

5 SUMMARY OF PREFERRED PLAN AND IMPLICATIONS

A COMPANY OF



ROYAL HASKONING



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5.1 Plan for Balanced Sustainability

As discussed in Section 3, the SMP is attempting to deliver a balanced plan for the management of defences which will still support the values for each area of coast in terms of its human need, the natural environment and the heritage value, without commitment to ever increasing expenditure on defence.

The objectives against which this is judged are set out in Appendix E and an assessment of how effective the plan has been in achieving this is provided in Appendix G. This assessment is summarised in Figures 5.1 (for the epoch to 2025), 5.2 (for the epoch to 2055) and 5.3 (for the epoch to 2105). Care is needed in considering these figures as the information is presented as percentages and does not fully reveal the actual detail associated with each theme (these being described in the tables in Appendix G and in the SEA and AA). A brief discussion by theme is given in Section 5.2. However, it is useful to consider the overall information and to set this in the context of different sections of the coast as a whole.

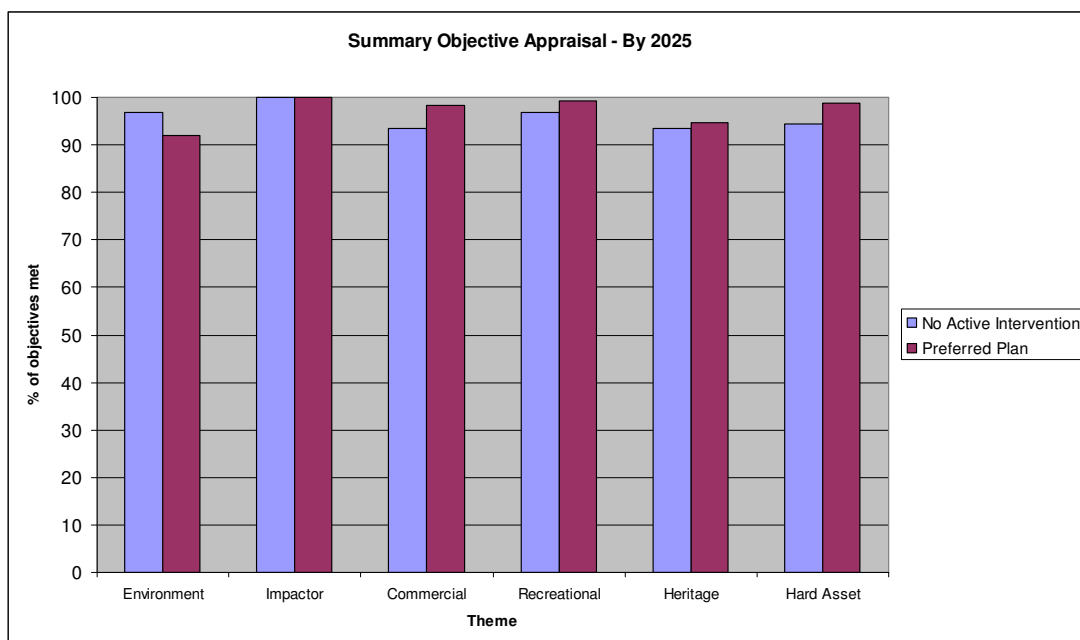


Figure 5.1: Summary Objective Appraisal for epoch to 2025

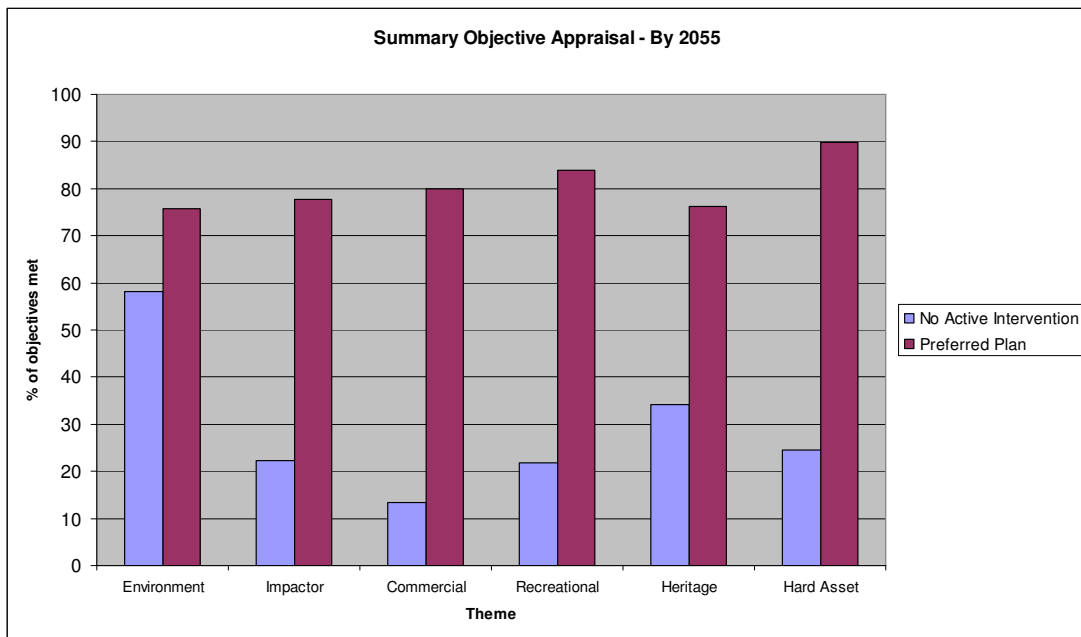


Figure 5.2: Summary Objective Appraisal for epoch to 2055

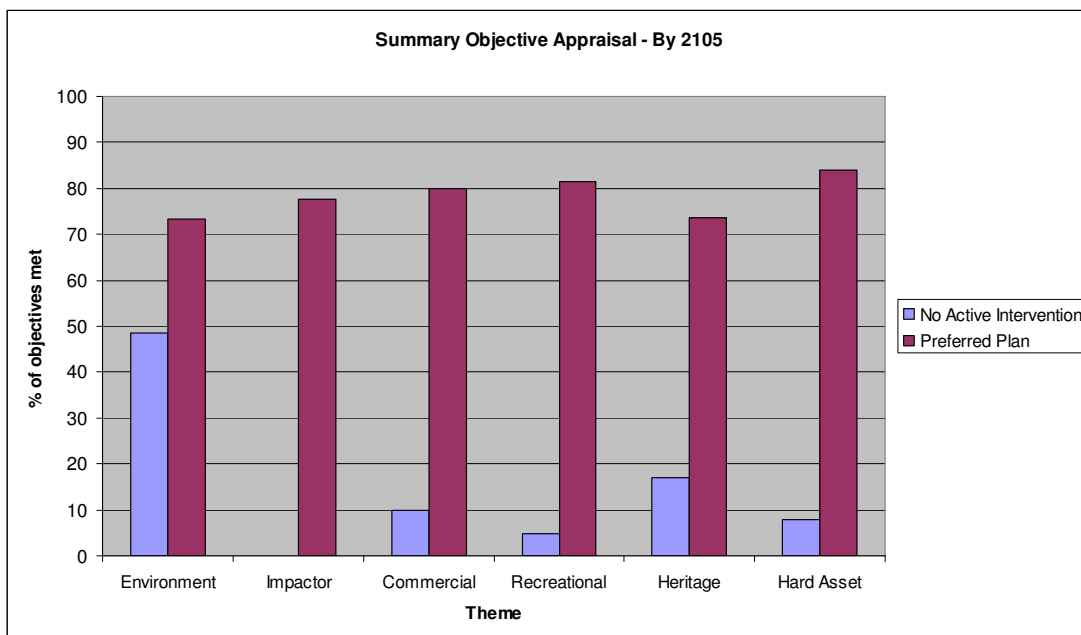


Figure 5.3: Summary Objective Appraisal for epoch to 2105

Considering initially the figures, it may be seen that over the short term, there is only small difference between the preferred plan and that of no active intervention. This reflects the fact that on the whole, defences are in reasonable condition, there is a commitment to maintenance and that the coast is functioning relatively well. There are key areas where there would be concern, particularly at Lowestoft, where the condition of the northern defence to the South Beach area could result in loss both of recreational value and loss of hard assets. The same may be said for Felixstowe where, under no active intervention, there are potential losses associated again with infrastructure and recreation. At Minsmere, concern over maintenance of the sluice could give rise to increased flooding within the Minsmere valley. The on-going loss of agricultural land in areas such as the Covehithe cliffs reduces the number of objectives met for both scenarios. The slightly increased loss to the natural environment under the proposed plan is identified as the slight loss of the natural behaviour of the Brackenbury cliffs in maintaining the defences. This has to be weighed up against the potential loss that would occur to other assets.

