

Appendix H Economic Appraisal

Appendix H Economic Appraisal

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H1 Introduction

A review of economic viability of the preferred plan for each area has been carried out. The review is undertaken in the context of each management area taking account of the economic consequences associated with each policy unit.

It should be noted that further detailed economic analysis will need to be undertaken in justifying any specific scheme in line with principles set out in the FCDPAG series of guidance.

The aim of the current review is to determine to what degree the preferred policy may be justified in economic terms relating to coast protection or sea defence. In addition, the review aims to examine the nature of the economic justification; considering whether that justification lies strongly with the defence of clear direct benefits, in terms of direct flood or erosion risk to assets, or derives from associated damages such as amenity, recreation, traffic disruption or is driven by the aims of other plans.

Various sets of information have been used to develop the review. In addition to this, a considerable amount of work has been undertaken as part of the various strategies or scheme appraisals covering the whole area. The use of these is discussed in section H2 and H3.

The results of the review are reported in summary tables provided in Annex H1 and the development of these tables is discussed in section H4.

A discussion of sensitivity is provided in section H5 together with an identification of the approach to assessing the future costs of schemes or maintenance.

References to local studies are provided in the summary tables in section H4.

H2 Use of existing information

There has been a considerable effort put in to developing strategies for individual sections, in line with the recommendations and to address uncertainties identified in SMP1.

These studies have been able to consider the economic consequence for specific areas in far greater detail than would be appropriate for the SMP2. In particular, the strategies have been able to determine specific damages relating to flooding due to overtopping and consider damages relating to aspects such as amenity and uses of the coast. In addition the strategies have developed specific approaches to defence and from this have been able to assess future costs of scheme at least in outline.

However, in many areas the strategies have been developed only over a 50 year horizon and have used discount factors different from that now recommended by Treasury. The strategies also have not necessarily been developed over the same geographic area as policy units now defined in the SMP2. Finally, in some locations the SMP2 is now making recommendations which modify the options and recommendations considered by the strategies.

For these reasons it has been necessary to adapt information from earlier studies to allow this information to be used to effect in the SMP2.

Management of the coast is a continuous process. During the development of the SMP2 further detailed studies or strategies have been on going. While information has been incorporated as it becomes available, it is clearly not possible in a document to include detailed information of concurrent studies not completed at the time of completing this document (September 2009). Notes are included in both the following tables and in the main text of the SMP2 document to highlight where further information has or may become available.

The SMP process is continuous, taking in further information and reviewing this in the context provided by the SMP2 document.

H3 Generation of new data

Determination of Damages

The following outlines the method applied for identifying flood and erosion risks across the Poole and Christchurch Bays Shoreline Management Plan Review as undertaken by the Channel Coastal Observatory (Task 2.5). This was to output general economic data on the value of potential assets lost. Essentially, the number of properties and area of agricultural land and nature conservation designations at risk from flooding and/or erosion were calculated using Geographical information System (GIS).

GIS analysis

For the “No Active Intervention” and “With Present Management*” scenario, the following were calculated:

- properties at risk from erosion, per epoch (*2008 address point data used*)
- properties at risk from tidal and tidal/fluvial flooding now and in 100 years (*2008 address point data used*)

These calculations were based on SMP1 management units.

For the “No Active Intervention” scenario, the following were also calculated:

- agricultural land at risk from erosion, per epoch (*agricultural shapefile provided by Royal Haskoning*)
- agricultural land at risk from tidal and tidal/fluvial flooding now and in 100 years (*agricultural shapefile provided by Royal Haskoning*)
- nature conservation designations (SSSI, SAC, SPA, RAMSAR) at risk from erosion, per epoch (*National designation shapefiles downloaded from Natural England website*)
- nature conservation designations (SSSI, SAC, SPA, RAMSAR) at risk from tidal and tidal/fluvial flooding now and in 100 years (*National designation shapefiles downloaded from Natural England website*)

These calculations were SMP wide.

The erosion and flooding shapefiles were used to clip out the agriculture and nature conservation areas at risk. The resulting shapefiles were a direct output of the input agricultural and nature conservation data, which was often not entirely accurate in mapping the coastline. In addition, the address point data omitted caravans, mobile homes etc and sometimes industrial areas.

For further detail on assumptions which have been made with regard to the erosion and flood extents used to calculate damages, the reader should refer to Appendix C, Task 2.5.

Determination of Costs

For much of the coast, where defences are in place, information exists from strategies of appraisal setting out future costs of defence. Where the SMP2 recommends adaptation to these plans, an assessment has had to be made of possible future costs.

In most areas where costs have had to be determined separate from strategies, this has been for works in the medium to long term. It is only possible to provide very outline costs for such work.

Where additional costs are identified the timing of such works is identified in the summary tables.

