CORNWALL & ISLES OF SCILLY

Shoreline Management Plan

Revision 2

September 2010

Isles of Scilly

Management Zones PDZ18, Management Areas 42-46

PDZ:18	Isles of Scilly	Management Area 42 Management Area 43 Management Area 44 Management Area 45 Management Area 46

Isles of Scilly

The Isles of Scilly is an archipelago of around 140 islands that emerge from the Atlantic around 45km west of Land's End, formed from the remnants of an upstanding granite landform linked to Cornwall. Of the 140 islands the five main inhabited islands are considered within the SMP and this Policy Development Zone area. These islands are:

- St Mary's
- Tresco
- Bryher
- St Martin's
- St Agnes

The very location of Scilly makes it a unique place to live or to visit. All of the islands display an extremely strong sense of community and this cohesion and sense of identity within the local population could be seen as one of Scilly's greatest assets. The archipelago combines areas of wild, exposed coastline, open to the full energy of the Atlantic, with extremely sheltered nearshore areas of white sand and shallow blue

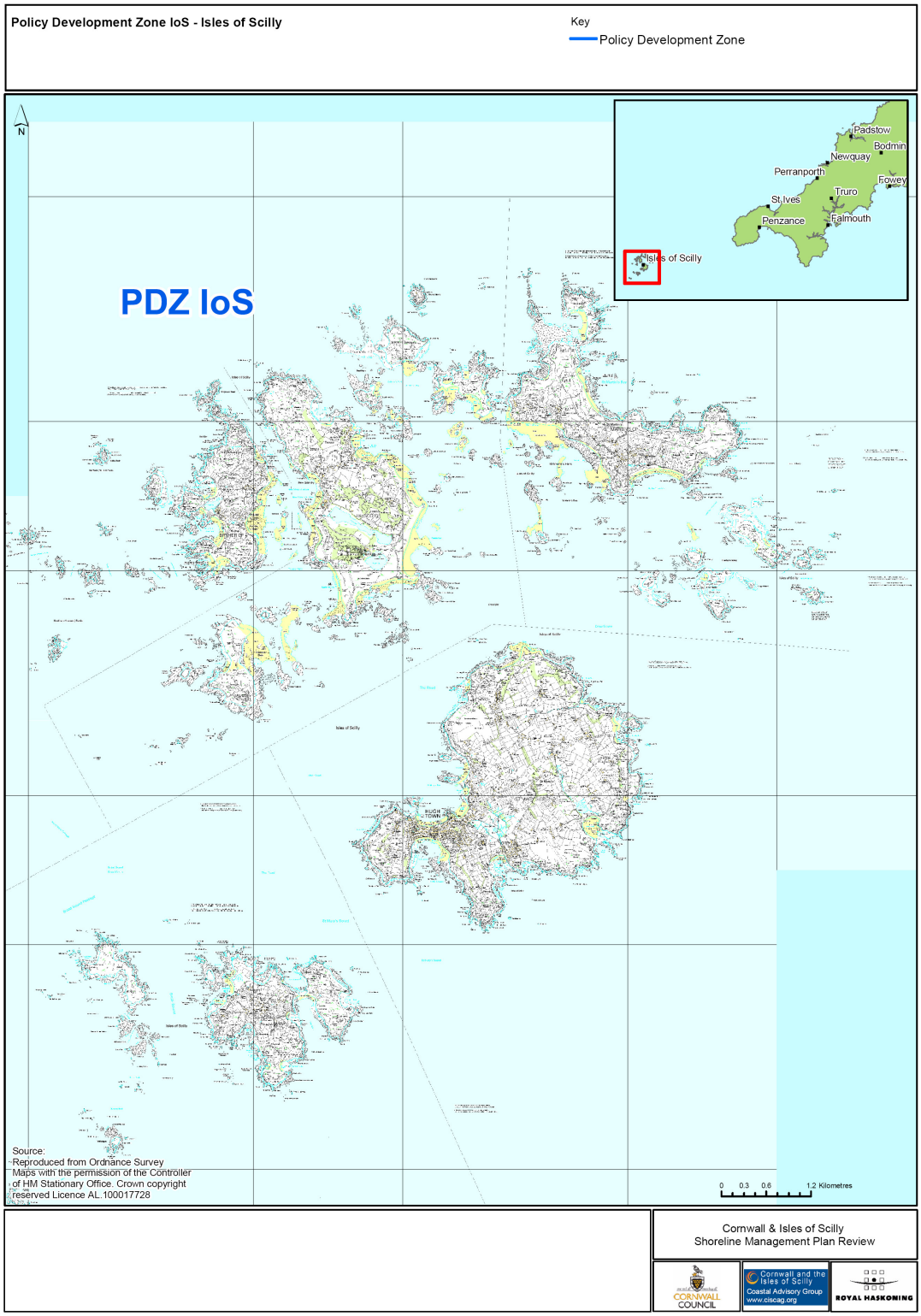
seas more reminiscent of a tropical location than the UK. The entire archipelago is owned by the Duchy of Cornwall although there are residential parts of St Mary's which are held by private landowners and the Island of Tresco is wholly leased to (and managed by) another organisation.

