

# OUR COASTLINE IS CHANGING...

and it could affect you



## The Poole and Christchurch Bays Management Plan

A shoreline management plan (SMP) is a strategic document that sets out policies to assist decision making on flooding from the sea and coastal erosion risk management over the next 20, 50 and 100 years. This plan covers the length of coast between Hurst Spit and Durlston Head and includes the harbours of Poole and Christchurch.



Old Harry Rocks

## What the plan does

The purpose of this exhibition is to inform you about the Poole and Christchurch Bays SMP review. It will provide you with information about the plan, including why it is important, who is preparing it, and why your comments are vital to the decision making process.

The SMP provides a large-scale assessment of the risks to people and the developed, historic and natural environment, resulting from the evolution of the coast and estuaries. It provides a policy framework that addresses these risks in a way that does not tie future generations to costly and unsustainable management. The plan attempts to balance potential conflicting interests along the coastline.

The plan is a policy document for the planning of sustainable coastal management. It takes account of other existing planning initiatives and legislative requirements and is intended to inform wider strategic planning. While it provides the framework for future decisions, the implementation of the policy relies on the availability of funding.

## Planning for the future is vital

The coastline and estuaries covered by this plan are extremely varied. This diversity ranges from large urban centres such as Bournemouth and Poole to the many areas designated and protected for their heritage, landscape, geological and biological value. This combination of assets creates a coastline of great value and a tourism economy of regional importance.

The coastline is undergoing constant change from the effects of waves, tidal currents and the changing climate. Greater frequency of storms, increasing wave heights, increasing rainfall and rising sea levels are all predicted over the next century.

The plan will decide policy on issues such as protection from coastal erosion and flooding over the next 100 years. This will be based on an understanding of coastal and estuary processes and interactions between the social, natural and historic environment. These are of vital importance to everyone living or working within the SMP area.



# The coastline is constantly changing

The south coast of England has some of the most dramatic and beautiful coastal scenery in the United Kingdom. This coastline, including its estuaries, is undergoing constant change from the effects of waves, tidal currents and the changing climate. Coastal change is nothing new and will continue to happen.

As sea water meets cliffs and shores, it causes sediment or rocks to be broken down and washed out to sea. This is coastal erosion. In some instances, this material may be moved to a different part of the coast and be deposited in large quantities, causing accretion - the opposite of erosion. The sand and shingle that makes our beaches is a product of erosion and, to remain in balance, we need a continued supply of this material.

Erosion can happen under any conditions but its rate tends to increase when waves are powerful and water levels are high - for instance during storms or in high winds.

Another influence on the development of the coastline has been human interaction, particularly in attempts to stop the effect of erosion or flooding at particular locations. In many cases this has taken place with limited understanding of the consequences of carrying out these works on other locations up and down the coast.

## How erosion affects our coast

The way erosion changes different parts of our coast depends largely on the type of rock - in other words, the geology. Locations where the coastline is composed of hard rocks tend to erode more slowly and can form dramatic rock formations over time, including stacks or arches, for example Old Harry Rocks.

Where coastal geology is formed out of softer deposits, such as on the cliffs around Milford-on-Sea and Barton-on-Sea, erosional processes can be faster and therefore pose more of a risk for human settlements. Coastal erosion and coastal flooding are natural processes that are often linked to each other and can impact on each other. Erosion of shorelines that separate the sea from flat, low-lying land can increase the potential for coastal flooding.

Coastal erosion is not always gradual and can occur through events such as landslips, where many metres of land may be lost in sudden, dramatic, single events.

Rates of erosion are expected to increase by the end of this century because of increasing storms and rising sea levels, brought about by climate change and the overall geological formations that are prone to erosion.