In some cases strategies have not identified maintenance costs for existing or new defences or have only considered such costs over a period of the next 50 years. In all cases where defence is recommended by the SMP2 an additional cost has been added to allow for routine maintenance over the period of the SMP2. The maintenance costs take into account the existing extent of defence and to a degree the condition or age of the works.

Average baseline costs have been used in estimating works. Typically these have been derived from a series of tables for different structure types. For each structure type the cost per metre of defence is estimated based on tidal and wave exposure. The key structure types are shown in the following tables.

Optimism Bias

Optimism Bias deals with the quantification of project risk. This is applied to the PV (Present Value) costs, yielding a cost, plus an additional contingency value upon which the benefit-cost ratio is based.

A nominal 60% optimism bias rate has been included within the values provided by the economic assessment. Although this is included for completeness and a requirement to consider the guidance provide by the Treasury's 'Green Book', it is generally not within the scope of SMP's to be defining the specific works required to undertake and intent of management. Therefore costs tend to be very non-specific, based on typical defences that might be employed for a given scenario. Therefore while the nominal 60% has been applied to these 'typical' costs, it is important to acknowledge that the greatest uncertainty is often the type of work that would actually be carried out under a given policy scenario.

Typical average cost tables, including for optimism bias.

Rock Revetment £/m

Tidal Exposure	Wave Exposure			
	Very Low	Low	Medium	High
Very Low				
Low		200	500	1000
Medium		1000	2000	4000
High		3000	7000	12500

Earth Embankment £/m

Tidal Exposure	Wave Exposure			
	Very Low	Low	Medium	High
Very Low				
Low		200	350	1500
Medium		1500	2000	4000
High		3000	3500	6000

Concrete Seawalls £/m

Tidal Exposure	Wave Exposure			
	Very Low	Low	Medium	High
Very Low	100	150	250	500
Low	200	300	500	1000
Medium	1000	1500	2000	5000
High	2500	4500	7000	12000

Sheet piled walls £/m

Tidal Exposure	Wave Exposure			
	Very Low	Low	Medium	High
Very Low				
Low		200	400	600
Medium		600	1000	2000
High	600	1000	2000	3500

Rock Breakwaters £/m

Tidal Exposure	Wave Exposure			
	Very Low	Low	Medium	High
Very Low				
Low		1500	1500	5000
Medium		2000	4000	8000
High		3000	6000	12500

In addition a cost of £2,500 per metre has been taken for removal of existing structures.

It certain circumstances individual structure costs have been used, these represent the possible use of one off structures.

H4 Economic appraisal summary table

Annex H1 provides economic summary tables. The results from these are further summarised in the main SMP2 text.

The tables are produced for each management area. The tables comprise:

- The assessment of damages derived from the Strategies and new GIS assessment undertaken by the Channel Coastal Observatory. Three scenarios are considered for comparison and to allow an assessment of sensitivity. The three scenarios are No Active Intervention, With Present Management and the Preferred Plan. Associated with each Management Area table report is an identification of other relevant information; either in terms of information from other studies or in terms of what additional damages might be considered in relation to the specific scenario. For each scenario a total damages is reported with notes to explain how this has been derived from the information;
- The assessment of costs. This is provided for the With Present Management scenario and for the Preferred Plan. In many cases this may be the same. As above the reference with respect to costs is identified and a brief explanation of how this has been used to derive a cost for the Preferred Plan; and
- Finally, the table provides a brief comment or discussion in relation to the economic analysis and justification of the preferred policy. Where the Preferred Plan is shown solely from the summary of results not to be economically justified this is highlighted in terms of either additional benefits which might be considered or in terms of other values which the plan is attempting to address.

General note

The SMP is a broad-scale assessment and the principle rationale for the preferred policies is an understanding of the coastal processes which link adjacent sections of the coastline. As such the supporting economic data is provided at a Management Area level. This reflects an appropriate level of assessment of risk for the SMP but also reflects that individual policy units have been grouped together into the Management Areas based on their coastal process links.

In considering the wisdom of undertaking a particular management approach along one section of shoreline, we have to consider the impacts on adjacent, linked frontages. Equally, in considering the economic basis for undertaking works along a given frontage, we must present the economics in a way that reinforces those policy unit links. For example to proceed with a preferred policy in one unit but not in an adjacent, linked unit may render the overall management approach less effective or at worst unworkable.

This is therefore a common rationale which is carried through the SMP and the following table H1 presents the economic data on this basis, i.e. based

upon the Management Areas which are set out in the main document. In truth, sometimes the links are even wider, for example if the management approach in Poole Bay were to lead to a reduced sediment input to the Christchurch Bay frontage, the management policies carried forward there may be less effective. This reinforces the need to continue considering the holistic basis for taking forward the preferred plan across the entire SMP area.

