

4 APPRAISAL OF OPTIONS AND RATIONALE FOR PREFERRED PLAN

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4.1 Introduction

4.1.1 General Principles and Objectives for Management

Section 1 of the SMP report provides the overall aim of the process. The essential aspect of this is the need to develop a long term sustainable plan recognising the overall connectivity along the whole SMP coastline, while also maintaining the attention to detail that will result in this plan being deliverable at a local scale.

As has been discussed in Section 3, through consultation and review of various plans, there have been diverse and important issues identified that provide the baseline for why there is the need to manage the coast. It is these issues that the SMP attempts to address, from the perspective of flood and coastal erosion risk management, and which, therefore, provide the framework for the development of the plan. Based upon these issues, and incorporating national and regional policy, a set of overall principles have been adopted.

- To contribute to a sustainable and integrated approach to land use planning;
- To avoid damage to and where possible enhance the natural environment;
- To support the cultural heritage;
- To minimise and reduce reliance on sea defence and coastal protection;
- To protect homes from flooding where sustainable into the future;
- To protect homes from loss through erosion where sustainable into the future;
- To protect opportunities for employment;
- To support adaptation by all coastal communities;
- To avoid damage to the historic environment where practicable; and
- To maintain or enhance the high quality landscape.

The development of these principles was discussed with the Client Steering Group and Elected Members Forum and a discussion paper is presented as part of Appendix B.

Within this discussion paper the above principles were interpreted broadly over the whole SMP area in terms of the following specific high level objectives:

- Maintain the sustainable economic viability of the key urban/commercial areas to protect employment opportunities;
- Maintain exposure of the geologically designated cliff line wherever possible;
- Protect homes from flooding where sustainable into the future;
- Protect homes from loss through erosion where sustainable into the future;
- Ensure no net loss of species or habitats;
- Minimise and reduce reliance on defences; and
- Allow natural evolution of the shoreline where possible.

As a result of discussions considering these objectives, certain points have been developed:

- With respect to the natural environment, it has been highlighted that on the open coast, in particular, it is the ability of the coast to evolve that is valued as much as any specific existing aspect of that changing environment. Also that it is the characteristics of coastal change which contributes to the value of the frontage in terms of coastal use. These factors are important in assessing how the above objectives are met.

- That the important economic viability of the main urban centres of Bournemouth, Poole, Christchurch and Swanage is essentially linked to the use of the coast. In the case of Bournemouth and Swanage, and the more locally significant settlement of Milford-on-Sea, this is particularly linked to the sea fronts; their promenades and beaches. In areas such as Poole and Christchurch there is also a greater emphasis on their waterfronts and boat use.
- This is also an important feature in relation to Wareham. These aspects reflect that it is not merely the objective to maintain the hard assets and infrastructure that has to be considered but also how this is managed in relation to broader associated features. This also highlights the fact that in each of the main urban areas, their setting, within the natural diversity of the coastal zone, is of equal importance. This is well expressed in the Bournemouth Seafront Strategy:

“The major selling point of the seafront is the environmental setting of Poole Bay, and the visual impact of the cliffs and cliff tops, sheltered chines, sandy beaches and clean seawater.”

- That the viability of Poole is strongly dependent on its port and associated water use facilities and through this is very dependent on navigation access to Poole Harbour.

More specific objectives, reflecting the general characteristics of each section of the coast are developed within the discussion paper based on the Theme Review (Appendix D).

4.1.2 High Level Plan Development

The aim of the SMP is to provide a consistent approach to flood and coastal erosion risk management over the whole Sub-cell 5f frontage. This consistency has to take account of the physical aspects of coastal management, ensuring that decisions in one area take account of the impact they have in other areas in terms of processes and geomorphology. Ultimately, however, this has to take account of the impact on the interrelationships between the socio-economic and ecological values identified for different areas of the coast as a whole; these being the real drivers behind any intent of management.

Through the review of coastal processes (Appendix C) and the thematic review (Appendix D) it may be understood that the coastline exhibits a high degree of interaction; both within the specific themes of physical processes, ecology and socio-economic and between these themes. There are large scale issues driving management as identified in the high level objectives discussed above, but these have to be recognised, themselves, as being interdependent. Management decisions in one area of coast may have significant influence elsewhere on how best to manage other areas or other interests.

Such interaction may be quite local (between adjacent policy units), may extend over substantial lengths of coast (linking together the decision making process over a group of policies) or may have potentially cumulative impacts that have to be viewed at the scale of the whole SMP; or indeed beyond the area of this SMP. In developing individual policy units, therefore, it is necessary to maintain a broad perspective with respect to potential impacts, within which to consider more locally important issues.

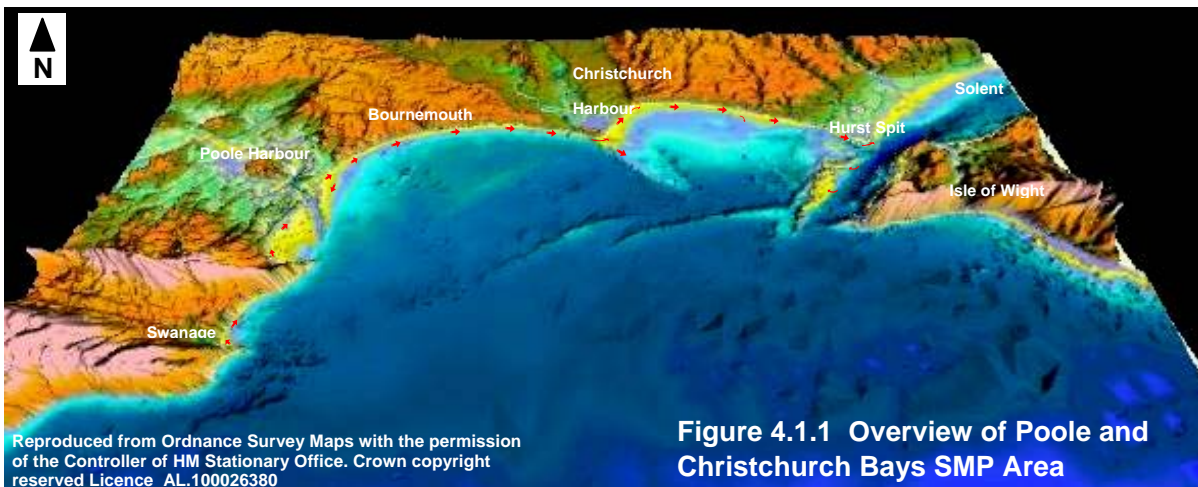
In line with the procedural guidance for SMP2, a hierarchical approach is taken. This initial section of the plan and policy development process considers first the whole SMP coastline considering how potential general management scenarios might influence long term management.