Old Harry Rocks and Studland Bay



Hurst Spit



Works at Milford-on-Sea





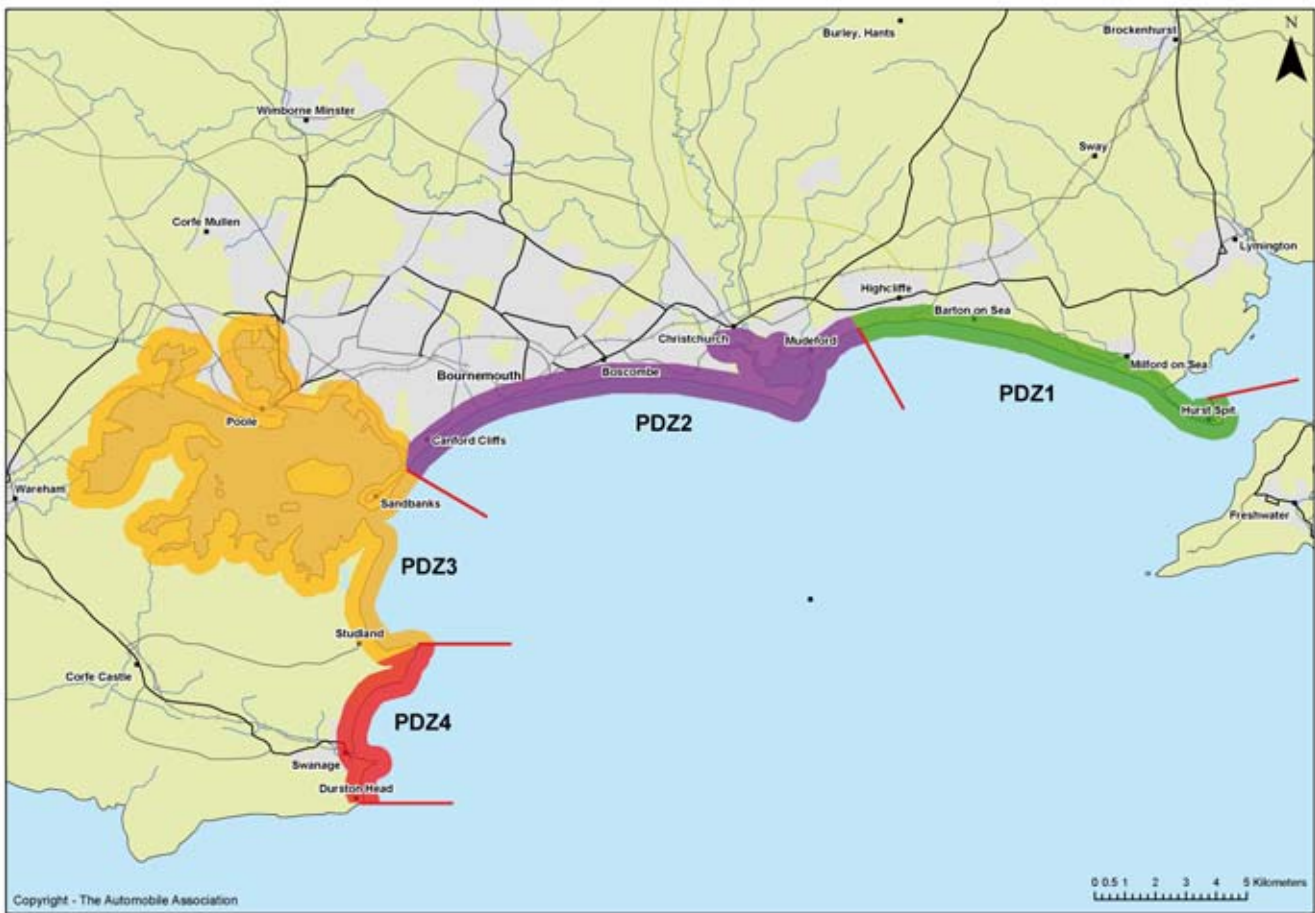
# The area covered by our SMP

Our SMP area covers the 190km (118 miles) of coastline, harbours, estuaries and headlands between Hurst Spit in the east and Durlston Head in the west. The coast varies between the soft and unstable cliffs of Milford-on-Sea and Barton-on-Sea to the extensive tidal mudflats and marshes of Poole and Christchurch Harbour. The sea front beaches of Poole and Bournemouth are some of the most popular in the country while, in the west, the limestone and chalk cliffs of the Isle of Purbeck form a dramatic finish to the section of coast covered by the SMP

The SMP includes the coastal communities of Milford-on-Sea, Barton-on-Sea, Highcliffe, Christchurch, Bournemouth, Poole, Studland and Swanage. The coastal towns and villages contain important historic buildings and sites whilst providing housing for the resident population and visitors.

Tourism is a vital part of the local and regional economy, while infrastructure such as the local ports and power stations service the regional economy. All this could be affected by the way in which we manage the coastline in the future.

The cliffs, dunes and beaches contain sites of local, national and international environmental importance because of their unique or scarce habitat or geological interest. This is reflected in the number of formal designations and protections given to these sites.