The general pattern in the short term reflects that overall, much of man's intervention has been in place a considerable length of time and is in reality quite limited in extent. In many areas man has learnt to adapt to coastal change and development has been restricted to areas where defence exists. The on-going maintenance of the coast has maintained both the natural features and man interests.

There is greater pressure however building within the system and this is seen in the medium and long term. This is not just as a result of anticipated sea level rise; although this is a significant factor, but really reflects the long term approach at present in the way the coast might be expected to respond. Over the medium term under no active intervention for all themes there is a general reduction in terms of objectives met. This reflects both conflict between existing defences and the wish to maintain important recreational benefits as well as the influence, both natural and man made, on the nature conservation values. It also reflects that without maintenance, defences start to fail. The preferred plan looks to maintain defences where this is seen as being sustainable, but not at the expense of other aspects of the coast. In comparison with no active intervention, the preferred plan clearly introduces certain changes, whilst maintaining a relatively high success in balancing objectives.

This same pattern may be seen to apply in the third epoch. A very important aspect of this is that despite the increasing pressure for change, overall there is no major change in any of the themes in the preferred plan between the second and third epochs. This is despite the fact that some significantly different approaches to management are proposed. Under the no active intervention scenario, many of the objectives would not be met. There is the continuing conflict between freshwater habitat and the coastal nature conservation interests as identified in the detailed discussions in section 4. This can only partially be resolved by the manner in which the coast is

managed. It is important to appreciate that the objectives under this theme refer to issues generally identified and not merely to designated sites.

