

Chapter 7 Managing the Shoreline

Guiding Principles:

Chapter 4 details all the guiding principles relevant to the overall management of the Harbour. Whilst all should be given some consideration the following are of particular relevance to managing the shoreline.

Key Guiding Principle numbers: 1, 5, 8, 9 and 10.

7.1 Climate Change and Sea Level Rise

Probably the most significant long-term trend affecting the future shoreline management of Poole Harbour is that of progressive sea level rise. This is a natural feature of the area but the rate of change is expected to increase as a result of predicted climate change. The Inter-Governmental Panel on Climate Change (IPCC) predictions suggest that global temperatures may increase from between 1oC to 3.5oC by 2100 with a predicted sea level rise for the Solent area of around 35cm by 2050. Climate change is also predicted to affect the incidence of storms and extreme water levels.

Along the Dorset coast, SCOPAC (Standing Conference on Problems Associated with the Coastline) and to a lesser extent the Dorset Coast Forum are two organisations whose work focuses on issues of climate change and sea level rise. They commission important research and the reports they produce help to inform policy for both statutory and non-statutory bodies.

7.1.1 Implications

Poole Harbour has been identified as an SSSI under threat from sea level rise due to the loss of intertidal habitats from natural processes and “squeeze” against hard defence structures. Increase in air and water temperature will also affect the fauna and flora that the Harbour supports, creating conditions that are intolerable for some existing species but attracting other species which are better adapted to warmer climates.

Higher sea levels and greater incidence of storm events will have implications for coastal defence due to increased erosion and flooding. This needs to be taken into account by operating authorities when preparing development policies for the coast. The Government’s Planning Policy Guidance Note 25 explains how flood risk should be considered at all stages of the planning and development process. It sets out the importance of the management and reduction of flood risk in planning, acting on a precautionary basis and taking account of climate change.

7.2 Coastal Defence

Coastal defence is a collective term for both the protection of the coastline against marine erosion (coastal protection) and flooding by the sea (sea defence). Within the Harbour, there are extensive coastal defences along Whitley Lake shoreline and around the northern parts of the Harbour as well as sea walls along the eastern shore of Brownsea Island in the vicinity of Brownsea Castle. Along with engineered defence structures, natural habitats such as beaches, mudflats and saltmarsh also act to protect the coastline from the effects of natural processes such as wave energy.



In England DEFRA has overall policy responsibility for both coastal protection and sea defence, setting policy aims, objectives and targets for the operating authorities, providing guidance, funding a Research and Development programme and grant aiding eligible works.

Coastal Protection

Coastal protection refers to measures taken to prevent erosion of the shoreline and may take the form of hard engineering, such as sea walls and groynes, or soft engineering such as beach replenishment. The local authorities of Poole and Purbeck have responsibility for these works within the Harbour under the Coast Protection Act and any non-statutory responsibilities in accordance with Defra's high level targets. They have responsibility for maintenance and repair of any works they have undertaken but not those of third parties. Any third party undertaking coastal protection works would require consent from these operating authorities.

Sea Defence

The Environment Agency has a supervisory duty for all matters relating to sea defences, which aim to prevent flooding of low lying land by the sea. They have powers to provide and operate flood warning systems and disseminate warnings directly to the public. Other significant roles include maintaining and operating sea defences and associated structures to reduce the risk of flooding. Works must be technically sound, economically viable, conserve or enhance the environment and contribute to sustainable development. They have also produced maps which show areas of potential flooding. Local councils do have powers to undertake sea defence works if desired but would require consent from the Environment Agency.

