

## 4.6 Policy Development Zone 5 – South-west Coastline (PDZ5)



*Left to right: View along the eroding south-west coast of the Isle of Wight from near Blackgang in 2009 (N.Dix); Erosion of the car park behind Compton Bay, 2006.*



## 4.6 Policy Development Zone 5 – South-west Coastline (PDZ5)

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#### Key facts:

Policy Development Zone 5: includes the coastline near Chale, Brighstone, Brook, Compton and Afton Down.

PDZ5 frontage = approximately 17km in length

PDZ5 boundaries = From Chale Terrace (near Blackgang) in the east to Afton Down in the west (the eastern margin of Freshwater).

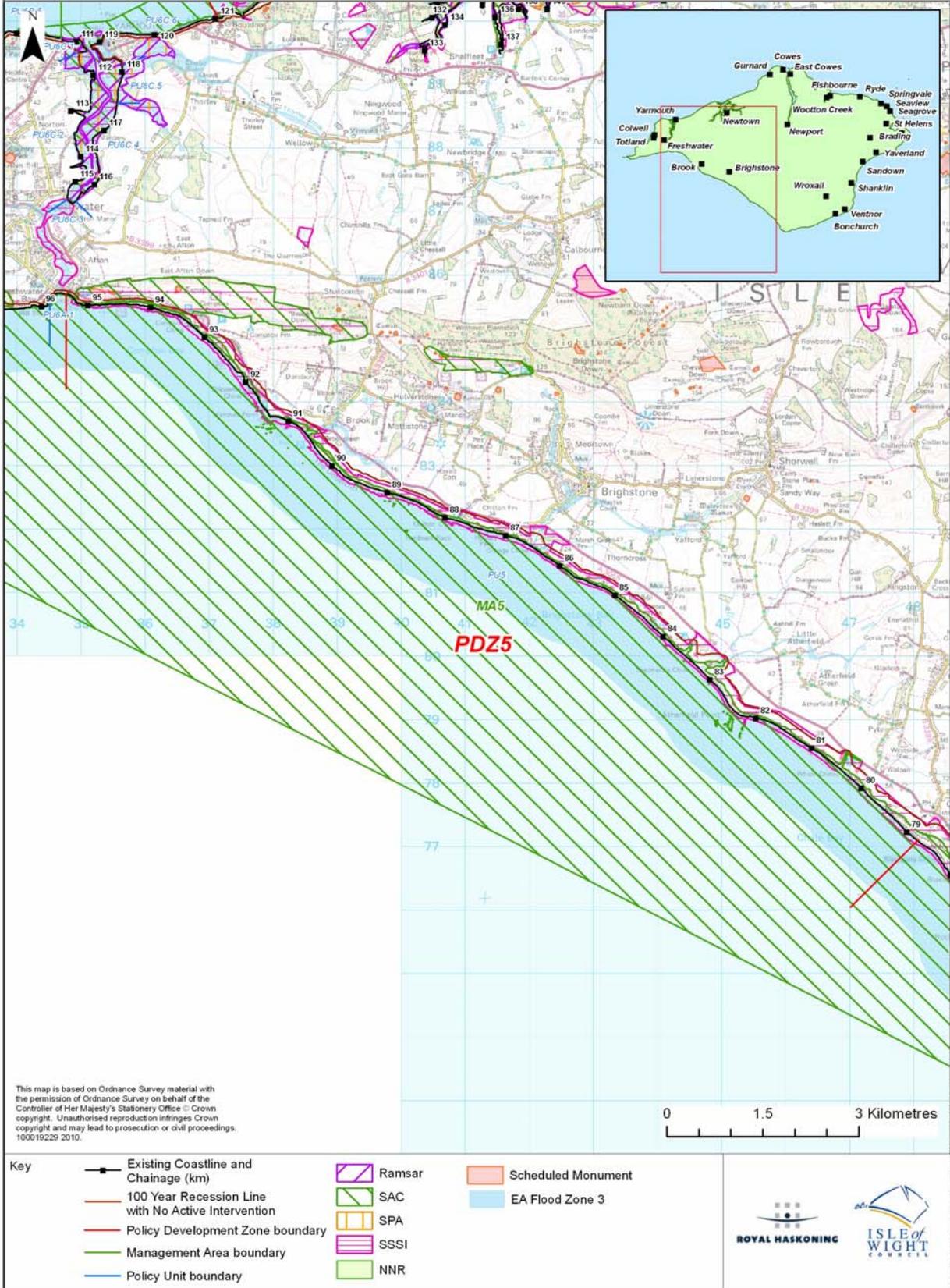
As listed in SMP2 Appendices: area IW40

#### Old policies from SMP1 in 1997, reviewed in this chapter:

Unit	Location	Length	Policy
<i>FRE1</i>	St. Catherine's Point to Brook Chine	14391m	Do nothing
<i>FRE2</i>	Brook Chine to Compton Chine	2115m	Do nothing
<i>FRE3</i>	Compton Chine to Freshwater Bay	1862m	Do nothing

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**Shoreline Management Plan Sub Cell 5D + E - Isle of Wight**  
**Baseline Location Map**  
**Policy Development Zone 5 - South-West Coastline**



## 1. Overview & Description

### 1.1 Principal Features (further details are provided in Appendix D)

#### ***Built Environment:***

This long stretch of natural coastline is relatively undeveloped. There are small communities at Brook Green and Chale as well as scattered properties near the cliff tops. Most of the land is agricultural. The A3055 runs the length of this stretch of coastline and is a key transport link for tourism and industry connecting the West Wight to South and East Wight. Coastal access is via the popular cliff top coastal footpath and footpaths linking to the main road.