H5 Sensitivity

The critical uncertainties with respect to policy are highlighted and discussed in the main text of the SMP2. With respect to the economics, there is recognised uncertainty particularly in relation to erosion rates and possible timing of required works. Such uncertainty affects both the timing of the occurrence of damages and when works might be required. As such, these aspects tend to balance in the economics.

Certainly within the scope of the SMP2, to assess the likely affordability and overall sustainability of policies, such issues of timing are already accounted for. Clearly in terms of actual loss and hence planning of individual situations, timing may be quite important and the SMP2 has recommended monitoring to improve information.

Where the preferred policy changes from present management, the tables in Annex H1 allow comparison of the economics associated with this change. This highlights, purely from an economic perspective, the sensitivity of decisions being made.

To test the sensitivity of each benefit / cost analysis being presented would require a robust certainty of the capital works scenario one is testing for sensitivity. Since it is generally not within the remit of the SMP to define specific works (rather it sets the general intent and agenda for management), sensitivity testing is not undertaken for the costs and benefits at a policy unit level (other than through the generic assumptions provided above).

Annex H1 Supporting Economic Appraisal Data – Damages/Benefits and Costs

Economic Assessment

Policy Development Zone (PDZ)1

Management Area (MA): CBY A

Location: Hurst Spit & Milford-on-Sea (CH. 0.0KM TO 7.0KM)

Policy Units (PU): CBY.A.1 – Hurst Spit, CBY.A.2 – Milford
Seafont, CBY.A.3 – Rook Cliff, CBY.A.4 – Cliff Road

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)		
Flooding damages			12,718			2,543			1,894			17,155		
Continuing erosion of agricultural land			0			0			0			0		
Present value of erosion														
0-20 yrs			20 to 50 yrs			50 to 100 yrs								
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)						
0	0	0	40	10,407	3,694	484	125,920	13,725	17,420					
									Total Damages			34,575		

Other information

Source:	PV value (£k)
	0
Notes: Includes all floodzone A and one tenth of floodzone B	Total NAI Damages (£k)
	34,575

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)		
Flooding damages			12,718			2,543			1,894			17,155		
Continuing erosion of agricultural land			0			0			0			0		
Present value of erosion														
0-20 yrs			20 to 50 yrs			50 to 100 yrs								
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)						
0	0	0	0	0	0	164	42,667	4,651	4,651					
									Total Damages			21,806		

Other information

Source: no assessment available	PV value (£k)
	0
Notes:	Total WPM Damages (£k)
	21,806

Economic Assessment

Policy development Zone (PDZ)1

Management Area (MA): CBY A

Location: Hurst Spit & Milford on Sea (CH. 0.0KM TO 7.0KM)

Policy Units (PU): CBY.A.1 – Hurst Spit, CBY.A.2 – Milford Seafront, CBY.A.3 – Rook Cliff, CBY.A.4 – Cliff Road

Scenario: PREFERRED PLAN

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			12,718			2,543			1,894			17,155
Continuing erosion of agricultural land			0			0			0			
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	164	42,667	4,651				4,651
Additional damages:												
Total Damages											21,806	

COSTS

Present management assessment

Source: Christchurch Bay Strategy (Christchurch Bay Strategy Study, Halcrow & New Forest District Council, 2006).	PV value (£k)
Notes:	

Preferred Policy

Description Maintain control of adjacent Spits, HTL adjacent to Hurst Castle. Maintain integrity of main spit through continued beach management and maintenance of rock revetment at root of spit. Investigate options for developing a continuous beach between Rook Cliff and Hurst Spit subject to funding. Default would be to re-align landwards.	PV value (£k)
	3,764
Notes:	

Economic Assessment

Policy Development Zone (PDZ)1

Location: Barton-on-Sea (CH. 7KM – 12.9KM)

Management Area (MA): CBY B

Policy Units (PU): CBY.B.1 – Hordle Cliff to Barton,
 CBY.B.2 – Barton-on-Sea, Marine Drive East, CBY.B.3
 Barton-on-Sea Marine Drive and Marine Drive West,
 CBY.B.4 – Naish Cliff

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			110			165			275
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
1	260	184	8	2,081	739	578	150,375	16,390				17,313
Total Damages											17,588	

Other information

Source:	PV value (£k)
	0
Notes: Approx 25 hectares agricultural land eroded at Hordle Manor Farm and Taddiford Farm not included in final total.	Total NAI Damages (£k)
	17,313

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			110			165			275
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
1	260	184	8	2,081	739	577	150,115	16,362				17,285
Total Damages											17,560	

Other information

Source:	PV value (£k)
.	
Notes:	Total WPM Damages (£k)
	17,560

Economic Assessment

Policy Development Zone (PDZ)1

Location: Barton-on-Sea (CH. 7KM – 12.9KM)