Operating authorities today realise that defence developments may be more cost effective and enduring if rather than fighting nature they harness and enhance the natural coastal processes. Establishing a natural regime has the added advantage of retaining the wildlife of the area and enhancing the quality of the landscape. Also successful man-made defences in one area may have damaging effects on neighbouring stretches of coastline if they interfere with the natural movement of sediment. This must be taken into account when considering additional coastal defence development. An example of such a strategy is the review of the Wareham tide banks which is being undertaken by the Environment Agency. They have carried out an inception study to examine the future of the tidal defences at the western end of the Harbour, including those on the Rivers Frome and Piddle up to Wareham. The objective is to identify the strategic options for the future management of these defences in a way that recognises the interests of different parties and the environment and reduces the cost of maintenance. As part of the Poole regeneration initiative it is also hoped that Hamworthy Park will fulfil a wider recreational role and the need to maintain the promenade and provide for a measure of beach replenishment above the strand line will be considered. However as with all coastal defence schemes in the Harbour, any works undertaken would need to be consistent with the maintenance of the integrity of the Special Protection Area.

7.3 Shoreline Management Plans (SMPs)

SMPs are documents which set out a strategy for coastal defence for a specified length of coast, taking account of natural coastal processes and human and other environmental influences and needs. They provide details on a wide range of coastal issues, and assist local councils to formulate planning strategies and control future development of the shoreline. Flood defence and coastal protection authorities will consult the SMP in developing coastal and flood defence strategies. Each SMP covers an area of coastline known as a sub-cell within a littoral sediment cell, of which there are eleven on the England and Wales coastline.

A sediment cell is defined as a length of coastline, which is relatively self-contained as far as the movement of sand or shingle is concerned, and where interruption to such movement should not have a significant effect on adjacent sediment cells. Each major littoral cell is divided into a number of sub-cells, based on the best available knowledge of large-scale processes.

The Dorset coast is included in two sediment cells, 'Selsey Bill to Portland Bill' and 'Portland Bill to Lands End'. These are divided into a series of 'sub-cells' three of which cover the Dorset Coast. 'Poole and Christchurch Bays', 'Portland Bill to Durlston Head' and 'Lyme Bay and South Devon'.

For each of these sub cells a 'Shoreline Management Plan' has been written which outlines how different parts of the coast should be managed.

The Strategic defence options are:

- Advance the line - use coastal defence works to move the shoreline into areas now covered by the sea.
- Hold the line - use coastal defence works to maintain the present shoreline.
- Retreat the line - allow the shoreline to move inshore in a controlled manner, sometimes called 'managed realignment'.
- No active intervention - commonly applied on undeveloped coastline. This means exactly what it says, let nature take its course.

Poole Harbour is covered under the Poole and Christchurch Bay Plan, known nationally as plan 5f. The Harbour itself is then further divided into 17 Management Units, along with adjacent units for Poole Bay and Shell Bay.

The current SMP for the Harbour was produced in 1999 but in 2004 the Poole Bay and Harbour Coastal Strategy was produced, which defined the method by which coastal defence of the Harbour should be managed over the next 50 years. Where the SMP defines the shoreline alignment policy the Coastal Strategy develops the SMP policies by appraising ways of implementing them. With a view to developing an effective strategy, two of the management units within the Harbour were further subdivided.

7.3.1 Revision of Shoreline Management Plans

The production of SMPs was seen as a significant step towards a more integrated approach to coastal zone management. However a review of the current set of SMPs is already underway and these second round of plans, will take an even longer-term view of coastal management, setting out a strategy for the next 100 years, as opposed to the 50 year vision of the current plans. It is hoped that that they will encourage greater stakeholder engagement and draw on the latest research relating to the environmental, social and economic implications of coastal defence strategies. Future plans will also need to ensure that provision of defences does not adversely affect European designated habitats.

Management Objectives:

The following is a list of the management objectives identified. Whilst some are specific to the management of the shoreline others may relate to activities and issues discussed in other chapters of this plan. All management objectives can be found in the matrix contained within Section 2, which also lists proposed management actions.

- To understand where habitats may be lost in the future due to sea level rise and where there is potential for habitat re-creation.
- To respond to coastal change and rising sea levels in the most sustainable way to comply with flood protection policy and Habitat Regulations.
- To ensure coastal defence schemes do not significantly affect the interest features of the site and comply with Habitat Regulations.
- To identify strategic options for the future management of the Wareham tide banks.