#### ***Heritage and Amenity:***

##### *Heritage:*

The rapid erosion of this coastline in the last 15,000 years has left many shipping hazards offshore in the form of reefs and boulders that are shallow and often exposed at spring low tides. This has led to 170 recorded shipwrecks in this unit. There are also 5 air wrecks, now Military Remains Protected Places. The south-west coast is the longest open coastal unit within this review and contains important palaeoenvironmental deposits related to the Old Western Yar, a former tributary of the Solent River, which are visible at various locations along the coast. The river deposits were first examined in detail in the 1930s but it was only in 2007 that radiocarbon dates of 8540-8290 cal BC and 8330-8250 cal BC were obtained for the organic sediments. Archaeological sites tend to be associated with the former river valley, or clustered around the chines and on high points along the coast. Prehistoric material includes find spots of worked flints and hearths comprising pits or lenses of burnt stones and charcoal. Two Bronze Age urn cemeteries have been recorded at Barnes High and Hanover Point, and Roman occupation sites are known from Atherfield, Grange Chine, Barnes High and Sudmoor. There are 273 monument records within 300-400m of the eroding cliffs, ranging in date from the Palaeolithic onwards. This PDZ contains 2 Scheduled Monuments, one a mound of unknown age and the other a barrow cemetery on Afton Down comprising of a Neolithic long barrow surrounded by Bronze Age round barrows. The Barrow Cemetery is located within a golf course and is well inland, although can be considered in long-range planning. The mound to the North West of Sudmoor is located on more rapidly eroding sandstones, although still around 200m inland. The Brook Green character area of the Brook Conservation Area includes the coastal area between the National Trust car park and the Military Road.

##### *Amenity:*

The south-west of the Isle of Wight has a beautiful coastline that is popular with visitors and residents alike. From Blackgang through to Freshwater the cliff top is largely grade 3 agricultural land, with small pockets of development. Several holiday camps are sited on the coast in this area, along with scattered farms and houses, the only residential concentration being at Brook Green. The A3055 Military Road runs along this stretch, roughly parallel with the coast and is a popular tourist route on the Island due to the scenic views. The cliffs along this unit are entirely undefended by hard structures and are actively eroding. Cliff heights vary from about 100m near Blackgang to as low as 10m in a few areas and the cliffs are used by paragliders. A narrow but significant beach of sand and shingle fronts the long shoreline; this is used by surfers, fossil hunters, anglers and walkers.

The busiest stretch of the coast is generally at Compton where access to the beach is easy from the National Trust car park, but along the coast there are several other parking areas with paths to the beach which use the chines as access routes, as well as a continuous cliff top coastal path. Compton beach is very popular with surfers. Isle of Wight Pearl, a popular coach stop for visitors is also within this section along with the Dinosaur Farm Museum. The golf course at Afton Down is located on the clifftops behind the Military Road.

#### ***Nature Conservation:***

The entirety of this coastline comprises of soft sandstone and clay cliffs that are prone to landslide slumps. The coast in this PDZ is of particular importance for its geomorphology, and demonstrates a diversity of coastal landforms that reflect varying geology, the changing intensities of coastal processes,

as well as the differing timescales of coastal evolution. The tops of the cliffs are dry heathland and Chalk grassland, with sea cliff vegetation on the exposed cliffs edges. The intertidal area is formed from landslide debris and exposed clay bedrock, and sandstone and chert boulders that provide a diverse range of intertidal habitats and are of high marine conservation interest. The subtidal harbours a range of rocky reef types, including sandstone, clay/mudstone, greensand and Chalk bedrock, which support diverse red algal communities and kelp beds. There are also large ecologically important littoral sea caves in the Chalk cliffs around Compton Chine that host rare algal species specific to this type of habitat.

This PDZ sits within the South Wight Maritime SAC and Compton Chine to Steephill Cove SSSI. There is also a second SAC along the western end of the PDZ, from Compton Chine to Freshwater Bay, known as the Isle of Wight Downs SAC. This area is designated for its vegetated sea cliffs, European dry heaths, and semi-natural dry grasslands and scrubland faces on calcareous substrates.

## 1.2 Key Values

The key values in this area are the overriding importance of the natural landscape and scenery, nature conservation designations, unique geology and the continuous sediment supply from the eroding cliffs (which controls the behaviour of the beaches and feeds the longshore drift system to the east, anti-clockwise around the Isle of Wight). It is a popular coastline for tourism use.