The largest inhabited island is St Mary's which is home to the main settlement of the islands, Hugh Town. Hugh Town is built for the most part on a low sandy iszmuth which connects the two granite islands that form St Mary's.

St Martins is the most northerly of the populated Isles of Scilly and lies 2.5km N-NE of St Mary's. It is surrounded by numerous smaller uninhabited islands and islets; particularly on its western and southern flanks.

Tresco and Bryher lie close to one another to the north-west of St Mary's. Numerous uninhabited islands and islets (including one of the large uninhabited islands, Samson, which is renowned for its archaeological interest), surround them. Bryher is more exposed than Tresco although its sheltered eastern shoreline has extensive sandy areas. The island of Tresco is to an extent managed separately from the other islands, under a long-term lease from the Duchy.

The most southerly of the inhabited Isles is St Agnes. Immediately to the east lies Gugh, a smaller island that is considered along with St Agnes as they are linked by coastal processes.


Policy Development Zone IoS - Isles of Scilly
Key
Policy Development Zone
N
PDZ IoS
Padstow
Bodmin
Newquay
Perranporth
Fowey
Truro
St Ives
Penzance
Falmouth
Isles of Scilly
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Coastal Advisory Group
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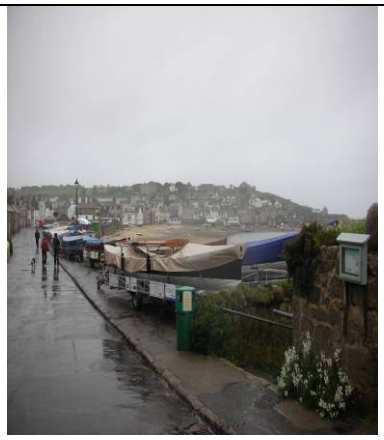
ROYAL HASKONING

General Description

Built Environment

The largest island**, St Mary's** is dominated by Hugh Town, the main urban area within Scilly. Much of its development is located at or around sea level and this is obviously an area where future strategies for adaptation will be required. The main harbour and quay area is located at Hugh Town – this includes the docking point for the Scillonian ferry link with the mainland (Penzance). The main airport serving the Isles is located on Salakee Down, above Old Town (the second largest settlement on St Mary's) and the Lower Moors area. Much of the rest of St Mary's is sparsely populated and rural, with flower cultivation the main focus.The population of **St Martin's** is small, with three areas of residential development existing at Higher Town, Middle Town and Lower Town, along the south-western shore of the island. New Grimsby and Old Grimsby are the principal areas of residential development on the island of **Tresco**, though there is no motorised vehicle infrastructure on the Island. The principle developed areas on **Bryher** are at The Town and Great Popplestones. The main settlements on **St Agnes** are Higher Town and Lower Town.