4.1.3 Comparison of Scenarios for the SMP Area

Description of the Physical Structure

The SMP area is shown in Figure 4.1.1. Summarising the points made in Appendix C (Coastal Processes), it may be seen that the open coast is divided into three principal areas: that of Swanage Bay, including the high ground of Durlston Head and the main headland of Handfast Point, Poole Bay and, separated from this by Hengistbury Head, Christchurch Bay.

Poole Harbour both interacts with and influences the coast at the south western end of Poole Bay. The extent of this interaction is seen to be largely limited within an area defined by Redend Point, the influence of the Poole Harbour entrance holding forward the coast over this whole section. Christchurch Harbour lies behind Hengistbury Head with low lying land to either side of the headland. To the east of the area, Hurst Spit acts a barrier defence in front of the western saltmarshes of the Solent, with the deep western entrance channel to the Solent separating the spit from the Isle of Wight.



The coastline as seen today is of recent geological origin, formed over the last 9000 years by erosion of the soft Tertiary glacial deposits of sand and clay following the breaching of the chalk ridge that ran westward from the Needles, on the Isle of Wight, to Ballard Down and Handfast Point. The formation of the shoreline has been driven by the dominant southwest wave climate, carving out the long curving sweep of Poole and Christchurch Bays.

The immediate perception of the shoreline is that of a narrow, cliff, dune and shingle ridge backed foreshore of sand and shingle. In reality the coastal geomorphology is determined by the whole profile extending into the sub-tidal zone. In particular the influencing feature of Hengistbury Head extends out to the southeast as a more resistant bed forming the Christchurch Ledge, influencing wave approach and erosion of the sea bed (and hence shoreline) within Christchurch Bay. Hurst Spit lies at the root of the large Shingles Bank; a

narrow tidal channel separates the spit from the bank. The Dolphin Bank and Sands lie as a ridge influencing wave approach to Christchurch Bay. As mentioned earlier the ebb delta to Poole Harbour extends its influence over the whole coast between Canford Cliffs and Studland Bay, and this in turn is influenced by both the shape of and the flow through the harbour entrance. In addition to their geomorphological influence, the offshore features are integral pathways for sediment transfer within the offshore area and in the interaction between the offshore and the shoreline sediment processes.

The coastline continues to change. At a local scale this is most obviously seen in the continued retreat of the cliffs along the Christchurch Bay frontage, in the patterns of erosion and accretion within Studland Bay and, although obscured by the regular recharge of the beaches, in the pressure for erosion along the Bournemouth sea front. In the much longer term, well beyond the 100 year period of the SMP, there could be far larger changes more fundamental to where pressure develops in terms of management.

Unconstrained Scenario

An outline projection of the long term change has been made (Wright 1981) and this is shown in Figure 4.1.2. The significance projection is really in understanding the long term pressures on the coast and where critical management decisions, with a longer view on the coastline, have to be made. The obvious key feature is Hengistbury Head. The eventual loss of this feature creates increased pressure for erosion on the coast, principally to the west.

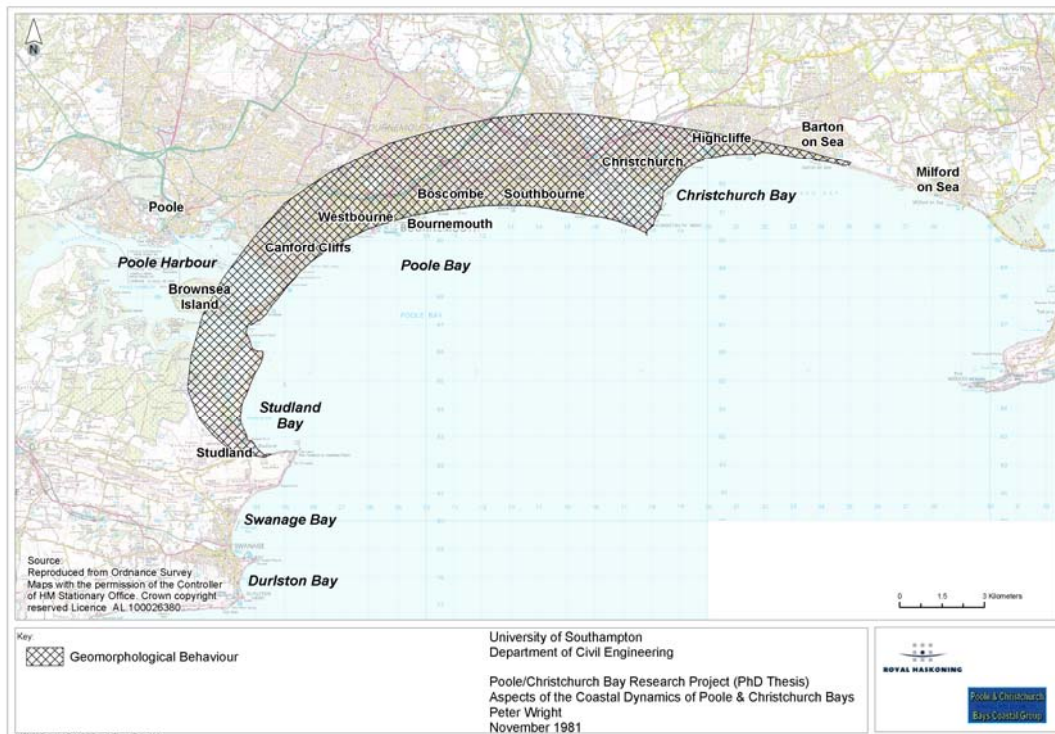


Figure 4.1.2 Future geomorphological prediction.