Management Area (MA): CBY B

Policy Units (PU): CBY.B.1 – Hordle Cliff to Barton,
 CBY.B.2 – Barton-on-Sea, Marine Drive East, CBY.B.3
 Barton-on-Sea Marine Drive and Marine Drive West,
 CBY.B.4 – Naish Cliff

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Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	60	15,610	1,701				1,701
Additional damages:												
Total Damages											1,701	

COSTS

Present management assessment

Source:	PV value (£k)
The damage assessment made for the SMP under WPM based for cliff recession are considerably higher than predicted in the draft strategy (Christchurch Bay Strategy Study, Halcrow & New Forest District Council, 2006).	0
Notes:	

Preferred Policy

Description	PV value (£k)
The section of coast between Rook Cliff and the White House would in principle be HTL, although locally between these two points the approach would adapt from that of holding the existing linear defence to one of potentially allowing some further erosion and cliff recession to provide a more sustainable line of defence. To the west of Rook Cliff, the intent would be to manage retreat of the cliff line such as to maintain the function of the coastal road and to avoid loss of properties over the next 100 years. This management would rely on defence more locally than at present beneath Rook Cliff, with the potential requirement for groyne as the cliff erodes back. Recharge would remain an important element of the coast protection strategy. Preferred policy assumes 60 properties lost to erosion during epoch 3.	8,579
Notes:	

Economic Assessment

Policy Development Zone (PDZ)1

Location: High Cliff (CH.12.9KM – 17.2KM)

Management Area (MA): CBY C

Policy Units (PU): CBY.C.1 – Highcliffe to Friars Cliff

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DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	3	706	251	147	34,597	3,711				4,022
Total Damages											4,022	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 2,971

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	1	235	835	1	235	282				1,117
Total Damages											1,117	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 1,117

Economic Assessment

Policy Development Zone (PDZ)1

Location: High Cliff (CH.12.9KM – 17.2KM)

Management Area (MA): CBY C

Policy Units (PU): CBY.C.1 – Highcliffe to Friars Cliff

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Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Additional damages:												
Total Damages											0	

COSTS

Present management assessment

Source: Christchurch Bay Strategy Study (Christchurch Bay Strategy Study, Draft - Halcrow & New Forest District Council, 2006).	PV value (£k)
	0
Notes:	

Preferred Policy

Description	PV value (£k)
Future protection of Highcliffe castle required, possibly epoch 2.	783
Notes: Future extent of works and design criteria very dependent on actual rates of sea level rise.	

Economic Assessment

Policy Development Zone (PDZ)2

Management Area (MA): CBY D

Location: Friars Cliff to Mudeford Quay (CH. 17.2KM – 17.9KM)

Policy Units (PU): CBY.D.1 – Avon Beach

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			23			93			68			184
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
3	706	501	9	2,118	752	80	18,828	2,052				3,305
Total Damages											3,489	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 3,489

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Total Damages											0	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 0

Economic Assessment

Policy Development Zone (PDZ)2

Management Area (MA): CBY D

Location: Friars Cliff to Mudeford Quay (CH. 17.2KM – 17.9KM)

Policy Units (PU): CBY.D.1 – Avon Beach

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Additional damages:												
Total Damages											0	

COSTS

Present management assessment

	PV value (£k)
Source: Christchurch Bay Strategy Study (Christchurch Bay Strategy Study, Draft - Halcrow & New Forest District Council, 2006).	
Notes:	

Preferred Policy

Description	PV value (£k)
HTL and Control of erosion through use of control structures and beach recharge programme, 20 yearly, 40,000m ³ @ £12.50 m ³	1,106
Notes:	

Economic Assessment

Policy Development Zone (PDZ)2

Location: Mudeford Spit to Southborne (CH. 26.3KM – 30.4KM)

Management Area (MA): CBY/PBY.E

Policy Units (PU): CBY.E.1 – Mudeford Spit, CBY.E.2 – East of Hengistbury Head, PBY.E.3 – Hengistbury Head Long Groyne, PBY.E.4 – Solent Beach, PBY.E.5 - Southbourne

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DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			5			21			15			41
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	9	1733	615	29	5583	609				1,224
Total Damages											1,265	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 1,265

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Total Damages											0	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 0

Economic Assessment

Policy Development Zone (PDZ)2

Management Area (MA): CBY/PBY.E

Location: Mudeford Spit to Southborne (CH. 26.3KM – 30.4KM)

Policy Units (PU): CBY.E.1 – Mudeford Spit, CBY.E.2 – East of Hengistbury Head, PBY.E.3 – Hengistbury Head Long Groyne, PBY.E.4 – Solent Beach, PBY.E.5 - Southbourne

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)	PVd 2055 (£k)	PVd 2105 (£k)	Total Present Value (£k)
Flooding damages			0	0	0	0
Continuing erosion of agricultural land			0	0	0	0
Present value of erosion						
0-20 yrs			20 to 50 yrs			0
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	
0	0	0	0	0	0	
Additional damages:						
Total Damages						0