Important features of the area are the A3055 Military Road running adjacent to the coastal cliffs along the length of the PDZ, and also the nearby cliff-top coastal footpath. This is a popular tourist route –one of the most spectacular sections of the ‘round the island’ coastal road for visitors, whilst it also provides access to the scattered coastal communities and properties which will be significantly affected by future breaches in the line of the coastal road. The road has been set-back and maintained at several locations, marking a substantial investment, but the road is now threatened near Brook, where the carriageway is located approx. 5m from the weak cliff edge (in November 2010) after recent failures in this area. The carriageway has been limited to single-width at this point for safety reasons. Realigning the road or upgrading and widening an alternative inland route will require further substantial investment. There will be local specific issues where small communities and properties lie adjacent to the changing coastline.

## 1.3 Objectives

*Overarching objectives for PDZ5:*

- To maintain and enhance the essential natural landscape of the area.
- To support and enhance the nature conservation value of the area and the geological significance of one of the finest Cretaceous successions in the world.
- To maintain access to and along the coastline by providing opportunity for adaptation and realignment of the coastal road.
- To support adaptation of access to the shoreline.
- To support opportunity for adaptation of local communities along the frontage.
- To sustain the historic landscape and environment where practicable.

## 1.4 Description

This 17km section of scenic open coast is characterised by undefended soft rock cliffs, generally 10-30m in height, which are undergoing rapid erosion and cliff retreat. Behind the cliff line of clays, marls, shales and sandstones, the south-west coast is fairly flat and undeveloped, characterised by agricultural land with scattered properties and the A3055 main road and coastal footpath. A distinctive feature of the coastline is the presence of a number of deeply incised coastal valleys, or chines, that interrupt the continuity of the cliffs and often provide access to the beaches.



*Right: View from Compton Bay Car Park north-west towards the Chalk ridge. The settlement of Freshwater Bay is located at the low point in the Chalk cliffs. July 2006.*

Properties at Chale Terrace (at the eastern limit of the PDZ) have been demolished over the years as the cliff has retreated. To the west the road at Brook is at imminent threat from erosion. The eroding cliffs are protected as SSSIs and are valuable for their geological interest. There are scattered local tourist attractions in this PDZ including coach stops and holiday park camping facilities.



The cliff height rises significantly at Blackgang in the east and along the Chalk cliffs of Afton Down in the west, providing scenic vantage points to view this unspoilt natural environment. The stretch of coastal road along the Chalk clifftop at Afton Down cannot be realigned inland due to the nature conservation interest, therefore two sections of the road were stabilised by deep piles and ground anchors in 2003 to maintain the road in its current alignment for 50 years, whilst cliff-face erosion continues below.

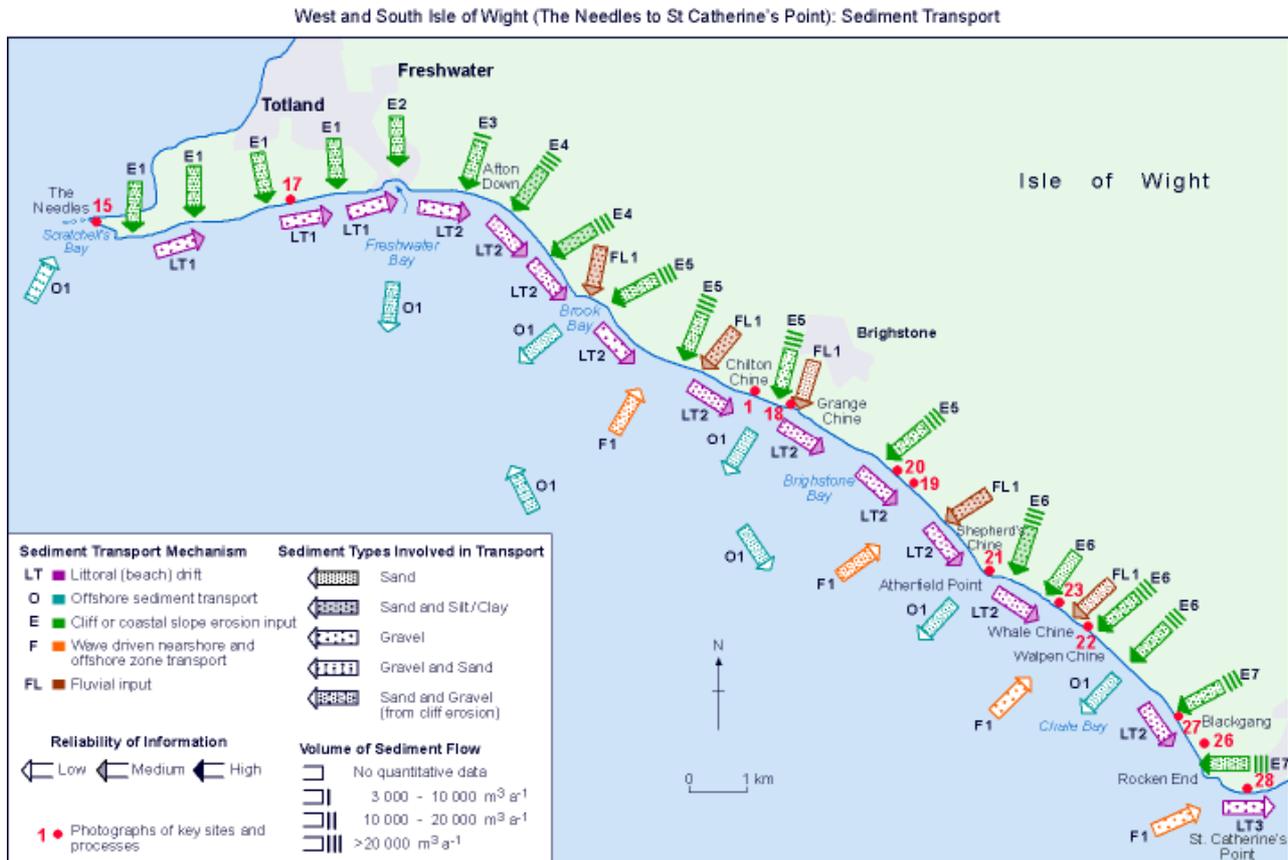
*Left: Whale Chine and the cliffs of the south-west coast (Isle of Wight Council).*