Overall the preferred plan is seen as achieving a balance between the many objectives; accepting that change is necessary and providing a plan that is realistically achievable given the increasing pressures on the coast.

5.2 General Summary of Impacts

5.2.1 No Active Intervention

Without defences the coast would continue to retreat over its whole length. In some areas this might only be a retreat of tens of metres, in other areas erosion could occur over several hundreds of metres over the next hundred years. The risk of erosion threatens property and assets in all the major settlements and several of the smaller villages. It also threatens important historical features and puts pressure on many of the coastal flood defences. However, erosion in one area also provides sediment that maintains the beaches, provides defence to other areas of the coast, as well as sustaining many of the important nature conservation habitats. It also maintains the overall naturalness of the coast which is an important feature identified during consultation. In summary the following direct impacts would occur if all defence measures were to be stopped.

Of the order of 1200 properties in total, both residential and commercial, would be lost over the next 100 years. The largest area of loss would be at Southwold and Walberswick. Lowestoft, Aldeburgh and Felixstowe would lose significant areas of their seafronts.

There would also be loss in the villages of Kessingland, Covehithe, Dunwich, Thorpeness, Shingle Street and Felixstowe Ferry. The most immediate loss of property would be in the area of Easton Bavents and Easton Lane. Other losses would be anticipated during the 2nd And 3rd epochs as indicated in the general assessment of objectives discussed above.

There are also important heritage sites at risk including the Martello Towers in southern part of the area, the Greyfriars Priory and the Hospital of the Holy Trinity at Dunwich and the village of Covehithe, as well as many buildings and features associated with the towns and smaller settlements. This would have a significant impact on the historical landscape and the landscape more generally of the coast itself.

Approximately 400 ha of agricultural land is at risk directly from erosion. Other areas would be at risk from increased flooding as coastal defences fail due to pressure from erosion or lack of maintenance, most obviously within the estuaries. In terms of the open coast the most significant areas affected by flooding are:

- At Lowestoft, the area around the Ness, large areas of the harbour and within Lake Lothing.
- At Felixstowe, the main southern extent of the town and the area of the port.
- Kessingland Levels, affecting agricultural land, properties behind Kessingland and the main A12 road.
- The agricultural land behind Hollesley Bay.

5.2.2 The Proposed Plan.

The aim of the plan is to manage this risk.

Property, Infrastructure and Coastal Use

The proposed plan aims to continue to provide protection, over the 100 year period of the SMP2, to the main centres of residential and commercial development. Over the frontage between Lowestoft Ness and Kessingland Village there are some 250 properties at risk from erosion under the No Active intervention Scenario. The aim is to continue to protect all but 3 of these properties. These properties are in the Pakefield area and here management of risk would be critically dependent on the future behaviour of the beach. There would be continued flood risk to the centre of Lowestoft and while the intent is to maintain defence this area has to be integrated with spatial planning for the area.

Further south the intent is to manage the erosion immediately south of Kessingland, protecting the village and with a further 32 properties as well as part of the Kessingland Levels. Within the Levels there would be loss due to more regular flooding of part of the land defended at present with a loss of defence to some 50ha of agricultural land, this compares the inundation of some 350ha under previous policy, where there would have been an approach of withdrawing maintenance of defences in approximately 20 years. This also maintains defence to the A12 further up stream within the levels

There would, however, be no long term intent to manage the coast south of here and this really confirms the policy from SMP1. There would, therefore, be loss of Covehithe Village in probably some 40 years time. Due to the nature of the coast and the rapid rate of erosion, defence of the village would require significant coastal works with increasing need to increase the defence over time. It would also impact significantly on the supply of sediment to the coast, imposing increased difficulty in maintaining existing defences further south. Just north of Southwold there are 7 properties in the area of Easton Bavents and Easton Lane that would suffer loss under the proposed plan. The plan does allow for discussion as to how this might be mitigated to some degree through private works, if this could be integrated with the intent of the plan to provide continued sustainable protection to Southwold and Walberswick. The proposed plan for the area of Southwold and Walberswick would be to continue to protect the 640 properties at risk within these communities. The plan also proposes to continue to support the operation of Southwold and Walberswick Harbour, although there needs to be

development of a long term plan to address the on-going flood risk. The flood risk around Southwold and Walberswick would continue to be managed. To the north of Southwold a secondary line of defence would be required to allow the shoreline to respond more naturally.

At Dunwich, although existing low level measures to protect the village would not be precluded, there is an expected loss of some 5 properties under the proposed plan in the second epoch (20 to 50 years). Flood defence to properties to the rear of the village would be improved. The retreat of the coast at Dunwich helps maintain the natural shoreline protection to the south. Even so, in the long term, there will be continued erosion and roll back of the shoreline and cliffs. As such it is anticipated that potential 9 properties may be lost, two of these in epoch 2 along the Dunwich and Sizewell cliffs. The remaining 7 properties would be at Thorpeness and might only be loss in 50 to 100 years time. This would need to be monitored and there is some provision in the plan for minor works to be allowed if this can be shown not to threaten the natural function of protection to properties to the south of Thorpeness and not to impinge on nature conservation interests. The plan continues the intent to protect the power station and would provide natural protection to the village of Sizewell. Within the Minsmere valley there would be increased flood risk over the longer term potentially affecting some 237ha of agricultural land, more significantly over the 50 to 100year period. Fluvial flooding of the area would increase due to tidal locking.