COSTS

Present management assessment

Source: Poole Bay Strategy	PV value (£k)
Maintain controlling presence of Hengistbury Head	
Notes:	

Preferred Policy

Description	PV value (£k)
Maintain position of headland through Long Groyne replacement / maintenance and recharge.	1081
Notes:	

Economic Assessment

Policy Development Zone (PDZ)2

Location: Christchurch Harbour (CH.17.8KM – 26.3KM)

Management Area (MA): CHB.F

Policy Units (PU): CBY.D.2 – Mudeford Quay, CHB.F.1 - Mudeford, CHB.F.2 – Stanpit Marshes, CHB.F.3 - Christchurch, CHB.F.4 - Wick, CHB.F.5 – Southside of Christchurch Harbour, CHB.F.6 – Rear of Mudeford Spit

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			387			1331			2525			4243
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				
Total Damages											4,243	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 4,243

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				
Total Damages											0	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 0

Economic Assessment

Policy Development Zone (PDZ)2

Management Area (MA): CHB.F

Location: Christchurch Harbour (CH.17.8KM – 26.3KM)

Policy Units (PU): CBY.D.2 – Mudeford Quay, CHB.F.1 - Mudeford, CHB.F.2 – Stanpit Marshes, CHB.F.3 - Christchurch, CHB.F.4 - Wick, CHB.F.5 – Southside of Christchurch Harbour, CHB.F.6 – Rear of Mudeford Spit

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Additional damages:												
Total Damages											0	

COSTS

Present management assessment

Source: Christchurch Bay & Harbour Strategy Study, Halcrow & New Forest District Council, 2006	PV value (£k)
Maintain and upgrade the existing standard of defences to take account of sea level rise and predicted increase in winter rainfall and therefore fluvial input into Christchurch Harbour.	3440
Notes:	

Preferred Policy

Description	PV value (£k)
Maintain and improve defences along Mudeford – Christchurch frontage. Local improvements and maintenance at Wick.	2378
Notes:	

Economic Assessment

Policy Development Zone (PDZ)2

Management Area (MA): **PBY.G**

Location: Southborne to Flag Head Chine (CH.30.4KM – 43.9KM)

Policy Units (PU): **PBY.G1 - Southbourne, PBY.G2 - Boscombe, PBY.G3 – Bournemouth Central, PBY.G4 – West Cliff**

DAMAGES

Scenario: **No ACTIVE INTERVENTION**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
26	6,300	4,467	353	76,051	26,998	2684	527,571	57,505				88,970
Total Damages											88,970	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 88,970

Scenario: **WITH PRESENT MANAGEMENT**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Total Damages											0	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 0

Economic Assessment

Policy Development Zone (PDZ)2

Management Area (MA): PBY.G

Location: Southborne to Flag Head Chine (CH.30.4KM – 43.9KM)

Policy Units (PU): PBY.G1 - Southbourne, PBY.G2 - Boscombe, PBY.G3 – Bournemouth Central, PBY.G4 – West Cliff

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Additional damages: There would be no anticipated damages under the preferred policy.												
Total Damages											0	

COSTS

Present management assessment

<p>Source: Poole Bay Strategy Study (Halcrow 2004) (Draft Strategy - Technical Annex 2, 2004) and the results of this used in the Benefit/ Cost analysis (Technical Annex 8). Cost rate of £367K per 100m rock groyne has been assumed as per Technical Annexe 8.</p> <p>Above strategy assumed cost of £3/m³ for beach recharge, this is inadequate for calculating current / future costs of recharge programme.</p> <p>Notes:</p>	PV value (£k)
--	----------------------

Preferred Policy

<p>Description Optimum management would be achieved through replacement of the timber groynes with longer rock groynes and recharge on a typical ten year cycle. Preferred policy assumes replacement of approximately 80 timber groynes of 75m length with 60 rock groynes of 100m length in year ten, followed by 10 yearly recharge programme with average of 2M cubic metres material per recharge starting year 12. Recharge cost assumed at £12.50/ m3. Previous recharge programmes have cost significantly less than this figure however the discounted rates depended on availability of very locally sourced material (e.g. Poole Harbour dredging) and these will not always be available. Replacement of timber groynes with longer rock groynes gives assumption of better retention of beach sediment with some subsequent reduction in required recharge volumes.</p> <p>Notes:</p>	PV value (£k)
	58,019

Economic Assessment

Policy Development Zone (PDZ)3

Management Area (MA): **PBY/STU H**

Location: Open Coast (Flag Head Chine to Handfast Point) (CH.)