The unspoilt and spectacular scenery of the PDZ is popular with holidaymakers, families, walkers, surfers and fossil-hunters. The underlying geology of the area is continuously exposed in eroding coastal cliffs, including exposures of the Wealden beds (approximately 120 million years old) which (alongside a shorter length at Yaverland) have over the years revealed significant dinosaur remains, often species unique to the Isle of Wight.

## 1.5 Physical Processes

### 1.5.1 Coastal Processes (further details are provided in Appendix C1).

This PDZ includes the exposed south west coast of the Island from Chale to Freshwater Bay. The general pattern of sediment movement is summarised in the following diagram from the SCOPAC Sediment Transport Study.



*Sediment transport sources, pathways and sinks on the south-west coast, from SCOPAC Sediment Transport Study, 2004.*

This frontage occupies one of the most exposed locations on the south coast of England with long fetches in excess of 4,000km to the south-west extending directly into the north-east Atlantic as well as shorter fetches to the south across the English Channel. It is exposed to significant swell wave activity as well as to energetic locally-generated wind waves. The well-documented history of shipwrecks along this largely unprotected rugged coast is a testimony to this fact.

Tidal range is small so that wave energy is concentrated over a limited vertical range. However, the shallow nearshore and shore platform provides for some dissipation and breaking of very large waves a distance offshore. Wave exposure and the steepness of the nearshore profile are greatest towards the south-east so that Chale Bay experiences the most energetic shoreline wave conditions.

As a general trend, beaches consist of a gravel backshore and sandy foreshore, and progressively steepen between Freshwater Bay and Chale. The beaches are rarely high or well developed, affording very limited protection to cliff toes. The gravel component becomes more dominant in this direction, although the median grain size of coarse clastic material gets smaller in a south-eastwards direction.

In the west the Chalk of Afton Down forms high, steep rockfall-dominated cliffs that retreat at slow to modest rates. The main central portion of the frontage, formed in soft Lower Greensand and Wealden clays and sands, forms rapidly eroding cliffs typically adopting simple landslide morphology. Local transitions to complex landslides and rockfall-dominated forms also exist. Between Compton Down and Hanover Point, recession has been at moderate rates, although there are examples in recent years of high to extreme recession of the cliff top associated with rotational or translational failures in areas where ground conditions are especially favourable for landsliding. Between Hanover Point and Atherfield Point, there has been long-term recession at moderate rates, although some localised areas of high recession in recent decades have been associated with low cliffs eroding back into soft sediments e.g. Brook Bay. From Shepherds Chine to Chale, there have been moderate to high rates of recession. This section is possibly more exposed to wave action where deep water extends closer inshore off Atherfield Point. In the south-east the high cliffs around Chale and Blackgang are unstable and accelerate in recession rates. They can be expected to become increasingly active in future, eventually leading to new backscar failures. Upper Greensand overlies Gault Clay and interbedded sandy and clayey strata in a major landsliding-generating sequence, resulting in a complex landslide behaviour characterised by periodic cliff top recession events. Many other soft rock cliffs along this coast are also likely to be susceptible to accelerating recession, as all the cliffs along this PDZ are sensitive to heavy winter rainfall promoting higher pore water pressures within permeable strata, potentially triggering failures. The cliffs are also sensitive to sea-level rise that could increase toe erosion and result in increased landsliding and retreat of the cliff top.

It is known that the erosion of this coast yields substantial quantities of sediments making it an important regional source. Accelerated landsliding and cliff recession would considerably increase the delivery of sediments to the shoreline.