The aim of the plan is to continue to provide flood defence to the core of Thorpeness and Aldeburgh. The 75 properties at risk from erosion along the Aldeburgh frontage would also be protected.

The intent of the plan is to continue to provide protection to the village of Shingle Street and at East Lane. There remains uncertainty over the behaviour of the coast in this area and this needs to be monitored. There are estimated to be some 20 properties at risk from erosion. Potentially some 3 properties could be lost towards the end of epoch 3 under the proposed plan, this would depend on local management. It is proposed that flood defence to Hollesley Bay and Shingle Street would be maintained but there will be an increasing risk of flooding affecting access to the village. Maintaining the flood defence throughout Hollesley Bay would reduce the flood risk to some 600ha of agricultural land.

Over the southern area of the coast from Felixstowe Ferry through to Landguard Point there are some 200 properties at risk from erosion and many more, particularly in the area of Felixstowe at risk from flooding. The aim of the plan is continue to protect these properties and to maintain flood defence to the town and the port.

The main risk to the road system in the area is from flooding. Only locally at Lowestoft and along the sea front at Felixstowe are main roads at risk from erosion; these would be protected under the plan. The A12 is at flood risk to the back of Kessingland Levels and at the Blyth. In both these location the

plan envisages continued defence of the road. Access to Southwold is at risk from flooding and this would continue to be defended. At Potters Bridge the risk is primarily from fluvial flooding. This is a continuing risk and the plan acknowledges the need for discussion between the Environment and Highways Agencies to consider this area in more detail.

Critical service infrastructure has been identified in the development of the plan. Although there continues to be managed flood risk to some assets there is no critical infrastructure at risk from erosion.

In terms of property, therefore, of the 1200 properties within the area at risk from erosion all but 36 would continue to be protected under the proposed plan. Of these 36, potential only 7 would be lost over the next 20 years and here in particular there needs to be on-going discussion as to how this loss may be mitigated at least to some degree. There are many more properties and commercial operations at risk from flooding. In relation to the open coast, there will be a continued risk on more extreme water levels and in areas this could become more significant with sea level rise. However, the intent of the plan is to continue to manage flood risk in these areas.

In terms of agriculture, continued flood defence would be provided to some 1140ha of land. There would be an anticipated loss due to flooding of 50ha. There would however be an anticipated loss of some 400ha due to erosion over the next 100 years. Land affected is recorded as being Grade 3 and 4.

There is potential for both loss of land due to inundation or impact on agricultural value due to increased risk of occasional flooding within the estuaries. This is being considered in more detail by the estuary strategies. The SMP does provide an important assessment of how management of these defences would impact on the coast. For the Blyth the SMP sets policy with the intent to maintain the harbour and the harbour entrance and provides guidance for management of defences with respect to this. For the Alde/Ore, the SMP identifies the consequence of protection of the coast south of Slaughden and this would need to be considered within the estuary strategy in considering management of land use within the estuary. At the Deben, the SMP provides constraints which need to be considered by an estuary strategy. In each case, however, there is recognition of an increased risk to the agricultural value.

The coast is important for other interests including ports and harbours, fishing, recreation, tourism and water use. The plan aims to sustain these important aspects. In particular the important ports of Lowestoft and Felixstowe are maintained, the policy at Southwold harbour aims to sustain use of the harbour, while recognising the need for a more detailed plan of how this is to be developed.

The plan sets policy and advises on approaches to management which will sustain beaches both for recreational use and for activities such as fishing. It recognises that that there will be increasing pressure for erosion of beaches

and aspects of the plan, for example, the transitional management of the coast north of Southwold and maintaining the harbour structures to the south of the town, will be critical in managing these values. The plan also advises where, with respect to development along the Lowestoft and Felixstowe frontages, there may be a need for long term adjustment to the approach to defence and hence the need for width for future defence.

Access to the coast is an important issue. The plan aims to sustain access to the Suffolk Coast and Heaths path by maintaining the start of the route at Felixstowe Ferry. Along its length, the path runs in areas close to or along the eroding shore and cliff line. In these local areas, over such lengths as Dunwich and Minsmere the route is at risk. The aim of the plan has been to identify these areas of erosion and potential risk to more local access. There will need to be consideration of how this is addressed beyond the work done in the SMP. This is noted as an action within the action plan. The proposed plan does, however, provide the opportunity to maintain the main coastal path, where it rejoins the coast south of Kessingland.