Loss of Hengistbury Head, with an underlying policy to allow natural evolution, would result in substantial change, as shown in the figure. This impact would be seen over the whole

section between Hengistbury Head and Handfast Point. Although the actual entrance to Poole Harbour would be set back as shown, there would be some modification of this shape in that Poole Harbour would continue to impose some control on the development of the coast. The actual shoreline would, however, be set back some considerable distance.

Under this unconstrained long term scenario, certain points may be made:

- Without management of the physical behaviour of the coast there would be no point, over the next 200 years or longer, at which the coast would establish a stable alignment. It is not therefore a situation where limited retreat, or adaptation, along the Bournemouth and Poole Bay frontage could achieve a fundamentally more sustainable position. The Poole Bay seafront and the management of Poole Harbour would need to be adapting continuously. This would clearly fail to deliver the objectives for these areas.
- Christchurch Harbour would be lost with no sensible opportunity to maintain the essential features identified within this area.
- The town of Christchurch would, in the same way as Bournemouth, be under continuing pressure.
- Interestingly, much of the Christchurch Bay frontage, despite being currently an area where there is most obviously significant change, would in the long term establish a more stable alignment not substantially different from present day. Only at its western end would there be significant set back of the frontage.
- The above point also highlights that the position of Milford on Sea appears to be the controlling down drift feature to Christchurch Bay, with Hurst Spit being a feature more influenced and influencing the approaches to the Solent.
- Swanage and the headlands at the western end of the SMP frontage remain, at this large scale, little affected.

Clearly from the above, while the general objectives for maintaining a changing coastline are met by this unconstrained scenario, the value of this is mitigated by the collapse of the economic viability of the area and the destruction of the cultural heritage. As a long term vision this scenario is rejected.

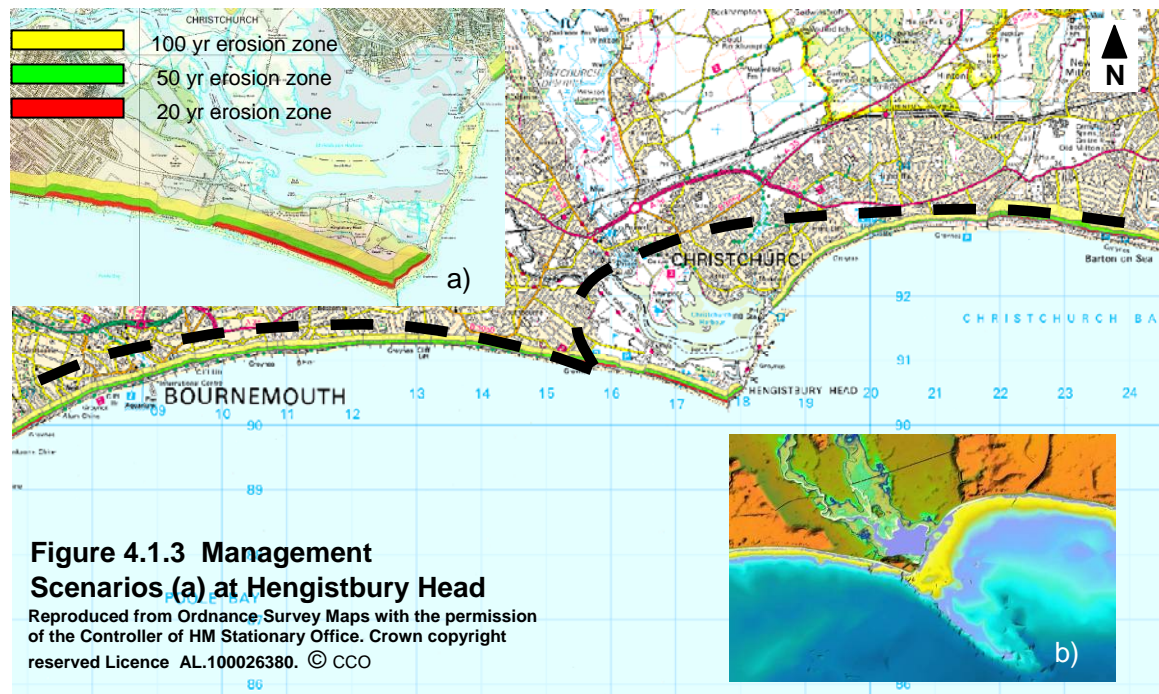
In terms of management objectives, this highlights the need to manage the coast and its future evolution. The area is characterised by its natural beauty and intrinsic value. This has to be sustained not least for the value it contributes to the other uses of the coast. This existing value has been established in its current form under the present regime of an extensively managed coast. The objective for management of the natural environment is not in conflict with that of meeting the overall intent of delivering human aspirations. However, on the broader scale, acceptance that a significant proportion of this SMP frontage will remain a managed area is important.

With this understanding, it is possible to consider where high level decisions have to be made. Since Hengistbury Head represents a fundamental control point within the SMP area, the consideration starts with this section of the coast. Developing out from there, other sections of the coast are considered with respect to their influence on (and interaction with) other areas of the SMP.