***Unconstrained scenario:***

The 'unconstrained' scenario provides a vision of how the coast could evolve if not controlled by man-made structures such as coastal defences. This is a key step in understanding the 'natural' response of the coast.

Continuation of cliff toe erosion and cliff top recession will occur throughout this frontage, resulting in continued coastal retreat. Large quantities of sediment will continue to be delivered to the shoreline and transported to other areas. Moderate to high rates of recession are likely to be characteristic of this frontage for the foreseeable future because any tendency for self-regulation of recession is likely to be extremely limited. This is because the widening shore platform is unlikely to significantly increase the dissipation of wave energy over the next 100 years or longer and the majority of the sediments delivered by cliff erosion are removed from the shoreline and do not afford protection against wave attack.

### **1.5.2. Existing Defences**

This frontage is undefended and erosion threatens infrastructure / properties at various points. At Afton Down cliff top stabilisation works (in the form of deep piles and ground anchors into the Chalk) were completed in 2003 which stabilised the cliff top carriageway and secured two sections of the road link for approximately 50 years.

### **1.5.3 Potential Baseline Erosion Rates**

The SMP reviewed a wide range of data to define the current and potential rates of coastal erosion and cliff retreat along the Isle of Wight coast using the best available information. Full details can be found in Appendix C3. Future erosion rates are predicted using Walkden & Dickson formula (2008) and allow for future sea level rise –the full methodology is explained in the Appendix.

Predicted sea level rise rates of 4mm/yr (to 2025), 8.5mm/yr (to 2055), 12mm/yr (to 2085) then 15mm/yr (to 2105) have been used, in accordance with SMP national guidance by Defra. These rates equate to 7cm of sea level rise (above the 2009 baseline) by 2025, 32cm by 2055 and 98cm by 2105. The IW numbering units refer to lengths of coast for which future behaviour is described and mapped in Appendix C (based on SMP1 and Strategies). These are not SMP2 policy units which are developed in section 3 below.

Potential total erosion over the next 100 years is shown, however it is important to note that this is an estimate that is based on an undefended coastline. Within Appendix C3, these erosion rates are only applied following the predicted failure date of each individual element of the defences within the unit; therefore the resulting erosion amounts shown in the Appendix C3 tables and maps (and used in the development of this SMP) will show smaller erosion totals than the overview provided below.

**Potential coastal erosion rates (all figures in metres/year):-**

Numbering in SMP2 Appendices (2010) (area and name, clockwise)		Historical Rate	Current to 2025	2025 to 2055	2055 to 2085	2085 to 2105	Potential 100 year erosion (if undefended) -total in metres
40 - South-west coast	Chale to & including Atherfield Clay	0.75	0.86	1.14	1.33	1.44	120
	Atherfield Clay to Compton Chine	0.50	0.58	0.76	0.88	0.96	80
	Compton Chine to Freshwater	0.30	0.35	0.46	0.53	0.58	48

Note:

- i) Erosion rates have been determined from monitoring data and examination of historical records and have been calculated to take account of sea level rise. –see Appendix C3 for details.
- ii) The IW numbering units refer to lengths of coast described in Appendix C . These are not SMP2 policy units.

## **2. Baseline management scenarios**

### **2.1 Present Management**

Present management of the shoreline is taken as the policy defined by SMP1, modified by subsequent strategies or studies. It should be noted that in the case of SMP1 the period over which the assessment was carried out was 50 years. SMP2 extends this to an assessment period of 100 years. The table below sets of the current shoreline management policies for Policy Development Zone 3. This SMP2 will assess all the available evidence and update these previous management policies.

The key documents outlining the present management of the shoreline in this PDZ are:-

#### **Isle of Wight Shoreline Management Plan 1 (1997)**

The first Shoreline Management Plan (SMP1) for the Isle of Wight 's coast was published in 1997. It consists of two volumes.

- Volume 1 is the 'Data Collection and Objective Setting', which presents information on a range of topics including coastal processes, natural environment, etc.
- Volume 2 is the 'Management Strategy', which presents information for each Management Unit around the Island's coast and sets a management Policy for each unit.

#### **Coastal Defence Strategy Studies, Isle of Wight:**

Whilst the Shoreline Management Plan provides the risk framework for management of the coast, Coastal Defence Strategy Studies provide a more detailed assessment of particular frontages in order to identify the most suitable type of coastal defence schemes that may be required to fulfil the agreed shoreline management policy and to plan a programme of future works.

#### **West Wight Coastal Defence Strategy Study**

A Coastal Defence Strategy Study for the West Wight Coastline will be completed following the publication of SMP2.

#### **Catchment Flood Management Plan:**

The Environment Agency has undertaken a programme of Catchment Flood Management Plans (CFMPs) for the major river catchments in the Southern Region. A CFMP is a large scale plan that covers an entire river catchment or group of catchments that identifies long-term, sustainable policies to manage flood risk within the catchment. These policies form the basis for development of Strategy Plans, covering all or part of the overall catchment area, which will identify in more detail appropriate flood defence measures.