We have split the map into four sections to allow us to look more closely at the individual issues of each area of coastline, and develop policies for its management. These sections are known as policy development zones (PDZ).



Swanage Bay



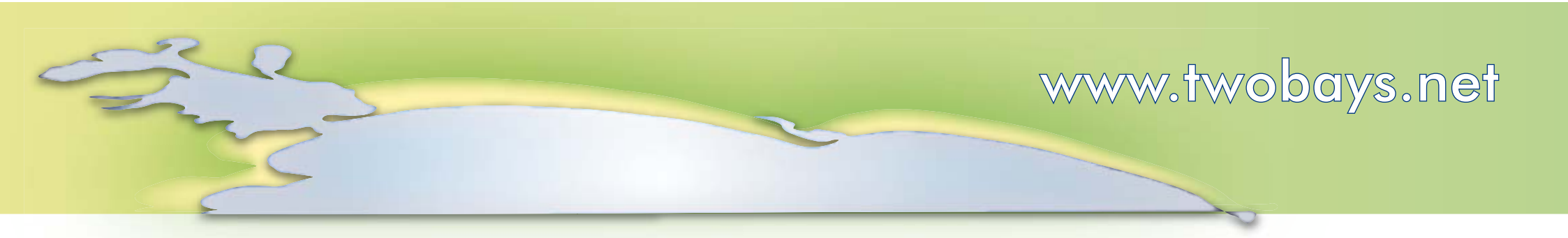
Studland Bay and Poole Harbour



Sandbanks



Entrance to Christchurch Harbour at Mudeford







## What are the SMP Policy Options?

There are four generic policies that can be considered within the Shoreline Management Plan. These are defined by the Defra Shoreline Management Plan guidance of March 2006 and are as follows:

### Hold the Line

### Advance the Line

### Managed Realignment

### No Active Intervention

One of these four policies must be assigned to three different time periods/epochs: 0-20, 20-50 and 50-100 years. The policies can change between each time period to support the long term management intent. Although the policies are the preferred options for managing the coast, their implementation is dependent on funding being available.

### Hold the Line

Defences are maintained and upgraded/replaced in their current position where funding permits. There may be some residual risk in holding the line, whereby foreshore steepening and narrowing beaches could make this policy unsustainable sooner than anticipated. Renewed defences refers to the construction of new, more robust defences. The aim of this is to retain the existing character and form of the coast with minimal disruption, while maintaining all existing assets.

### Advance the Line

New defences are built seaward of existing defences, involving a significant reclamation of land in the process.

### Managed Realignment

This policy allows realignment (forwards or backwards) of the shoreline with management to control or limit the movement. Any increase of flood risk will also be managed. Although this policy typically applies to low-lying areas at risk of flooding it can equally apply to cliffed areas, whereby management intervention slows cliff recession for a period of time.

### No Active Intervention

This is a policy decision not to invest in providing or maintaining any defences. Where there are presently no defences, this policy means that the shoreline will continue to evolve naturally.

This policy can also apply to areas that are currently defended but may not be defended in the future. These areas will evolve more naturally, which may include an increased risk of flooding or coastal erosion.



Fisherman's Walk, Barton-on-Sea



Sand dunes at Shell Bay





## Past and Future Changes

### Historical Change

The natural coast owes much of its beauty to the processes of erosion but protecting coastal communities will be an ever-increasing challenge. The shoreline throughout much of the SMP area has been defended only for the last century or so, therefore the erosion that we see today is nothing new. Historic photographs have documented the changes in coastal features such as Old Harry Rocks, Durlston Bay and the landslips around Barton on Sea; records from Christchurch Priory, as early as the 14th Century, record loss of land to erosion.

### Climate Change

Records have shown that sea level has risen over the last century and this rise is likely to continue. The latest government projections are that we could be looking at a rise of nearly 50cm (18 ins) by the end of the century, compared to the 1990s. When this rise is combined with the predicted increase in extreme weather events further coastal change is inevitable.

### Sediment Loss

The sand and shingle that makes up our beaches is continually being moved along the coast by waves and tidal currents. A constant supply of this material is needed if this natural system of maintaining the beaches is to be sustained. There is, however a limited supply of this material which will decline with ongoing sea level rise, drowning potential sources offshore. On the heavily defended frontage this factor, combined with accelerating wave action, will cause the beaches to continue to narrow and eventually disappear.