Nature Conservation

Clearly there is concern when considering Figures 5.1, 5.2 and 5.3, showing failure to meet natural conservation objectives. To a large degree, when considered in detail, this is a function of the eroding coast and the nature of the interest. For example, that many of the designated sites include both the aim to allow erosion of a cliff but also to maintain the integrity of the habitat at the crest of the cliff. This is reflected in the specific wording of the objectives; to work within the constraints of a dynamic coastal system. Even so, in assessing the success of the plan it has been highlighted that such a natural development will result in loss of area of cliff top features. This is the case for Dunwich. In other areas, there is the significant balance between conservation of freshwater and coastal features. While, certainly it would be equally damaging to intervene, by making explicit this loss, it highlights the need to maintain integrity in other ways. Unfortunately there is little scope, because of the character of the coastline, to create major areas of new in land habitat. The Plan attempts to redress the balance to a degree by recommending restricting the extension of defences further into undeveloped areas of the coast and to take advantage of the basic control imposed by natural or manmade structures to maintain natural development of shingle banks and the potential of low lying areas behind.

The Plan highlights this basic problem associated with the coast and recommends that, during detailed examination of sections of the coast, every effort is made to create further opportunity for enhancing nature conservation. The corollary of this is that the understanding this document hopes to provide, an understanding of how the coast behaves and the interdependencies between sections of the coast, may be used to effect by local managers in identifying realistic opportunities for enhancement. This would build on the very valuable work already undertaken through the habitat creation plan in addressing this problem.

Specific areas affected directly by erosion are features such as at Dunwich Heath and Orford Ness. In both areas there is gradual erosion with loss of overall area. In either case to protect would be to create a situation where there would be greater damage. One of the important features of the coast are saline lagoons. These are recognised to be ephemeral features which require the natural movement of sediment. Opportunity is created for such features to develop at Kessingland and in Hollesley Bay.

In other areas the conflict arises from increased risk of coastal flooding or the roll back of the coastline on to areas of freshwater interest. Management approaches have been adopted in the past attempting to reshape natural shingle defences in places such as Walberswick Marshes and Easton Broad. This has led to a situation where the habitat behind is artificially maintained and becomes increasingly vulnerable as the risk of flooding increases. The plan proposes a more natural approach allowing good function of the shoreline. At Minsmere the pressure for erosion is less. Here it is anticipated that the natural main line of defence will be sustained by natural processes over the next 50 to 100 years but there will be increasing risk of overtopping and flooding.

There are areas where compensatory habitat will need to be provided. This is being identified through the Environment Agency's habitat creation programme. In other areas the monitoring is put in place to understand better the risk to nature conservation values. Overall the proposed plan aims to deliver a more naturally functioning coastline in support of the important geomorphological, nature conservation and natural landscape interests.

Landscape and Historic Environment

Although the varying landscape of the Suffolk coast is well known, it is hard to define precisely because of the complex long-term interaction of natural features and human activities. Perceptions of landscape also vary markedly between different user groups and are multi-sensory; extending beyond visual and textural qualities to more esoteric aspects such as soundscapes, social memory and historic rights of way. Examples include the massive shingle banks at North Weir Point, the ethereal quality of Shingle Street perched upon the shingle ridge, the open farmland behind the shoreline and the series of Martello Towers. There are also areas where the natural landscape has been shaped less obviously by human activity, such as the freshwater grazing marshes created by early monastic communities. Historic towns and villages such as Aldeburgh and Southwold are interspersed through the rural areas, adding both character and significant social context to the coastal landscape and its associated maritime infrastructure.

The Plan aims to restrict further encroachment of sea defence over undefended rural areas in order to maintain the historic, natural juxtaposition of land and sea. Where defences are already in place, the Plan aims to offer opportunities for less intrusive approaches to defence in order to help sustain a balance between the shoreline and its hinterland. The Plan further highlights the dangers of continued linear defences in those areas with

evidence that the shore may be steepening, and indicates the possibilities for a less intrusive approach to engineering defence.

A wide range of heritage assets have been identified over the full length of the coast and, as noted above, these form an integral part of the Suffolk landscape. Of the principle themes covered by the SMP, the historic environment and the landscape are some of the most difficult qualities to manage on a dynamic and largely retreating shoreline. Although continuing erosion of the coast and cliffs may expose new sites of archaeological and palaeontological interest, in many areas there are also heritage assets at risk, including listed buildings and scheduled monuments. Losses of individual assets may, as a last-resort, be mitigated by survey and recording; however the wider historic landscape is irreplaceable. As a consequence, the Plan retains heritage assets wherever this is technically and economically sustainable. Examples of preservation include the full suite of Martello towers over the southern part of the coast and the designated Conservation Areas within towns and villages such as Felixstowe Ferry, Shingle Street, Thorpeness and Walberswick.

Significant losses of heritage assets are, however, anticipated at a number of coastal locations. At Dunwich significant potential impact is anticipated over 100 years due to both the erosion of soft cliffs at Greyfriars Priory and the impact of flooding on the Hospital of the Holy Trinity. Further north, within the Minsmere valley, Leiston First Abbey and its surrounding estate lands are at risk from increased flooding over the long term. At Covehithe, it is anticipated that the built core of the village may be lost within 40 years and that there is also widespread archaeological potential. Many other areas at risk have been identified as of significant archaeological potential, but are yet to be fully assessed. These risks have been considered as part of the Plan, with the caveat that protection of sites is not always sustainable or feasible.