Whilst CFMPs principally address fluvial (river) flooding, SMPs address tidal (sea) flooding, alongside coastal erosion. The Isle of Wight Catchment Flood Management Plan (Summary Report) was published in December 2009.

- Sub Area 2: Newtown River and the Chines

*“The issues in this sub-area: There is a relatively low risk of fluvial flooding. Surface water flooding occurs in some urban areas due to the capacity of drains being exceeded. Nearer the coast, river flooding may be affected by high tide levels, which will get worse with predicted future sea level rise. Only modest urban development is planned.”*

Policy Option 2 – areas of low to moderate flood risk where we can generally reduce existing flood risk management actions.

**The previous shoreline management policies set for this PDZ are listed in the table below:**

The IW numbering unit refers to a length of coast for which previous shoreline management policies were set in SMP1, modified by subsequent Strategy Studies (where available), used to gather information in the Appendices. These are not SMP2 policy units which are developed in section 3 below.

<b>Numbering in SMP2 Appendices (2010)</b>		<b>SMP1 (1997)</b>	
<b>IW Unit (clockwise)</b>	<b>Name</b>	<b>Unit</b>	<b>Policy</b>
IW40	South-west coast	FRE1	Do nothing
		FRE2	Do nothing
		FRE3	Do nothing

## 2.2 Baseline Scenarios for the Policy Development Zone

Progressive erosion and retreat of the coastal cliffs will breach the existing line of the 'round the island' coastal road and footpath, and affect access to the scattered communities and properties along this largely undeveloped coastline.

### 2.2.1 No Active Intervention (Scenario 1, NAI):

This 17km section of coast is characterised throughout by eroding soft rock cliffs approximately 10-30m high undergoing rapid erosion and episodic cliff retreat, which will continue throughout all three epochs under a scenario of 'No Active Intervention'. This will maintain the important landscape of the area (Area of Outstanding Natural Beauty and Heritage Coast), support the aims of the geological designation (Compton Chine to Steephill Cove SSSI) and allow the nature conservation interests (reefs, vegetated sea cliffs and dry grasslands of the South Wight Maritime and Isle of Wight Downs SACs) of the area to adapt naturally.

Erosion of the flat and agricultural land will impact on the popular coastal footpath following the line of the coastal cliffs and require realignment. At Brook the A3055 main road will be lost by cliff retreat during the first epoch, followed later by adjacent sections. The road will require local realignment or alternative inland routes will require upgrading. Severing of the coastal road will limit access to scattered properties and impact on the amenity use of the area which is currently a spectacular section of the 'round the Island' coach route. Ongoing cliff retreat will also impact on the archaeological heritage of the area, though these tend to be on the high points along the coast, with the greatest interests further inland. Furthermore, due to the nature of the deposits exposed by the retreating cliff tops, there is often opportunity to record the sites before they are lost to erosion (subject to availability of resources for monitoring, recording and analysis, including scientific dating).

A distinctive feature of the coastline is the presence of a number of deeply incised coastal valleys, or chines, that interrupt the continuity of the cliffs and which form part of the vegetated sea cliffs interest feature of the South Wight Maritime SAC (and Geological SSSI). Erosion may steepen the chines and will potentially affect access to the beaches from the first epoch if retreat at their landward extents does not keep pace with increasing coastal erosion rates. Where Military Road crosses the chines, drainage is impeded by the current arrangement of culverts (underneath the road), which are interrupting headward (fluvial) erosion, and is likely to worsen over time. This means the vegetated sea cliffs cannot naturally migrate inland, and are becoming reduced in length as the sea continues to erode the sea facing cliffs (i.e. coastal squeeze). A policy of NAI will not in itself adversely affect these chines, but rather when the road needs moving back, so will the culverts.

Several properties are at risk in the second and third epochs at Atherfield Coastguard Cottages, Atherfield Holiday Centre, Brighstone Holiday Centre, Chilton Chine, Brook Green and on the outskirts of Freshwater. They may also be affected by reduced access or loss of access dependent on when and where breaches in the road occur.

In the second and third epochs under the NAI scenario sea-level rise or downcutting of shore platforms will create conditions for acceleration of cliff retreat, triggered by increases in winter rainfall and the impact of coastal storms. Increasing cliff recession rates and slumping will supply increasing amounts of sediments to the reefs below and beaches and shorelines to the south-east. Relatively resistant headlands such as Atherfield Point and Hanover Point may become more pronounced with faster erosion in the bays between them. The coastal slopes of Compton Bay will be affected by increasing slope failures and cliff top retreat, to which amenity use and access to the area will need to adapt.