Policy Units (PU): PBY/STU.H.1 – Flag Head Chine to Sandbanks Head, PBY/STU.H.2 – Sandbanks Village, PBY/STU.H.3 – Sandbanks inner face, PBY/STU.H.4 – South Haven Point, PBY /STU.H.5 – Studland Dunes, PBY/STU.H.5a – Training Bank, PBY /STU.H.6 – Studland Village, PBY /STU.H.7 – The Warren to Handfast Point

DAMAGES

Scenario: **No ACTIVE INTERVENTION**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			13			41			38			92
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
108	26,618	18,872	210	51,757	18,374	238	58,657	6,394				
Total Damages											43,731	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 43,731

Scenario: **WITH PRESENT MANAGEMENT**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			13			41			38			92
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				
Total Damages											92	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 92

Economic Assessment

Policy Development Zone (PDZ)3

Management Area (MA): **PBY/STU H**

Location: Open Coast (Flag Head Chine to Handfast Point) (CH.)

Policy Units (PU): PBY/STU.H.1 – Flag Head Chine to Sandbanks Head, PBY/STU.H.2 – Sandbanks Village, PBY/STU.H.3 – Sandbanks inner face, PBY/STU.H.4 – South Haven Point, PBY /STU.H.5 – Studland Dunes, PBY/STU.H.5a – Training Bank, PBY /STU.H.6 – Studland Village, PBY /STU.H.7 – The Warren to Handfast Point

Scenario: **PREFERRED POLICY**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			13			41			38			92
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Additional damages:												
Total Damages											92	

COSTS

Present management assessment

Source:	PV value (£k)
<i>Poole Bay & Harbour Strategy Study – Poole Harbour 2004 (Halcrow 2004)</i>	
(Draft Strategy - Technical Annex 2, 2004) and the results of this used in the Benefit/ Cost analysis (Technical Annex 8).	
Notes:	

Preferred Policy

Description	PV value (£k)
HTL for the Sandbanks frontage aims to develop amenity use of the area beyond that merely of coastal defence. Groynes and recharge would be employed. In the future, to maintain the overall value of the area, such an approach may need to be developed further, with scope for attracting joint funding of the management of the frontage. As such within the third epoch, although the intent of the policy may be said to be fundamentally to maintain the defence, the actual policy could beneficially be developed as one of advance the line. Along the Studland frontage, the overall intent would be to allow and encourage the natural development of the coast (notwithstanding the retention of the Training Bank to the south of the harbour entrance).	5,003
Notes:	

Economic Assessment

Policy Development Zone (PDZ)3

Location: Luscombe Valley to Ham Common (CH.50.3KM – 82.7KM)

Management Area (MA): PHB.I

Policy Units (PU): PHB.I.1 – Luscombe Valley to Parkstone Bay, PHB.I.2 – Poole Quay, PHB.I.3 – Holes Bay, PHB.I.3a – Holes Bay north-west, PHB.I.4 – Port Area, PHB.I.5 – Lower Hamworthy

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			178,236			135,708			101,071			415,016
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	82	20,210	7,174	453	111,646	12,170				
Total Damages											434,360	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 434,360

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	4	986	350	7	1,725	188				
Total Damages											538	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 538

Economic Assessment

Policy Development Zone (PDZ)3

Management Area (MA): PHB.I

Location: Luscombe Valley to Ham Common (CH.50.3KM – 82.7KM)

Policy Units (PU): PHB.I.1 – Luscombe Valley to Parkstone Bay, PHB.I.2 – Poole Quay, PHB.I.3 – Holes Bay, PHB.I.3a – Holes Bay north-west, PHB.I.4 – Port Area, PHB.I.5 – Lower Hamworthy

Scenario: **PREFERRED POLICY**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	4	986	350	7	1,725	188				538
Additional damages:												
Total Damages											538	

COSTS

Present management assessment

Source: Poole Bay and Harbour Strategy Study (Draft Strategy - Technical Annex 2, 2004) and the results of this used in the Benefit/ Cost analysis (Technical Annex 8).	PV value (£k)
Notes:	

Preferred Policy

Private and Public collaboration, further examination of potential habitat adaption. Possible investigation of barrier and adaption through development framework	PV value (£k) 15,549
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Economic Assessment

Policy Development Zone (PDZ)3

Management Area (MA): PHB.K

Location: Arne Peninsula to South Haven Point (CH.82.7KM – 117KM)

Policy Units (PU): PHB.K.1 – Poole Harbour south, PHB.K.2 – Furzey, Round, Long and Green Islands

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			110			320			158			588
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	1	250	89	2	501	55				144
Total Damages											732	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 732

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			110			320			158			588
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	1	250	89	2	501	55				144
Total Damages											732	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 732

Economic Assessment

Policy Development Zone (PDZ)3

Management Area (MA): PHB.K

Location: Arne Peninsula to South Haven Point (CH.82.7KM – 117KM)

Policy Units (PU): PHB.K.1 – Poole Harbour south, PHB.K.2 – Furzey, Round, Long and Green Islands