An essential aspect of the Plan is in highlighting both within the document and through the geographical information system where losses may occur. This is obviously only the first stage of the process. Investigation and recording of landscapes and heritage assets at risk is recognised as necessary for mitigation. The national lack of agreement upon funding responsibilities for land at risk to coastal processes has been identified during consultation as a potential barrier to undertaking such mitigation.

In this respect the Plan, whilst proposing protection for many significant areas of the historic environment and allowing time for mitigation of areas at risk, does not achieve all its objectives.

5.3 Summary of the Plan by Area

Lowestoft and Kessingland

There is increasing pressure on defences, with the potential threat to the major population centres and to the key uses of the area (e.g. Residential

and commercial interests). The overall plan is to maintain defences, recognising the need for some change.

The flooding issues associated with Lowestoft Ness and the Inner Harbour have also to be considered. While it is assessed that defence is sustainable in these locations, careful consideration needs to be given to planned use of areas so that the important economic regeneration of the area can be sustained into the future.

South Beach provides an important defence to the sea front area of Lowestoft and the area itself provides valuable amenity and tourism opportunities for the town. This supports the plans for regeneration generally within Lowestoft. The policy for South Beach is to maintain the defences but, particularly at the northern end, the specific approach to defence needs to be closely integrated within regeneration plans for the area, allowing future adjustment to the way in which defences are managed.

At Pakefield there may be a need to accept some loss of land and potentially some properties in the long term if sustainable defences are to be maintained. However, the approach to management aims to minimise these impacts and allows for a more adaptive approach that will sustain the beach area as an essential part of future defence. The policy in the long term changes from No Active Intervention (the previous SMP1) to one of managing the alignment of the coast.

There will be continued slow erosion of the Pakefield and Kessingland cliffs and this will have to be considered in relation to land use above the cliffs.

At present, Benacre Ness is moving north at a rate of approximately 20m a year. This massive shingle feature provides protection on its landward side. Over the next hundred years, the feature is predicted to move so that the tail of the beach will be situated somewhere in the region defined by the southern limit of this zone. The main area of Kessingland will continue to receive protection from direct erosion and the policy for the main area of Kessingland is for holding the line.

The movement of the Ness will expose the coast to the south to greater rates of erosion. These significant changes, brought about by the movement of Benacre Ness, would have an influence on the southern section of Kessingland village and the use of land within Kessingland Levels. This is a significant change from previously proposed policy in epochs 2 and 3 (20 to 100 years hence). It is proposed that this change is managed, allowing a development of a more sustainable defence system. The proposed approach allows the vital natural appearance of the coast to be maintained. The approach is based on separating out the issue of flood defence from management of the actual shoreline. In appearance the shoreline would remain in much the same position as at present, set back to allow natural adjustment but still maintaining that important Suffolk landscape of shingle and sand. Retaining this shoreline would allow flood defences to be re-

established further back within the existing area of Kessingland Levels. In this way the village of Kessingland would be sustained, the A12 is defended and the use of Kessingland Levels is placed on a more secure footing.

This approach would increase the probability of flooding within the valley behind Kessingland Beach Road. Local improvement to flood defence would be considered to protect assets and property.

The approach is unlikely to be fully funded by flood and coast protection grant funding. There is a period of possibly some 15 to 20 years before change would be needed. This period of time needs to be used to develop a collaborative funding approach to defence.

Covehithe

This is an area where there is greatest physical pressure for change on the coast. The policy for management of the coast further south has not significantly changed since the initial assessment made during SMP1. However, this is one of the areas within the SMP area where the plan indicates the need to accept the most significant change in the future shape of the coast. The erosion of the cliffs provides a major source of sediment for the coastal system and this is essential for maintaining defence along other sections of the coast.

There are, however, key land use issues; the historic village of Covehithe and areas of internationally designated habitat would be lost. Despite this, it is not considered sustainable or feasible from the perspective of sustainable management of defences to the south to attempt to manage the erosion. The core of the village may be lost during the second epoch of the SMP. There will continue to be a loss of agricultural land and a need to manage the adaptation of nature conservation. In terms of the last of these aspects, there is a need to address this loss through identifying opportunities for creation of alternative areas, such as compensatory habitats, away from the pressures of the coast. In the case of the first two issues, consideration has to be given as to how the impact might be mitigated. The role of the SMP is in identifying that these losses will occur. It is recognised that this is not a case where there is potential for adaptation in terms of loss of the village; significant value will be lost. In terms of the historic environment, the main issue highlighted by the SMP is the need for investing in further research into the area to record valuable information on the heritage assets at risk.

Further south within this section is the road at Potters Bridge. This road would not be lost due to erosion but there would be increased flooding in the area. This area is under consideration as part of an overall strategy and there may be scope for adaption of the various interests in the area.

Southwold to Dunwich

There is still on-going discussion as to the detailed management of the Blyth Estuary. The SMP has highlighted the key issues in relation to this. In particular, the SMP confirms the significance of the use of the estuary in

terms of the harbour and has also highlighted the importance of management of the harbour entrance in management of the coast. The SMP puts forward a plan that allows adaption of defence within the estuary in line with the intent to maintain use of the harbour and the coast. In developing the policies, the SMP recognises the clear need to make decisions as to the future use of the harbour.