Consideration of Alternative High Level Management Scenarios

Hengistbury Head

A critical area for management is Hengistbury Head. This feature controls the long term development of the overall frontage. The predicted long term, No Active Intervention, development of the Head and adjacent coast has been shown in Figure 4.1.3.



In figure 4.1.3 a), the potential erosion zones over the 100 year period are shown to extend some 100m to 200m back from the existing shoreline position. In effect, slightly beyond the 100 year period, erosion would have removed the bulk of the headland, ultimately leaving only a lower lying hard point reinforced by the ironstone nodules in a weaker clay deposit.

The shoreline to the west would then move back in line with the erosion of the headland such that there would be width of some 100m at the narrowest point of the isthmus. To the east, the headland would have moved so far out of line with any attempt to maintain Mudeford Spit that management there would be outflanked. At this point Hengistbury Head no longer acts as an effective control.

There are three basic response scenarios to this.

Scenario (a)
Description: Accept loss of Hengistbury Head and reinforce the coast to the west to manage the frontage.
Rationale: The essential aim in strategic management of this area, under this scenario, is to prevent long term increasing pressure on the Bournemouth frontage and to maintain the overall shape of Poole Bay.
Implications: There would be a need to substantially increase the defence to the west of Hengistbury Head. This would most appropriately be in the vicinity of Southbourne, taking advantage of the higher ground in this area. Movement of this control point would still result in some wish for the coast to readjust

to a more stable configuration. Unless the control point at the coast extended offshore, the effective northerly shift in the headland is likely to result in some readjustment as shown by the black dashed line in Figure 4.1.3. This line is indicative of a trend of readjustment in the coast rather than being a definitive erosion line. There would be increased difficulty in retaining a foreshore in front of Bournemouth, as the sea front would then be substantially advanced of any geomorphologically stable alignment. The new headland would restrict sediment supply to the east in much the same way as seen at Hengistbury Head at present.

To the west, the theoretical coast line would attempt to adjust as shown. As at present, there would be additional influence from the Christchurch Ledge, the inland end of which would be at Hengistbury Head. This ledge would not, however, be attached to the coast. Christchurch Harbour would be lost although there is likely to be some form of ebb delta developed within the new bay. The core centre of Christchurch would be at the new coast, assuming that with the increased pressure on the Stanpit and Mudeford frontages, these villages would be abandoned. The overall bay shape developed would be deeper than the present western end of Christchurch Bay principally due to the lesser influence of the Christchurch Ledge. This would therefore mean that new defences would be required to the eastern flank of Southbourne.

The overall influence or change of influence, on the coast further east would be less significant. The frontages of Barton and Milford would still be under pressure to erode in the longer term however there would initially be an increased sediment supply to the east.

Impacts: The principal losses would occur within and around the shore of Christchurch Harbour. This would include loss of the fishing industry, recreational use of the harbour area, the loss of Mudeford Spit and Mudeford Quay area. There would be a significant loss of property in the Christchurch area and there would be a need for increased defence to areas protected. Following the initial period of increased sediment supply, controlling the coast at Southbourne would result in little further sediment moving from Poole Bay into Christchurch Bay. There would be a loss of the mosaic of habitat within Christchurch Harbour including areas designated as SPA, SAC and Ramsar sites.

Scenario (b)

Description: Accept loss of Hengistbury Head and reinforce the coast to the west to manage the frontage and also defend at Mudeford Quay.

Rationale: The essential aim in strategic management of this area is to prevent long term increasing pressure on the Bournemouth frontage and to maintain overall shape of Poole Bay, but also to limit erosional damages within Christchurch Bay.

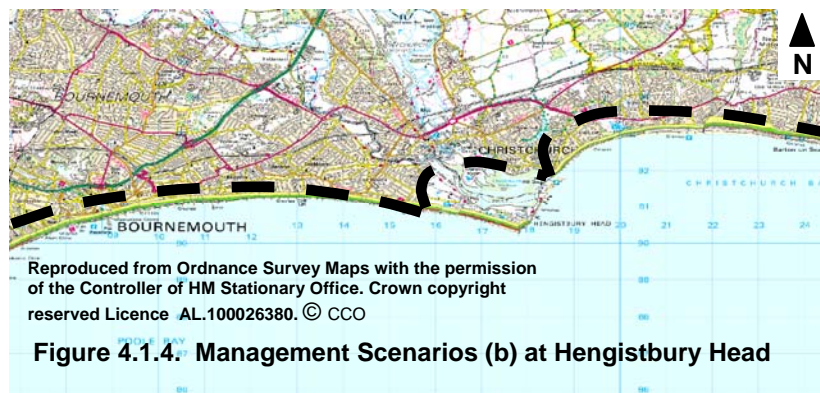


Figure 4.1.4. Management Scenarios (b) at Hengistbury Head

Implications: The general shape of the coast is shown in Figure 4.1.4. There would still be a need for a substantial defence to the west of Hengistbury Head with all concomitant implications for the west Poole

Bay area. The new headlands would restrict sediment supply to the east in much the same way as seen at Hengistbury Head at present. Finer sediment now believed to bypass Hengistbury Head would tend to be retained in the new Christchurch Harbour Bay.

To the east of the headland at Southbourne, Christchurch Bay would probably develop as a series of sand banks forming the ebb delta of the Avon and Stour. The defence line at Mudeford and Stanpit would need to be upgraded as a coastal, rather than estuarial flood defence. There would still be pressure for erosion on the eastern side of Mudeford and erosion would still influence the coast to the east.

Impacts: The principal losses would occur within and around the shore of Christchurch Harbour as with scenario (a). This would include loss of the fishing industry, recreational use of the harbour area, and the loss of Mudeford Spit. Potentially the frontage between Christchurch and Mudeford would create significant opportunity for developing sand beaches. Following an initial period of increased sediment supply, controlling the coast at Southbourne would result in little sediment moving from Poole Bay into Christchurch Bay. There would be a loss of the mosaic of habitat within Christchurch Harbour including areas designated as SPA, SAC and Ramsar sites. This would be replaced by open coast habitat.