Heritage

The historic environment is of great importance to Scilly with many hundreds of Scheduled Monuments reflecting century's of inhabitation upon the Islands. The Garrison area upon St Mary's is one of the key sites managed by English Heritage within the SMP area. Also on St Mary's there are the remains of Old Town harbour and the historic church. Abbey Gardens on Tresco is a registered Historic Park and Garden. Across all of the Islands there are numerous Bronze Age barrows, chambered cairns, prehistoric settlement sites and field systems, some of which are submerged, and many under threat of coastal erosion. There are also numerous intertidal peat deposits.

The Isles of Scilly have the highest number of Scheduled Monuments at risk from coastal erosion in the entire South West Region. A strategy which can address the coastal change impacts on heritage assets needs priority.

Environment and Nature Conservation

The fact that the whole Isles of Scilly archipelago is recognised at European level as a Special Area of Conservation (SAC) underlines the huge importance of the natural environment, and the recognition that the coastline and the very location of the islands is what makes Scilly such a unique place. Further designations include the Isles of Scilly SPA and Ramsar designations. There are also a great number of SSSI designations spread across the Isles, listed below:

- Watermill Cove SSSI,
- Higher Moors & Porth Hellick Pool SSSI,
- Lower moors SSSI,
- Penninis Head SSSI,
- Porthloo SSSI;
- St Helen's SSSI;
- Tean SSSI;
- Porth Seal SSSI;
- White Island SSSI;
- St Martin's Sedimentary Shore SSSI;
- Plains & Great Bay SSSI;
- Eastern Isles SSSI;
- Shipman Head & Shipman Down SSSI;
- Norrard Rocks SSSI;
- Pool of Bryher & Popplestone Bank SSSI;
- Rushy Bay & Heathy Hill SSSI;
- Samson SSSI;
- Pentle Bay, Merrick & Round Islands SSSI;
- Great Pool SSSI;
- St Helen's SSSI;
- Annet SSSI;
- Gugh SSSI;
- Big Pool SSSI
- Browarth Point SSSI;
- Wingletang Down SSSI;
- Western Rocks SSSI;

Recreation and Amenity

Tourism is essential to the Isles of Scilly economy, generating an estimated 85% of income. Some core recreational activities are closely linked with the Isles, including bird watching, pilot gig racing, diving, and walking, visiting heritage sites and off island tours.

Key Values and Drivers

The resident's pride of being Scilly Islanders and the huge sense of belonging to a unique community cannot be understated. Dealing with the everyday risks associated with their exposed location in the Atlantic Ocean is an integral (and relished) part of daily life. With tourism being so essential to the economy, pride in the appearance and general tranquil 'feel' to the islands is inherent within the community.

- Interaction of the Island's with the sea and shore for the necessities of everyday life
- Hugely significant value of tourism to the Island's economy
- Impacts of sea level rise and natural processes which will change the very shape and nature of the shoreline
- Connectivity to the mainland for essential services and for tourism
- The identity of communities and the Island's themselves
- Potable water resources and impacts from sea level rise (particularly for St Agnes)
- Environmental designations and the view of Scilly as a 'Marine Park'.

Whilst shoreline management policies can attempt to manage overtopping and erosion risks to freshwater supply areas, they can not control other issues such as exceedance events, percolation through banks or saline intrusion though bedrock. These potential issues need to be considered in more detail as part of an overall strategy into freshwater supply for the entire archipelago.

Tourism is essential to the Isles of Scilly economy, generating an estimated 85% of income. Traditional activities of agriculture, horticulture and fishing also contribute directly to the economy, and through contributing to the landscape and human activity that tourists want to see. Flower farming is a primary source of income to Scilly and the narrow fields with high boundary hedges create a unique rural mosaic within the inner hinterland of each island.