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)	PVd 2055 (£k)	PVd 2105 (£k)	Total Present Value (£k)		
Flooding damages			110	320	158	588		
Continuing erosion of agricultural land			0	0	0	0		
Present value of erosion								
0-20 yrs			20 to 50 yrs			50 to 100 yrs		
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)
0	0	0	1	250	89	2	501	55
Additional damages:								
Total Damages							732	

COSTS

Present management assessment

<p>Source: Poole Bay and Harbour Strategy Study (Draft Strategy - Technical Annex 2, 2004) and the results of this used in the Benefit/ Cost analysis (Technical Annex 8).</p>	PV value (£k)
Notes:	

Preferred Policy

<p>Description No Active Intervention.</p>	PV value (£k)
Notes:	

Economic Assessment
Policy Development Zone (PDZ)3
Location: Brownsea Island

Management Area (MA): PHB.L
Policy Units (PU): PHB.L.1 – Western Island, PHB.L.2 – Brownsea Lagoon, PHB.L.3 – Brownsea Quay

DAMAGES

Scenario: **No ACTIVE INTERVENTION**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			2,152			0			0			2,152
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	6	1,503	533	4	1,002	109				642
Total Damages											2,794	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 2,794

Scenario: **WITH PRESENT MANAGEMENT**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			2,152			0			0			2,152
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	6	1,503	533	4	1,002	109				642
Total Damages											2,794	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 2,794

Economic Assessment
Policy Development Zone (PDZ)3
Location: Brownsea Island

Management Area (MA): PHB.L
Policy Units (PU): PHB.L.1 – Western Island, PHB.L.2 – Brownsea Lagoon, PHB.L.3 – Brownsea Quay

Scenario: **PREFERRED POLICY**

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	1	250	27				27
Additional damages:												
Total Damages											27	

COSTS

Present management assessment

<p>Source: Poole Bay and Harbour Strategy Study (Draft Strategy - Technical Annex 2, 2004) and the results of this used in the Benefit/ Cost analysis (Technical Annex 8). The draft strategy reports that due to particular historic interest of the building, it is not possible to evaluate the benefits of coast protection on the basis of a market value.</p>	PV value (£k)
Notes:	

Preferred Policy

<p>Description: Local management to remove defences from western part of the island. Defences held around Brownsea Quay. Managed realignment of the Lagoon subject to identification of compensatory habitat.</p>	PV value (£k)
	454
Notes:	

Economic Assessment

Policy Development Zone (PDZ) 3

Location: Ham Common to Arne Peninsula (CH.66.8KM – 82.7KM)

Page 1 of 2

Management Area (MA): PHB.J

Policy Units (PU): PHB.J.1 – Hamworthy Common, PHB.J.2 – Lytchett Bay, PHB.J.2a – Eastern Lytchett Bay, PHB.J.3 – Holton Railway Line, PHB.J.4 - Wareham, PHB.J.5 – Arne Peninsula

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			161			705			999			1,865
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	2	497	54				54
Total Damages											1,919	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 1,919

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			110			320			158			588
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Total Damages											588	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 588

Economic Assessment

Policy Development Zone (PDZ) 3

Management Area (MA): PHB.J

Location: Ham Common to Arne Peninsula (CH.66.8KM – 82.7KM)

Policy Units (PU): PHB.J.1 – Hamworthy Common, PHB.J.2 – Lytchett Bay, PHB.J.2a – Eastern Lytchett Bay, PHB.J.3 – Holton Railway Line, PHB.J.4 - Wareham, PHB.J.5 – Arne Peninsula

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)	PVd 2055 (£k)	PVd 2105 (£k)	Total Present Value (£k)		
Flooding damages			110	320	158	588		
Continuing erosion of agricultural land			0	0	0	0		
Present value of erosion								
0-20 yrs			20 to 50 yrs			50 to 100 yrs		
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)
0	0	0	1	250	89	2	501	55
Additional damages:								
						Total Damages	732	

COSTS

Present management assessment

Source:	PV value (£k)
Notes:	

Preferred Policy

Description	PV value (£k)
Managed Realignment at Wareham Banks, subject to legal agreements. Very detailed study will be undertaken within the forthcoming strategy study for Poole Harbour. Detailed costing will be provided through the strategy.	
Notes:	

Economic Assessment

Policy Development Zone (PDZ)4

Management Area (MA): SWA.M

Location: Handfast Point to (and including) Ballard Common
(CH.123.6KM – 125KM)

Policy Units (PU): SWA.M.1 – Handfast to Ballard Estate

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			22			44			77			143
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0	0			
Total Damages											143	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 143

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			22			44			77			143
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0	0			
Total Damages											143	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 143

Economic Assessment

Policy Development Zone (PDZ)4

Management Area (MA): SWA.M

Location: Handfast Point to (and including) Ballard Common
(CH.123.6KM – 125KM)