Scenario (c)

Description: Maintain defence at Hengistbury Head.

Rationale: The aim under this scenario would be to limit and control erosion of Hengistbury Head with the underlying approach to maintaining management of Poole Bay and to maintain Christchurch Harbour

Implications: The Head is currently maintained through management of the Long Groyne. This would need to be reinforced and over time a stronger hard point developed. This location does have the advantage, however, of being on the platform of Christchurch Ledge and protection at this headland would maintain the combined influence of the headland and the Ledge on Poole Bay. There would still be the potential erosion to the isthmus connecting Southbourne to Hengistbury and the potential for a more sustained breach through to Christchurch harbour in this area. Management and the implications of this are considered in further detail later. Under this scenario, however, the overall area of Christchurch Harbour would be maintained. Stanpit and Mudeford would continue to gain protection from erosion although there would still be a flood risk to these areas; as there would be to Christchurch.

Hengistbury Head would still act as the principal down drift headland to Poole Bay and as such would provide the basic underlying structure for management of the Bournemouth Frontage. Sediment supply from Poole Bay through to Christchurch Bay would be restricted and, subject to future management of the Bournemouth frontage, may be very limited in the long term.

Impacts: Sustaining the overall integrity of Christchurch Harbour would maintain the opportunity to sustain continued use of the area. The mosaic of habitats would in principle be maintained although there may still be natural change due to more local factors and as a result of sea level rise. There would be no increased pressure on the Bournemouth frontage although this would still be under greater pressure due to sea level rise.

The increasing constraint on sediment supply to the east would increasingly impact on the management of Mudeford Spit. This loss of sediment supply would also impact more generally on Christchurch Bay in the long term. There would be constraint on the naturalness of the coastline and there would be locally a greater reliance on defence. This could be seen as mitigated to a degree by the reduced pressure on other frontages. The corollary of this would be maintaining the significant heritage value of Hengistbury Head.

Discussion of Scenarios

There are seen as being four basic scenarios for management. These are recognised to be long term scenarios setting out potential long term visions for management. The first, that of allowing natural development of the whole central section of the SMP frontage, is rejected on the grounds previously discussed. Of course there continues to be uncertainty in relation to the extent of sea level rise and in terms of future long term socio-economic attitudes. However, such a long term vision for allowing unconstrained evolution of the coastline fails to provide the basic geomorphological structure necessary to deliver the present objectives in an integrated manner. It would also remove the opportunity to deliver the anticipated objectives for the future.

To maintain the overall control of coastal evolution, the critical location is Hengistbury Head. All the scenarios for management, set out above, would require significant long term commitment to maintaining control of the coast. Overall, scenario (c) is considered to provide a more sustainable approach certainly over the next 100 years. Notwithstanding the need to provide, over time, a more robust defence at Hengistbury Head, this location has a more secure platform for defence and would incur less pressure in terms of management of the coast to the west. It also provides a more sustainable structure for management of Christchurch and the associated areas of Mudeford and Stanpit, as well as maintaining the opportunity for adaptable management of Christchurch Harbour and its associated interests.

In the future, beyond the period of the SMP, scenario (b) could offer an alternative approach, which, while resulting in significant need for change in the use of the Christchurch Harbour area, maintains the opportunity to adapt to greater pressure on the coast as a result of sea level rise. Adopting Scenario (c) over the period of the SMP2 would not constrain the opportunity to adapt to an approach defined by scenario (b) in the longer term future. Awareness of this possible change in approach has to be taken into consideration at a detailed level as the management of the adjacent coastlines under the preferred approach (scenario (c)) is developed.

Regardless of the scenario chosen, management of this area does impose conditions on management of the adjacent coastlines. To the west, there will be continued pressure for erosion of the sea front at Bournemouth, both under the preferred SMP2 scenario of holding Hengistbury Head and with the very long term option of controlling the coast at Southbourne and Mudeford Quay. To the east, there is likely to be a diminishing supply of sediment from Poole Bay through to Christchurch Bay under any of the scenarios.

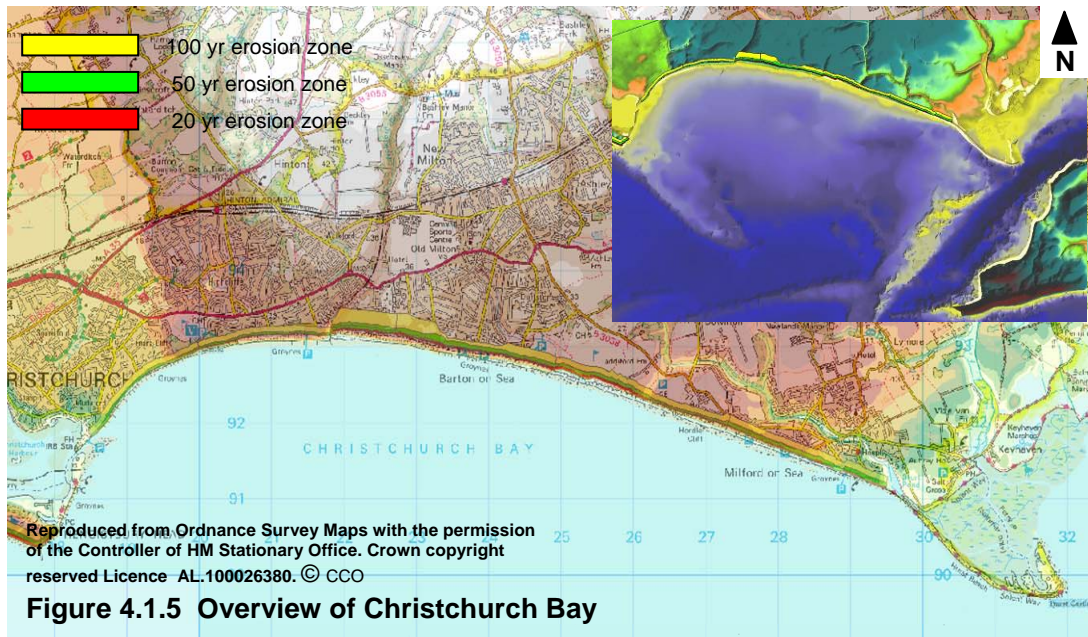
Based on the approach of maintaining Hengistbury Head it is possible to examine decisions in other areas.

