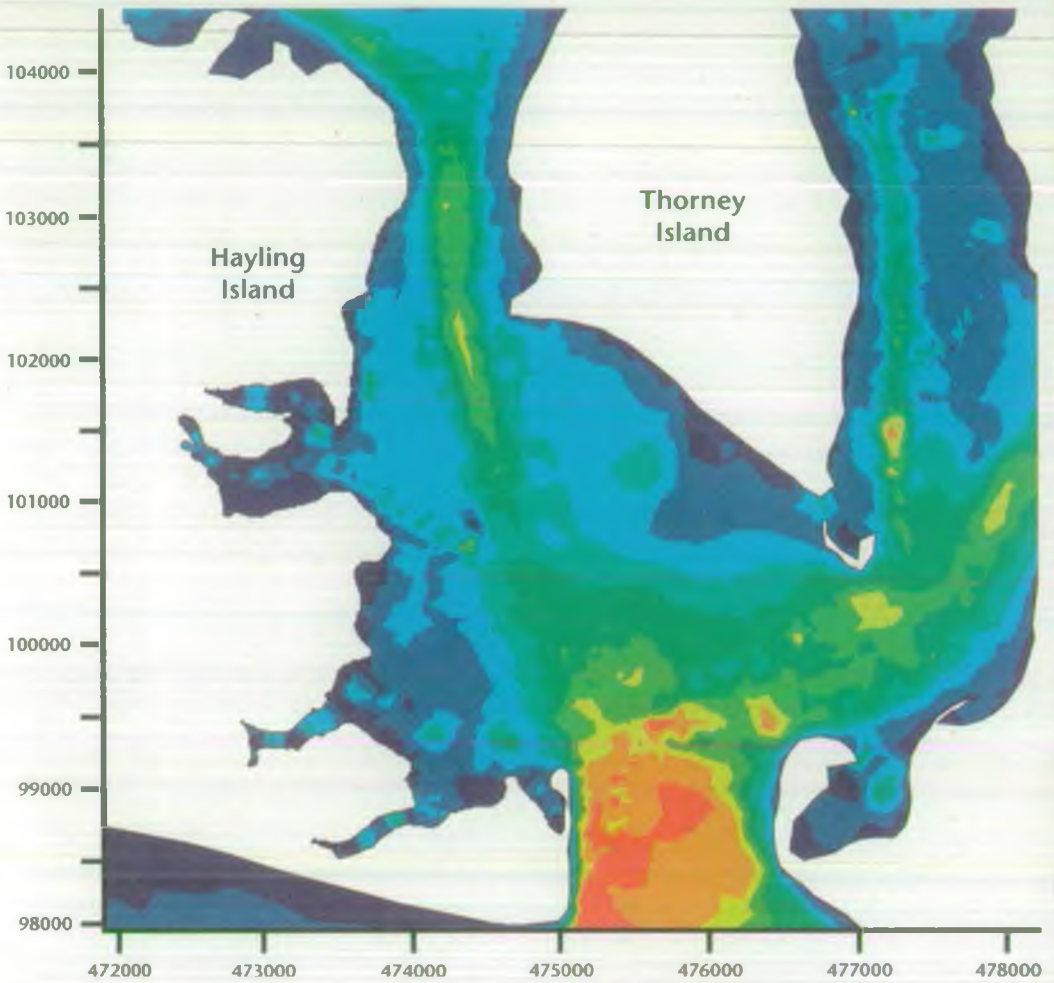
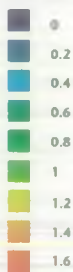


Illustration of the TELEMAC model

Maxspring 0.00



PEAK TIDAL CURRENTS

The drawing shows a plan view of peak tidal currents on spring tides simulated by a two-dimensional hydraulic computer model of Chichester Harbour. It will be noted that the fastest currents are in the entrance to the harbour and in the main channels. Currents near the shores are of course much less. The currents shown have been collated from both ebb (outgoing) and flood (incoming) tidal cycles.



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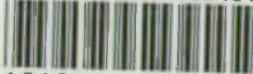


Improving Service



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