Durlston Bay c.1909. Courtesy of David Haysom



Durlston Bay 2009



Beach recharge after sediment loss



Hurst Castle





# Future Management of the Coast

One of the difficulties facing us, as a nation, is the economic, social and environmental cost of continuing to protect shorelines to the extent that we do at present.

## Economic

The cost of maintaining all existing defences is already likely to be significantly more than present expenditure levels. With the climate changes being predicted, the natural changes already taking place will accelerate. The equivalent cost of providing a defence will increase during the next century to between 2 and 4 times the present cost, excluding inflation or other factors, to between £6million and £20million per kilometre. In simple terms this means that either more money needs to be invested in coastal defence, or the expenditure has to be prioritised.

## Socio-economic

The coast is important for recreation and leisure activities, particularly those which rely on good quality beaches and easy access to the sea. In addition to the tourist industry, there are a number of other commercial interests along the coast - these tend to be concentrated in the four towns of Swanage, Poole, Bournemouth and Christchurch. The continuation of these industries is essential to sustain the present economy of the region as a whole.

## Environmental

Coastal management can have a significant impact on habitats and landforms, both directly and indirectly, hence management decisions need to be made through consideration of both nature conservation and risk management.



Bournemouth beach

## Nature

Coastal management can have a significant impact on habitats, coastal landforms and heritage features. Management decisions need to be made through consideration of all aspects of conservation and risk.

The conservation of ecological features in a changing environment remains a key aspect in terms of environmental sustainability. Future management of the coast needs to allow habitats and features to respond and adjust to change such as accelerated sea level rise. Many of the habitats in the SMP area have important conservation designations and it is important to ensure that any management complies with the various pieces of legislation that relate to these areas.



Sandwich Terns at Brownsea Lagoon



## Working in Partnership

The Plan is being prepared by a Client Steering Group (CSG) comprising representatives from six operating authorities: -



Also on the CSG are five associate partners:-



The CSG commissioned consultant engineers Royal Haskoning to work with them to prepare the SMP. Funding is provided by the Department of Food and Rural Affairs (Defra).

## Further information

In addition to this exhibition, the full SMP document is available for review at the offices of the relevant councils or at main local libraries.

A summary leaflet providing an overview of the SMP and policies is available today from this exhibition and from many of the libraries and visitor centres within the SMP area.

Both the full Shoreline Management Plan document and summary leaflet are available to download at **[www.twobays.net](http://www.twobays.net)**

## We want to hear from you

The Two Bays SMP review team members want to hear from you. If you live or work near the coast, or have a keen interest in it, then your comments are important to us. This will ensure that the SMP fully considers all concerns. If you have any comments or feedback, please complete a consultation response form; this can be handed in at this exhibition or returned by post. Alternatively, please email your comments to **[feedback@twobays.net](mailto:feedback@twobays.net)**. Copies of this form are also available online at: **[www.twobays.net](http://www.twobays.net)**

**The closing date for comments is Wednesday 17th February 2010**

## What happens next?

Following this period of consultation, the response will be assessed and the final version of the SMP will be adopted by each local authority and the Environment Agency.

Photos courtesy of Borough of Poole, Bournemouth Borough Council, Christchurch Borough Council, Claire Lodge, David Haysom Collection, New Forest District Council, Purbeck District Council and Sue Sieger.

Designed by Graphics at Purbeck District Council.

**[www.twobays.net](http://www.twobays.net)**



# Developing a Shoreline Management Plan

The stages in developing an SMP are set out in national guidance produced by Defra (Department for Environment, Food and Rural Affairs). The diagram below summarises this. Involving those people or organisations who have an interest, or may potentially be affected by, the SMP is built into all stages of the plan

Stage 1: Scope SMP	Initial stakeholder feedback analysed and information collated (August - October 2008)
Stage 2: Assessments to Support Policy	Stakeholder events to help refine Issues and Objectives Table (July - December 2008)
Stage 3: Policy Development	Stakeholder events to develop policy ideas (January - December 2009) Draft SMP document and appendices produced (August - November 2009)
Stage 4: Public Examination	3 month Public Consultation period (November 2009 - Feb 2010) Closing date for comments: Wednesday 17th February
Stage 5: Finalise SMP	Expected February - March 2010
Stage 6: SMP Dissemination	Expected February - April 2010

## Where the SMP fit into things – the next steps