Christchurch Bay

This section of the SMP frontage is shaped by wave action and sediment movement determined within the controls of Hengistbury Head and a combination of features (the entrance channel to the Solent, the Shingles Bank and the Isle of Wight) at the eastern end. This is shown in Figure 4.1.5, together with the zone of anticipated erosion of the shoreline. At the larger scale, the frontage is seen as being very close to its natural alignment, although at the more local scale the pressure for erosion on the high clay, sandy/shingley cliffs is

significant in terms of shoreline management. A key component of this management is the supply of sediment and its distribution along the shoreline.

In terms of overall scenarios affecting the coast at an SMP scale, the approach to management in the area of Hengistbury Head discussed above is clearly important, principally at the western end of the bay. The preferred general approach to maintaining Hengistbury Head, with the possible much longer term approach to strategic control at Mudeford Quay, defines a framework for considering the approach to management of the Christchurch Bay frontage. Part of this understanding is that sediment supply between Poole Bay and Christchurch Bay will progressively reduce over time.



At the eastern end there is, realistically, no overriding intent driving substantial change to the underlying features controlling the behaviour of the Bay (i.e. policy for management of the western end of the Isle of Wight, the approaches to the Solent or management of the Shingles Bank are not going to change to the point of influencing management of Christchurch Bay).

Also at an SMP level, the management of the main Christchurch Bay frontage is not going to impact on general policy for other areas. The SMP and its associated policy can therefore be developed at a more local level considering the shoreline management of each section of the frontage. Clearly in considering this, the approach to management of Hurst Spit can have significant influence on the area within the approaches to the Solent.

Poole Harbour

Management issues within Poole Harbour are complex, with major potential interaction between the objectives of maintaining a healthy, adapting natural environment while also sustaining the economic viability of the town and the harbour. In terms of the interaction with the open coast of Poole Bay, this is principally focused on the manner in which the entrance channel and the associated ebb tide delta influence sediment movement.

Handfast Point controls this whole western end of Poole Bay and in particular influences the extent to which the coast is dominated by the entrance to Poole Harbour. This can be seen in Figure 4.1.6. There is an understanding that sediment movement, both north of the entrance and to the south, in Studland Bay, tends to be in a clockwise path, with some possible loss of sediment to the north. This generalised pattern of behaviour is recognised to be more complex than shown by the arrows in Figure 4.1. 6 and less certain. Even so, in broad terms it may be seen that the position of the entrance is quite critical in terms of interaction with the coast.



It seems unlikely even if the Studland dunes were to be regularly breached or over topped that there would be development of a new entrance channel in this area. The existing channel is, however, very influential in maintaining the integrity of this barrier dune system.

There is greater uncertainty in relation to the Sandbanks Peninsula. Regular breaching of this bank could, in time, create a new more northerly entrance to the harbour. There is little evidence to suggest that this would become a naturally preferred entrance; although equally, there is no geotechnical evidence to indicate any substantially harder geology preventing this. The development of a new entrance would have significant impact on the hydrodynamic behaviour of the Harbour. At present the harbour hydrodynamics are complex. In response to the double high water and the low tidal range there is a period of standing water at and following high water.

Creation of a permanent entrance across the Sandbanks Spit has the potential to allow creation of distinct flood and ebb dominant channels. Most probably, therefore, there would be a reduction in flow through the existing entrance, with a tendency for flood dominance. This could result in significant change to the configuration of Hook Sands, with consequential impacts on Studland Bay and the dune system. The trend would be for a reduction in the size and influence of the ebb delta, resulting in greater exposure and erosion along the coast. This may provide greater feed of material to the north combined with a tendency for material to be taken into the estuary.

At Sandbanks, the influence of the new entrance would be to move the nearshore banks further north, with development of an ebb delta. The development of the position and extent

of this ebb delta would still be limited by the extent of Handfast Point, with the potential for greater sediment lost from the harbour mouth system.

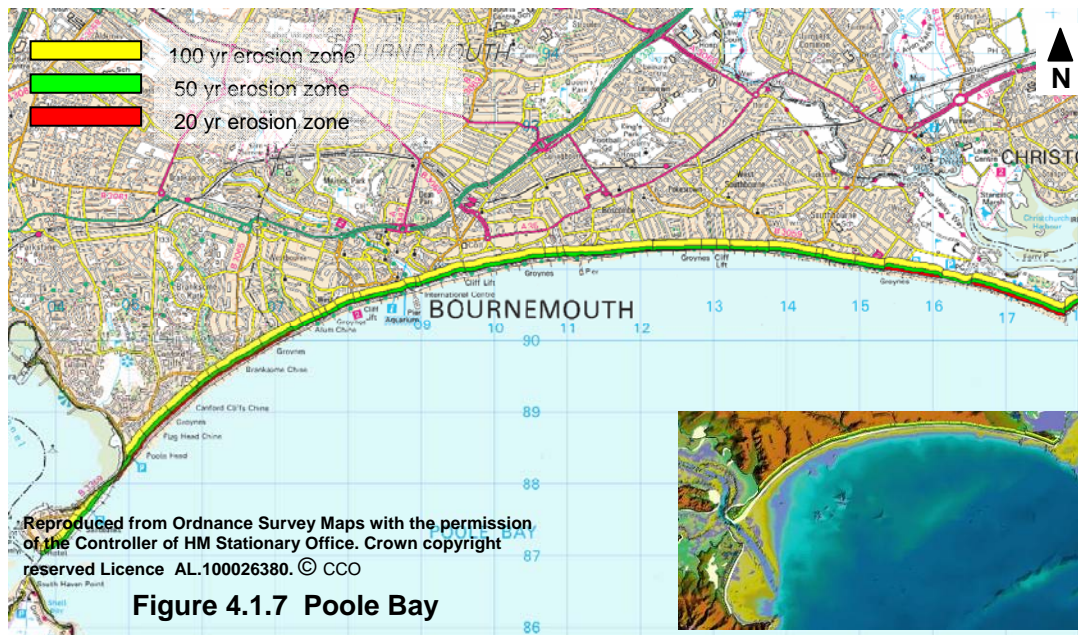
Although the scenario given above can only really be guessed at in any detail, it demonstrates a realistic potential for significant change. Such change would have major impacts on the operation of the Harbour, management of the Studland Peninsula and the valued interest of the coast. There is a small potential for increased sediment along the Bournemouth frontage but this is unlikely to be significant in terms of management.