The SMP plan is to maintain defence to Southwold. Defence of this area is very reliant on sediment entering the local system from the north. The plan sets out an approach to management of the area to the north of the town. This plan allows a sensible transition from the policies of no active intervention further north, through to the Hold the Line policy in front of the town. As seen at Kessingland Levels, one of the key components of this approach is to separate out the need for flood defence to important assets of the town. There is a need to develop a frontage that works well with the alignment of the coast at Southwold. This separation of flood and erosion management provides the opportunity to maintain a functioning shoreline. The main change, as identified by the strategy for the area, is likely to be required in the second epoch. Meanwhile it is crucial that local management, which would not be precluded under the plan, needs to be undertaken in a manner which supports the long term intent.

It is vital to appreciate that the proposed approach is not one that would result in Southwold becoming an island. The aim is to maintain, through management, the alignment of the coast to that at present. The essential difference is that the beach would be allowed to function as a beach and shingle ridge without the constraint of maintaining a hard line. Without such an adaptive approach there would be a real risk that Southwold would lose its northern beach.

The SMP plan similarly recognises the need to maintain a shoreline between Walberswick and Dunwich. This area has been actively managed in the past such that the shingle bank has become increasingly vulnerable to major breaches. The plan recommends that the shingle bank is allowed to act more naturally. This maintains the overall landscape of the frontage but accepts that this will increase the risk of flooding behind. This is taken into account in the SMP. While the existing trial defences at Dunwich seem to provide some slowing of the erosion in this area, the long term plan is to allow erosion in this area. This is important in relation to management of sediment to the coast to the south. This will result in loss of assets within the village. Although this means that some property will be directly lost, there is still scope within this to maintain the village and adapt use of areas such as the car park and associated visitor area. There are significant designated heritage assets within the village which will become at risk. Investigation and recording of these assets will be required in mitigation. As at Covehithe in PDZ 2, there will be a need for major investment for research upon the heritage assets at risk. The main changes from SMP1 are in identifying the need to manage change throughout the zone in a way that sustains the key

features, use and character of the area. As such significant changes are made from No Active Intervention to a policy of managed realignment.

Minsmere and Sizewell

The plan for this area is to allow the natural functioning of the coast as far as possible.

The long term impact of the plan will be increased flooding to the Minsmere valley. The coast is eroding to the north and this would continue, proving valuable sediment to the system. Erosion across the valley and in the area of Sizewell is significantly less. The plan allows for local management of the main Minsmere frontage but with the long term intent for managed realignment. The Power Station would continue to be defended and this is not seen as having a significant impact on the frontage to the north over the period of the plan. However, joint planning needs to be developed to ensure a compatible defence approach over the whole area.

There may in the longer term be the potential loss of properties along the Sizewell cliffs and at Thorpeness. The intent of the plan would not be to preclude careful management of the coastal processes. However this would need to be considered on a case by case basis, within key constraints identified with respect to the natural function of the full coastal length and the potential impact on nature conservation interests.

Aldeburgh and Orford Ness

To the north of Aldeburgh and in front of the town the aim is to maintain a healthy shingle beach and ridge. Over the northern section this may result in increased overtopping and the aim would be to examine in detail where set back flood defence may be required to provide additional protection to the Mere and to properties in Thorpeness and Aldeburgh. The definition of policy over the northern section of the frontage from Holding the Line in front of the properties at the Haven to one of managed realignment. This reflects more in the approach being taken rather than in suggesting greater risk to the properties along the Haven. In the review of policy it is more appropriate to maintain the defence provided by the naturally functioning shingle bank rather than attempting to fix this important feature through man made works.

An essential aspect of maintaining protection to the town of Aldeburgh is the control of shingle over the frontage. This brings in the issue of managing the section of coast south of the town and the potential breach between the shore and the estuary. This is recognised to be a very complex issue, with potentially far reaching impacts on the estuary and the agricultural, recreational and nature conservation interests of the estuary.

The SMP has taken a pragmatic approach to this, recognising that some of the issues require far closer examination. The SMP, therefore, aims to provide guidance to these further studies in setting out the consequences of different approaches solely from the perspective of managing the shoreline.

The main pressure for a breach arises from the persistent erosion of the coast. If this were to be managed to prevent a breach into the estuary then considerable effort would be required over time in preventing this. In effect, protection would be needed against increasing pressure over some 4km of coast. From a shoreline management perspective this would not be recommended. In addition to the large resource required, there would be significant impacts on both the landscape and nature conservation values.

The alternative is to allow a breach. The plan suggests this (subject to the conclusion of the broader scale integrated approach being developed through the Alde/Ore futures initiative). The SMP does not attempt to pre-empt the decisions being made through this initiative but rather provides valuable guidance from a shoreline management perspective.

The plan recommends that should a breach be allowed or managed, this would be engineered to the south of the Martello Tower. This approach is seen as managing many of the important coastal objectives identified for the area. It also provides the intent to maintain a beach in front of Aldeburgh. There is agreement that the SMP policy for the area would be reviewed and confirmed or amended as a result of the conclusions of the additional studies. This review would be anticipated within the next two years.