The very high density of scheduled monuments and heritage sites is a key value within the Isles. The high level of erosion risk to many sites, particularly on the more sparsely populated islands needs to be considered as an important driver of policy and a strategy to deal with coastal change impacts on heritage assets is seen as a priority.

PDZ Management Intent

The high-level intent on Scilly must be based upon providing a framework of management which will support the adaptation of all island communities to the changing coastal conditions and developing their resilience to the impacts of climate change. However the techniques employed in doing so must be sensitive to the wider aspirations of bodies such as Natural England and the Wildlife Trust in managing the archipelago much as a fragile Marine Park eco-system.

These need to address both adaptions of current natural and man-made coastal defence systems, as well as planning for events that exceed the capacity of these systems.

Long-term strategies for adaptation of the populated areas to sea level rise (particularly at Hugh Town) need to be established. Managing these on-going, gradual pressures whilst protecting the very unique character of the islands which attracts both residents and visitors alike, is paramount. At the same time, planning for the impacts of a an extreme event which could present extreme flood risk, risk to life and potential damage to assets over one or two tidal cycles will be an essential part of the overall management approach.

There are therefore, significant coastal changes predicted for St Mary's that require Land Use Planning changes. To support the control, review and delivery of the planning response, a suitable Coastal Change Management Area should be defined that includes the Porthcressa, Portmellon, and Porth Hellick areas as a minimum, but may need to take in the whole island in order to be effective. This will need to be informed by a Flood and Coastal Management Strategy for the Isles of Scilly.

Physical Coastal Processes (further details are provided in Appendix C)

The **Isles of Scilly** are located to the south-west of Lands End and separated geographically from mainland Cornwall by approximately 40km of open sea. Late Carboniferous wrench faulting running 155 degrees to 335 degrees around 10km offshore of Lands End (BGS, 1990) also separates them geologically from the mainland.

This geographical distance that separates the islands from Cornwall (and the significant depth of water in between) dictates that there are no physical process links with the mainland. Therefore although being addressed within the same SMP, Scilly needs to be treated as an entirely individual area. It does have some characteristics in common with the mainland – these mainly relate to the high wave energy climate and the resistant geology type. Sediment links between the islands themselves are limited – the main influence and control they exert on one another is the shelter they provide against extreme offshore wave heights from certain directions.

There are over 140 islands and islets within the archipelago. Most are small and uninhabited. This process unit includes the five populated islands within its assessment, i.e. St Mary's; St Martin's; Tresco; Bryher and St Agnes.

TIDE AND WATER LEVELS (mODN)

Location	LAT	MLWS	MLWN	MHWN	MHWS	HAT	Neap range	Spring range	Correction CD/ODN
Lands End	-	-2.39	-	-	2.81	-	-	5.2	-2.91
St Mary's	-	-2.21	-0.91	1.39	2.79	3.39	-	5.0	-2.91(local datum)

Extremes(mODN)

Location:	1:1	1:10	1:25	1:50	1:100	1:200	1:500	1:1000
Lands End	3.30	3.49	3.59	3.65	3.75	3.82	3.92	4.00
Falmouth	3.03	3.30	3.43	3.50	3.63	3.72	3.85	3.96

Wave Climate

St Mary's is extremely exposed to Atlantic waves and swell from westerly, southerly and easterly directions. It is sheltered from most north-westerly waves. The annual 10% exceedance wave height is likely to be around 3.0 - 3.5m. The wave climate is extremely influential in all aspects of risk assessment at the coastline.

St Martins is exposed to waves and swell from the north-west, north and north-easterly directions. It is very sheltered along its south and south-west facing shorelines – subsequently this is where beaches of fine sediment have become well established. The annual 10% exceedance wave height offshore of its north coast is likely to be around 3.0 - 3.5m.