This high level assessment indicates significantly greater benefit in maintaining the integrity of the Sandbanks frontage than merely that provided by the existing use of the Peninsula. Although maintaining this frontage in the longer term will require significant intervention, the case for management, in principle, of this frontage is felt to be justified. The manner in which this management might be achieved is considered later in more detail.

From the perspective of highlighting essential high level issues, it may be concluded that the management of Sandbanks and Studland Bay need to be considered in management of the Poole Harbour area.

Poole Bay (Bournemouth)

The high level discussion of the Hengistbury Head area and the above discussion of the Poole Harbour frontage set the context within which to examine the central section of Poole Bay. In terms of management of the eastern end of this frontage, the intent is to maintain the basic control at Hengistbury Head, with the potential caveat that in the longer term (beyond the 100 year period of the SMP2) there may be a need to adapt management of Christchurch Harbour. At the south-western end of the Bournemouth frontage, the general configuration of Poole Harbour entrance would be maintained with the need to maintain the integrity of Sandbanks Spit.



An overview of the frontage is shown in Figure 4.1.7, showing also the anticipated erosion zones under the No Active Intervention Scenario.

There is relatively uniform pressure for erosion over the whole frontage. In effect, in the absence of defence, the whole coastline wishes to roll back to a more stable alignment. At the large scale, this pressure is not great and is controlled ultimately by:

- The position of Handfast Point, where even without management it will dominate the development of the bay;
- The defence of Hengistbury Head.

At the local scale, with the important development associated with the sea front and the promenade and the significance of maintaining a good beach width, the relatively limited extent of erosion has massive implications in terms of the economic viability of the town and its regional and national status.

The present management approach is to protect the frontage by regular beach recharge, together with a comprehensive regime of groyne management, repair and replacement. Prior to this work the seawalls and infrastructure along the shoreline were at immediate risk of failure, with the potential exposure of the vulnerable cliff face and the loss of major assets along the whole frontage.

The existing practice of periodic beach re-nourishment provides significant quantities of sediment to the SMP shoreline, with potential feed, predominantly to the east, benefiting other areas of the coast. The need for re-nourishment is continually under review. Studies in the 1990s, following the first two recharge campaigns, allowed assessments to be made of when future supply would be required and understanding the critical factor in the frequency of recharge operations has been the overall increasing pressure resulting from sea level rise.

Management of the Bournemouth frontage is considered in more detail in subsequent sections of the document. In terms of overall influence with respect to the SMP area as a whole, while initially significant, management of the central Poole Bay frontage is seen as being of decreasing influence to adjacent sections of the coast in the future. Management of the area will however be critical to the detailed management of the area around Hengistbury Head and in consequence, potentially critical to the local management approach to Christchurch Harbour

Swanage

Swanage Bay is separated from management of the main SMP area by the hard headland of Handfast Point. There are no overriding reasons for intervention at this point and the limited future erosion of this headland is such that the separation it provides will not diminish.

While Peveril Point is also a hard headland, separating Durlston Bay and Swanage Bay, part of the town extends across the headland. There is also considered to be the potential for sediment from Durlston Bay to supply Swanage Bay. The whole area, therefore, needs to be considered as one, but may be considered in detail separate from other sections of the SMP area.