The retreat of the Chalk cliff top at Afton Down has already created a problem for maintaining the A3055 road at two sections where the carriageway could not be retreated due to the nature conservation interest of the maritime-influenced Chalk grassland inland. Engineering support piles and ground anchors were installed in 2003 to support the road. However, the works are contained entirely within the cliff top, placed at the seaward edge of the carriageway, and with NAI the cliff foot and 70m high cliff face will continue to erode naturally, slowly exposing half the height of the piles through the first and second epochs, whilst maintaining the coastal road. In the third epoch, the structure will be removed once the lower half of the piles becomes exposed (or fail under a NAI scenario), allowing the small areas of retained Chalk to erode through further rockfalls and 'catch-up' to the natural cliff top line. The undefended cliff base will have evolved and retreated naturally throughout all three epochs in-keeping with the character of the area. Continued cliff recession will induce shallow slides within upslope head deposits that could affect nearby sections of the main road and large tension cracks landward of the cliff top will be an indication of incipient large-scale toppling failures, perhaps involving cliff top losses of 5-15m within single events. Cliff height will increase through the third epoch as the cliff cuts back into the slopes of Afton Down.

Through the second and third epochs the main coastal road (the only road) may be severed at several locations within PDZ7, but at most locations there is opportunity to setback and realign the road, a local management decision.

### **2.2.2. With Present Management (Scenario 2, WPM):**

There are no defences along this policy development zone and therefore the cliff behaviour will be the same as the 'No Active Intervention' scenario described above. Until recently there have been periodic engineering works to realign and retreat the A3055 main road, but the Isle of Wight Council will review this decision in 2010.

### Table 1a. Economic Assessment –Erosion damages

The following table provides a brief summary of damages determined by the SMP2 MDSF analysis for the whole PDZ. Further details are provided in Appendix H. Where further, more detailed information is provided by studies, this is highlighted. The table aims to provide an initial high level assessment of potential damages occurring under the two baseline scenarios.

#### ASSESSMENT OF EROSION DAMAGES

Epoch	0 -20 year			20 – 50 years			50 – 100 years			
No Active Intervention	Number of properties:		Value	Number of properties:		Value	Number of properties:		Value	PV Damages
Location	Residential	Commercial	x £1000	Residential	Commercial	x £1000	Residential	Commercial	x £1000	(£x1000)
Central Chale Bay to Afton Down	0	2	3	5	13	1095	11	44	4021	691
<b>Total for PDZ5</b>										<b>691</b>
With Present Management	Number of properties		Value	Number of properties		Value	Number of properties		Value	PV Damages
Location	Residential	Commercial	x £1000	Residential	Commercial	x £1000	Residential	Commercial	x £1000	(£x1000)
Central Chale Bay to Afton Down	0	2	3	5	13	1095	11	44	4021	691
<b>Total for PDZ5</b>										<b>691</b>
Notes										
SMP.										

**Table 1b. Economic Assessment –Flood damages**

Please note: No flood damages reported by MDSF for PDZ5.

**ASSESSMENT OF POTENTIAL FLOOD RISK**

	Flood risk tidal 2010			Flood risk tidal 2060			Flood risk tidal 2110			
<b>No Active Intervention</b>	No. of properties		AAD x £1000	No. of properties		AAD x £1000	Number of properties		AAD x £1000	PVD (£x1000)
<i>Location</i>	< 1:100yr	>1:100yr		< 1:100yr	>1:100yr		< 1:100yr	>1:100yr		
Central Chale Bay to Afton Down	0	0	0	0	0	0	0	0	0	0
Agricultural Total										
<b>Total for PDZ5</b>										0
<b>With Present Management</b>	No. of properties		AAD x £1000	No. of properties		AAD x £1000	No. of properties		AAD x £1000	PVD (£x1000)
<i>Location</i>	< 1:100yr	>1:100yr		< 1:100yr	>1:100yr		< 1:100yr	>1:100yr		
Central Chale Bay to Afton Down	0	0	0	0	0	0	0	0	0	0
Agricultural Total										
<b>Total for PDZ5</b>										0

## Table 2. General Assessment of Objectives

The following table provides an overall assessment of how the two baseline scenarios impact upon the overall objectives agreed by stakeholders. These objectives are set out in more detail within Appendix E. The table aims to provide an initial high level assessment of the two baseline scenarios, highlighting potential issues of conflict. These issues are discussed in the following section, examining alternative management scenarios from which SMP2 policy is then derived.

STAKEHOLDER OBJECTIVE	NAI			WPM		
	Fails	Neutral	Acceptable	Fails	Neutral	Acceptable
To maintain and enhance the essential natural landscape of the area			Acceptable			Acceptable
To support and enhance the nature conservation value of the area and the geological significance of one of the finest Cretaceous successions in the world.			Acceptable			Acceptable
To maintain access to and along the coastline by providing opportunity for adaptation and realignment of the coastal road.		Neutral			Neutral	
To support opportunity for adaptation of local communities along the coast.	Fails			Fails		
To sustain the historic landscape and environment where practicable.		Neutral			Neutral	

### **3. Discussion and detailed policy development**

The discussion provided above of the two baseline scenarios highlights, foremost, that even with the present management of the naturally evolving coastline some of the high level objectives are not being achieved. Interestingly, there is no management intent along this section of coastline that would be successful in delivering a plan that protected the road and access to rural communities, was economically justifiable, while allowing natural processes along the designated cliffs to continue.