Tresco is mostly sheltered from the extremes of the Atlantic wave climate along all but its northern facing shoreline. Bryher exhibits more exposure, particularly along its strongly indented west coast. The annual 10% exceedance wave height offshore to the north-west is likely to be around 3.0 - 3.5m.

St Agnes is very exposed to the Atlantic wave climate from most directions, although uninhabited islands and islets lying to the west provide some shelter from straight west swells. . The annual 10% exceedance wave height offshore is likely to be around 3.0 - 3.5m.

The extremely influential nature of the wave climate dictates that a consistent approach to the monitoring of the wave climate is highly desirable. Ascertaining the fundamental characteristics of the wave climate approaching from the west and the south south-east is of primary concern. The deployment of two waverider buoys, one positioned due west of Hugh Town and the Garrison and one to the south-east of Porthcressa and Old Town Bay would capture the essential characteristics from these two important directions and would at least provide a representative measured wave climate record for the other island frontages

Tidal Flow

The mean spring tidal range at St Mary's is 4.9m. Tidal currents, whilst not as influential as the wave climate in dictating shoreline morphology, can attain significant velocities where they flow in the narrower channels between islands.

PROCESSES

Control Features:

St Mary's is formed from the single granite rock type present across the whole archipelago. Although the single rock type has produced a uniform type of morphology around St Mary's coastline, control is exerted on most of the beaches by small outcropping granite islands. Examples of these are Taylor's Island and Newford Island to the north and south of Porthloo Beach; Rat Island to the north-west of Town Beach and Tolls Island to the north of Pelistry Bay. These features provide shelter to the shoreline from waves from certain directions and actively encourage the entrapment and accumulation of sediment in their lee, forming tombolas (sand spits), which join them to the shoreline.

St Martin's is composed entirely of granite, with overlying blown sand and head (ram) deposits. Prominent headlands exist around the island at The Porth, Cruther's Hill and St Martin's Head.

Tresco and Bryher result from of the presence of the granite batholith from which the whole Scilly archipelago formed.

As with all the islands, St Agnes and Gugh is granite, with head and sand accumulations present in some areas.

Existing Defences:

A number of defence structures, including seawalls, embankments and revetments are located at the back of beaches around St Mary's. Several of these schemes were put into place following severe winter storms and flooding/erosion that occurred during 1989/1990. Substantial quay and harbour walls are located on the north side of Hugh Town.

No formal sea or coastal defence structures exist on St Martins. There are however a number of local quays and slipways on the more inhabited south / south-west side of the island.

Tresco has defences in place at New Grimsby (rock armour revetment) and Appletree Bay, to prevent erosion affecting properties. Defences exist in several areas on Bryher, all are designed to prevent erosion of the sand dunes (and hence prevent flooding of the lower-lying hinterland).

There are a number of discrete lengths of revetment and embankment located at the back of the beaches in the aforementioned lower-lying areas.

Processes:

The pattern of sediment transport around St Mary's tends to be from north to south (Futurecoast, 2002) in response to tidal currents. Wave energy drives transport from the west and east – this can tend to counteract the tidal current transport. There is however generally no dominant direction of net movement, due to the Islands exposure to waves and currents from all directions.

Locally, sediment tends to be moved onshore in response to both wave and tide forcing. This tends to be in the form of larger coarser particles, while finer sediments tend to be moved offshore and lost to the system, due to the high-energy environment (Futurecoast, 2002).

The northern tip of St Mary's, Bar Point, has a significant sub-tidal bar (Crow Bar) extending out from it in north-westerly direction. This bar is a focus for nearshore wave and tidal transport.

There is generally no dominant direction of net movement on St Martin's, due to the Islands exposure to waves and currents from all directions. However net accumulation of finer sediments is evident along the sheltered south and south-western shores where significant beaches have formed.

Net accumulation of finer sand and sediments is evident along the sheltered shores of Tresco, along its east, south and west coasts, where significant beaches have formed. Bryher displays beaches along its sheltered east coast.