Policy Units (PU): SWA.M.1 – Handfast to Ballard Estate

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)	PVd 2055 (£k)	PVd 2105 (£k)	Total Present Value (£k)		
Flooding damages			0	0	0	0		
Continuing erosion of agricultural land			22	44	77	143		
Present value of erosion								
0-20 yrs			20 to 50 yrs			50 to 100 yrs		
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)
0	0	0	0	0	0	0	0	0
Additional damages:								
Total Damages							143	

COSTS

Present management assessment

Source:	PV value (£k)
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Notes:

Preferred Policy

Description	PV value (£k)
Loss of agricultural land only under the preferred policy	

Notes:

Economic Assessment

Policy Development Zone (PDZ)4

Management Area (MA): SWA.N

Location: Ballard Common to Peveril Point (CH.125KM – 129.3KM)

Policy Units (PU): SWA.N.1 – New Swanage, SWA.N.2 - Promenade, SWA.N.3 – Town Centre, SWA.N.4 – Town Centre to Peveril Point

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			10			33			30			73
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	28	7,012	2,489	144	36,062	3,931				6,420
Total Damages											6,493	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 6,493

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	2	501	55				55
Total Damages											55	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 55

Economic Assessment

Policy Development Zone (PDZ)4

Management Area (MA): SWA.N

Location: Ballard Common to Peveril Point (CH.125KM – 129.3KM)

Policy Units (PU): SWA.N.1 – New Swanage, SWA.N.2 - Promenade, SWA.N.3 – Town Centre, SWA.N.4 – Town Centre to Peveril Point

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			0			0			0			0
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	0	0	0	0	0	0				0
Additional damages:												
Total Damages											0	

COSTS

Present management assessment

Source:	PV value (£k)
POOLE BAY & HARBOUR STRATEGY STUDY Assessment of Flood and Coast Defence Options SWANAGE BAY (Halcrow 2004) Recommended construction of new rock groynes and recharge of 50-90,000 m3, followed by 40,000m3 every 20 years. Strategy costs assumed at £3/m ³ for beach recharge, this is inadequate for calculating current / future costs of recharge programme.	
Notes:	

Preferred Policy

Description	PV value (£k)
Possible opportunity to reinforce local headlands. Requirement to raise sea defences in line with sea level rise. Provide suitable transition to NAI policy in SWA.M. Maintenance of groynes and recharge of beach. Costs based on recharge amounts as identified in the strategy. Cost of £12.50/m3 applied to recharge programme.	1,712
Notes:	

Economic Assessment

Policy Development Zone (PDZ)4

Management Area (MA): DUR.O

Location: Peveril Bay to Durlston Head (CH.129.3KM – 131KM)

Policy Units (PU): DUR.O.1 – Durlston Bay

DAMAGES

Scenario: No ACTIVE INTERVENTION

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			11			16			33			60
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	30	7,513	2,667	47	11,770	1,283	3,950			
Total Damages											4,010	

Other information

Source:	PV value (£k)
Notes:	Total NAI Damages (£k) 4,010

Scenario: WITH PRESENT MANAGEMENT

Annual average damages (AAD):			PVd 2025 (£k)			PVd 2055 (£k)			PVd 2105 (£k)			Total Present Value (£k)
Flooding damages			0			0			0			0
Continuing erosion of agricultural land			11			16			33			60
Present value of erosion												
0-20 yrs			20 to 50 yrs			50 to 100 yrs						
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)				
0	0	0	30	7,513	2,667	47	11,770	1,283	3,950			
Total Damages											4,010	

Other information

Source:	PV value (£k)
Notes:	Total WPM Damages (£k) 4,010

Economic Assessment

Policy Development Zone (PDZ)4

Management Area (MA): DUR.O

Location: Peveril Bay to Durlston Head (CH.129.3KM – 131KM)

Policy Units (PU): DUR.O.1 – Durlston Bay

Scenario: PREFERRED POLICY

Annual average damages (AAD):			PVd 2025 (£k)	PVd 2055 (£k)	PVd 2105 (£k)	Total Present Value (£k)		
Flooding damages			0	0	0	0		
Continuing erosion of agricultural land			11	16	33	60		
Present value of erosion								
0-20 yrs			20 to 50 yrs			50 to 100 yrs		
No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)	No. properties	Total Valuation (£k)	PV for epoch (£k)
0	0	0	30	7,513	2,667	47	11,770	1,283
Additional damages:								
Total Damages								4,010

COSTS

Present management assessment

Source:	PV value (£k)
Notes:	

Preferred Policy

Description	PV value (£k)
A limited intervention approach under a managed realignment policy – this would not preclude local drainage improvements being made to better manage the erosion risk to homeowners. It would be anticipated that joint or collaborative funding would be sought for such works – as such no cost has been assigned by the SMP.	
Notes:	