Therefore the policy along this area is No Active Intervention in all three epochs, to preserve the essential natural character of the area and maintain sediment supply from the eroding cliffs, also due to the limited number of assets at risk. The management intent at Strategy level can focus on supporting both the Isle of Wight and these communities through coastal adaptation during the first and second epochs. Maintaining the unbroken length of undefended eroding cliffs is an essential component of the NAI management intent of this area and the local loss of scattered features along the coastline, though important, is not sufficient to justify an alternative fragmented approach to shoreline management.

## PDZ5 Management Area Statements

- **Central Chale Bay to Afton Down (MA 5)** includes one policy unit.

Within these areas a summary of policy is provided below. Management Areas statements are provided in the following sheets, with maps showing each area.

Location reference	Central Chale Bay to Afton Down
Management Area reference	MA 5
Policy Development Zone	PDZ 5

The following descriptions are provided to assist interpretation of the maps shown of each Management Area.

\* Note: Predicted shoreline mapping is based on a combination of monitoring data, analysis of historical rates and geomorphological assessment with allowance for sea level rise. Due to inherent uncertainties in predicting future change, these predictions are necessarily indicative. For use beyond the purpose of the shoreline management plan, reference should be made to the baseline data (see Appendix C3).

### 100 year shoreline position:

The following maps aim to summarise the anticipated position of the shoreline in 100 years under the two scenarios of “With Present Management” and under the “Preferred Policy” being put forward through the Shoreline Management Plan.

 In some areas the preferred policy does not change from that under the existing management approach. In some areas where there are hard defences this can be accurately identified. In other areas there is greater uncertainty. Even so, where the shoreline is likely to be quite clearly defined by a change such as the crest of a cliff the estimated position is shown as a single line.

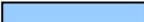
- Where there is a difference between With Present Management and the Preferred Policy this distinction is made by showing two different lines:

 With Present Management.  
 Preferred Policy.

-  In some areas, the Preferred Policy either promotes a more adaptive approach to management or recognises that the shoreline is better considered as a width rather than a narrow line. This is represented on the map by a broader zone of management:

### Flood Risk Zones:

All flood risk zones are based upon the current tidal EA Flood Zone 2. This is an extreme flood event (1:1000 year at current levels) meaning that it has 0.1% chance of occurring each year.

 General Flood Risk Zones. The explanation of these zones is provided on the Environment Agency’s web site [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk). The maps within this SMP document show where SMP policy might influence the management of flood risk.

 Indicate areas where the intent of the SMP policy is to continue to manage this risk.

 Indicate where over the 100 years the policy would allow increased risk of flooding.

The maps should be read in conjunction with the text within the SMP document.

Note: This Management Area corresponds to IW40 in selected Appendices.

**Policy Development Zone 5 - South-west Coastline  
Management Area 5 - Chale to Freshwater Bay (Ch 79 - 96)**

- Key**
- Policy Development Zone boundary
  - Management Area boundary
  - Policy Unit boundary
  - Existing Coastline and Chainage (km)
  - Scheduled Monument



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**Key 100 Year Shoreline Position:**

- Preferred Policy would be the same as With Present Management
- With Present Management where this differs from the Preferred Policy
- Preferred Policy where this differs from the With Present Management
- Indicative shoreline zone under the Preferred Policy
- Existing Indicative EA Flood Risk Zone 2
- EA Flood Risk Zone 2 where SMP policy is for continued management of defence
- EA Flood Risk Zone 2 where under SMP policy there would be increased probability of flooding



## SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION

### PLAN:

The overriding intent of the plan is to maintain the important nature conservation, geological and exceptional landscape quality of the area. The policy for the frontage is for No Active Intervention, with cliff erosion and retreat. There are no issues that conflict with this approach.

PREFERRED POLICY TO IMPLEMENT PLAN:	
<b>From present day</b>	No Active Intervention
<b>Medium term</b>	No Active Intervention
<b>Long term</b>	No Active Intervention

### SUMMARY OF SPECIFIC POLICIES

Policy Unit (& length)		Policy Plan			Comment
		to 2025	to 2055	to 2105	
<b>PU5.1</b>	<b>Central Chale Bay to Afton Down</b> (16,663m)	NAI	NAI	NAI	Allow cliff erosion, support the geological designation, abandon current A3055 and re-route.
Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention MR – Managed Realignment					

### CHANGES FROM PRESENT MANAGEMENT

No change

### IMPLICATION WITH RESPECT TO BUILT ENVIRONMENT

Economics		by 2025	by 2055	by 2105	Total £k PV
<b>Property</b>	Potential NAI Damages/ Cost £k PV	3	326	361	691
	Preferred Plan Damages £k PV	3	326	361	691
	Benefits £k PV	-	-	-	-
	Costs of Implementing plan £k PV	0	0	0	0

The economic viability of the preferred plan for this Management Area is not applicable since the benefits and costs of implementation are both zero. There will be no need to justify any flood and coastal erosion risk management expenditure.