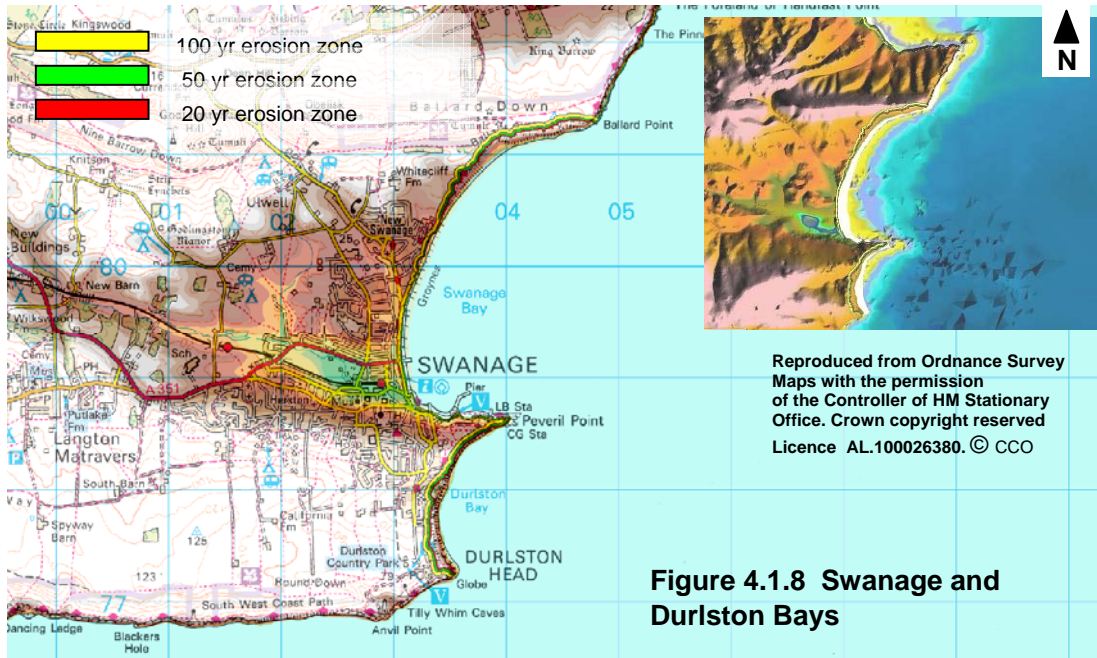


Figure 4.1.8 Swanage and Durlston Bays

4.1.4 Definition of Policy Development Zones

The above assessments and consideration of high level scenarios sets a framework for consideration of sections of the coast in greater detail. In effect, the above discussion sets the playing field for this detailed development of the Plan and policies over the three epochs.

The main conclusions at this stage are that:

- Maintaining Hengistbury Head as a control point on the coast provides greatest opportunity for delivering the objectives in an integrated manner. However, in the longer term, most probably beyond the period of the SMP2, there may be a need to adapt management of the area around Christchurch Harbour. This would have significant consequences in terms of management of the adjacent coastline, which needs to be borne in mind in developing SMP policy.
- In holding the position of Hengistbury Head, it is probable that there would be diminishing supply of sediment from Poole Bay through to Christchurch Bay. This may in the short term be influenced by management of Poole Bay, but in the longer term this, regardless of the management approach in Poole Bay, may be a less significant link.
- The management in the area of Hengistbury Head therefore extends into Christchurch Bay, in that management of the Double Dykes frontage would have implications for Christchurch Harbour. However, further east, management of the central section of Christchurch Bay becomes a distinct area.
- Management of Poole Harbour would be with the intent of maintaining the integrity of Sandbanks Spit and sustaining use of the Harbour. The associated behaviour and interaction with the coast extends to include Studland Bay, but this overall intent of management does limit the influence of management at the coast, such that the Central Poole Bay area, extending to Hengistbury Head and Christchurch Harbour, may be considered in detail separate from the Poole Harbour Entrance and Poole Harbour itself.

- Swanage and Durlston Bays can be considered separately from other sections of the SMP area.

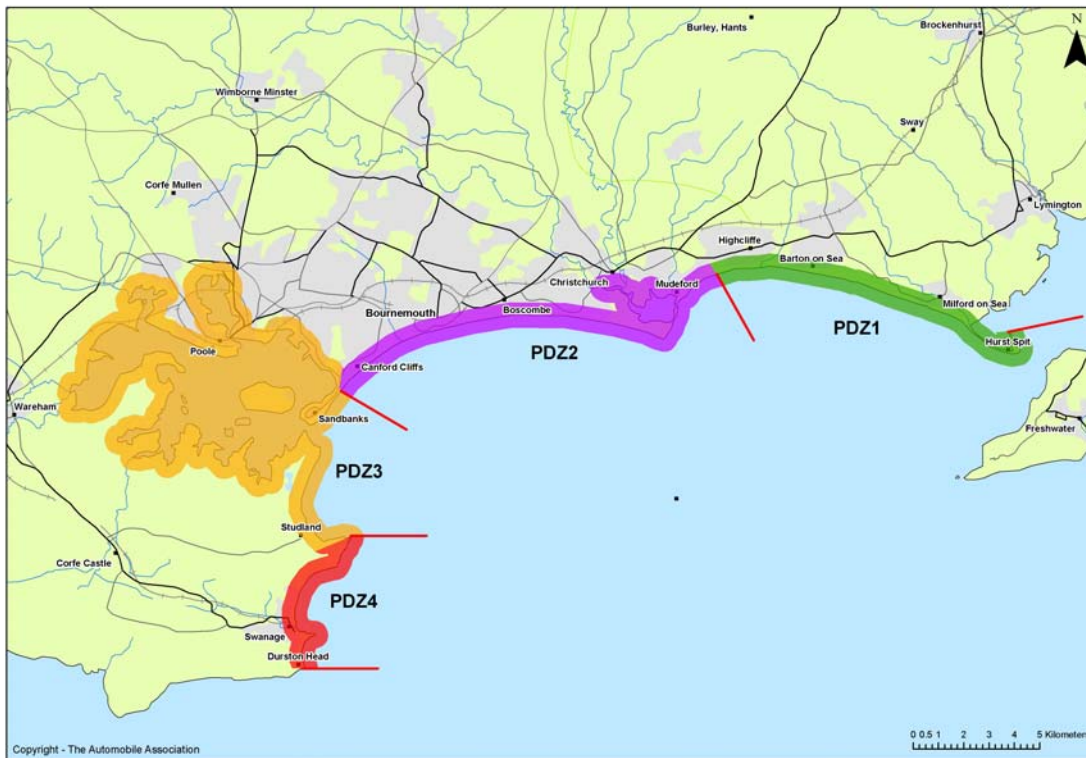


Figure 4.1.9 Poole and Christchurch Bays SMP2 PDZs

The areas defined above are considered as policy development zones (PDZs). The boundaries are recognised not to be hard lines and there is a recognition that locally across boundaries, there will be issues in common. The proposed divisions are shown above in Figure 4.1.9.

The following sections within Section 4 of the SMP document consider these zones in greater detail. The format for each zone assessment is described in Section 3 of this document.