Hollesley Bay and the Mouth of the Deben

The SMP has identified and considered two basic approaches to Hollesley and to the Deben. In each area the conclusion of the SMP is in the intent of the plan is to manage the way in which the coast behaves, rather than abandoning defences.

In the case of Hollesley Bay this maintains both opportunity for existing land use and maintaining the village of Shingle Street. Management of the bay in this way relies on maintaining defences at East Lane. It is recognised within the plan that there are significant uncertainties, particularly with respect to movement of sediment within the bay. As such there is a need for monitoring associated with the integrity of the nature conservation interests and in relation to the potential increased pressure on the defence at the southern end. There would still be significant risk to the village of Shingle Street, even under this scenario for management. The approach, however, aims to deliver a balanced approach to management of the various land use, heritage and environmental issues in the area.

At the Deben, the critical decision is in whether the mouth of the estuary continues to be managed or not. Considering the issues identified for the area, the intent of the plan is to continue to manage this area of the coast. This will sustain the key recreational uses and assets of the area, while maintaining the coastal processes associated with the Knolls. Management of the entrance would rely on managing the tidal volume of the estuary. This would require the long term management of the large flood compartments within the lower estuary. This needs to be considered further by the estuary strategy, considering ways in which future flood risk can be managed. This

would not preclude increased frequency of flooding to these areas but the impact on tidal volume would need to be managed. As such it is envisaged that the lower defences would be maintained.

This may impact on the habitat of the estuary and this would need to be addressed through opportunity for habitat creation elsewhere within the estuary.

The defence of North Felixstowe would be maintained.

The approach to both areas clarifies policy left in abeyance by SMP1. The SMP2 policy draws upon the various strategies and studies that have been undertaken since SMP1.

Felixstowe

The plan recognises the vital importance of maintaining the flood defence to residential property and the Port. The management of the seafront is also recognised as being a significant issue. The plan is to maintain these essential components of the frontage. This is not considered to detract from the important natural function of the area.

The only significant change in policy is at Landguard Fort where the policy changes to one of holding the line. This ensures continuity of protection to the southern section of the town, to the historic fort and to the area of the port.

5.4 Managing the Change

5.4.1 Recommendations

The Plan sets out a development of policy over the three epochs from the present forward over 100 years. There are still essential decisions to be made in taking these changes in policy forward.

What has become very evident in developing the plan is the need for better involvement and co-ordination between different departments within authorities and between different authorities and organisations over the coastal zone. This coast cannot be managed by default or through uncoordinated actions. The ICZM initiative being developed in partnership is a crucial element in this management process.

In several areas there is opportunity for further development of spatial planning of the coastal zone. Without this, the coastal engineering has to be purely based on risk to existing assets. Even taking the far more forward looking approach engendered by SMPs and strategies, the emphasis for defence or engineering management will tend to be responsive to threat rather than opportunity. This will tend to result in decisions being made at a time when options are already constrained. Considering the management of the coast over a 100 year period is essential in this respect.

This is a coastline where, because of the underlying generally soft geology, change is inevitable. This need for change will be exacerbated by sea level rise. The impetus for management has, therefore, to come from a broad coastal management perspective. The aim is in actual management of many of the broader issues; to deliver benefits, rather than purely from shoreline management perspective of delivering the benefits associated with damage and risk avoidance.

In specific areas where there is a short term policy for hold the line with a longer term policy of retreat or no active intervention, this must be taken as an opportunity to allow adaptation, not a policy of delay. The longer term threats associated with areas such as the potential breach south of Slaughden, the potential risks associated with flooding within the Blyth Estuary and the management of the Kessingland Levels or the Minsmere valley are cases in point, where it is the long term intent for the areas which need to drive present management.

It is recommended that the policies be adopted by all organisations represented on the CSG and that these policies, together with an understanding of their intent, are incorporated as guidance for the development of statutory planning within each area.

The following section (Section 6) of this document provides an overall summary of policies for the shoreline. This summary should be considered with reference to the detailed development of the plan provided in Section 4.

5.4.2 Funding

Each management area contains a number of policy units. For each management area an outline economic assessment has been provided based initially on the high level assessment of damages provided by MDSF. Where strategy studies have been undertaken and, where appropriate, further economic data has been incorporated within each policy statement.

Overall, given the level of detail available to the SMP, the policies are shown or are believed to be cost effective in terms of economics; taking into account the additional information from strategies and plans not specifically evaluated in the SMP. However, it is equally recognised that in many areas direct funding under coast protection or flood defence may not be available due to the need for prioritisation of this funding at a national level.

The development of policies set out in Section 4 highlights the consequences of alternative approaches. In this the SMP aims to identify the specific beneficiaries of the policy. In many cases this is driven by the specific objectives as identified in planning documents or in maintaining the other interests of an area. In line with the Government's strategy "Making Space for Water" co-funding of projects for the coast should be considered. This

intent to examine the potential for additional and collaborative funding has to be seen as an essential component of delivering the agreed plan.