Sediment accumulations exist on St Agnes around Periglis Cove, Porth Conger and Porth Killer. There is generally no recognisable net trend for sediment transport, due to the exposure to waves and tidal currents from many directions.

Periodically the sand bar between St Agnes and Gugh is washed away during storms but it re-forms during calmer periods in the same position.

Unconstrained Scenario:

Although unrealistic, because of the residual impact of defences, this scenario considers how the coast would evolve in the absence of defences.

The Isles of Scilly have a primarily hard, rocky coastline with a highly indented form due to the large number of granite headlands and nearshore islands creating local areas of shelter, resistance and entrapment of sediment. The granite exposures will remain resistant to

erosion dictating a general stability in the form of the coastline of the islands, helping to maintain the general form and behaviour of the coastline over the next century. However the lower-lying intertidal areas will be more sensitive to increases in sea level and any increase in wave energy received at the shoreline. These areas will become more vulnerable to overtopping, overwash or breach. Beaches that are constrained by the defended or developed nature of their backshore and immediate hinterland may be subject to erosion of the shoreface, lowering of beach levels and loss of intertidal area.

POTENTIAL BASELINE EROSION RATES

Base rates have been assessed from monitoring and historical data. The range of potential erosion is assessed in terms of variation from the base rate and sensitivity in potential sea level rise. The base rates provided below are taken as an average based on historical records. The rates are a composite value based on erosion of the toe and recession of the crest of the cliff and reflect the erosion rates following failure of defences.

(Sea Level Rise assumed rates: 0.06m to year 2025; 0.34m to year 2055; 0.96m to year 2105.)

Location	Historic recession rate (lower) (m/100 yr)	Historic recession rate (upper) (m/100 yr)	Projected 100 year erosion rate (lower) (m)	Projected 100 year erosion rate (upper) (m)	Notes
Old Town, St Mary's	10	20	17	37.8	
Downderry, St Mary's	20	20	22.9	36.2	Rocky shoreline/low cliff
Porthloo, St Mary's	10	15	15.2	28.4	
Maypole, St Mary's	10	20	11.5	36.2	
Gugh, St Agnes	-	-	5.6	14	low-lying rocky shoreline
Lower Town, St Agnes	8	12	11.4	20.8	
The Town, Bryher	12	12	13.8	21.7	
Middle Carn, Bryher	22	32	21.1	30.7	
Bryher	19	29	23.1	39.9	
East coast of Tresco	15	15	21.8	33	
Skirt Island, Tresco	13	17	18.1	30.3	
Abbey Wood, Tresco	0	20	12.8	43.3	
New Grimsby, Tresco	30	30	34.4	54.4	shoreline backed by road
Chapel Down, St Martins	15	15	18.1	23.7	
Higher Town, St Martins	27	33	30.9	59.8	

BASELINE MANAGEMENT SCENARIOS

PRESENT MANAGEMENT

Present Management is taken as that policy defined by SMP1, modified by subsequent strategies or studies. It should be noted that both in the case of SMP1 and that of many of the strategies undertaken before 2005, the period over which the assessment was carried out tended to be 50 years.

References:

SMP1		
MU	**LOCATION**	**POLICY**
A1	Tol Tuppens to Kittern Rock	Do nothing
A2	Kittern Rock to The How	Do nothing
A3.1	The Hoe to The Bar	Do nothing
A3.2	The Bar	Do nothing
A3.3	The Bar to Tol Tuppens	Do nothing
A4.1	Kallimay Point to the Jetty	Do nothing
A4.2	The Jetty to The Bar	Hold the Line
A5	The Bar to Tean Plat Point	Do nothing
A6	Tean Plat Point to Long Point	Do nothing
A7	Long Point to Perigilis Slips	Do nothing
A8.1	Periglis Slips to Ginamoney Carn	Do nothing
A8.2	Ginamoney Carn to Browarth Point	Hold the Line
A8.3	Browarth Point	Do nothing
A8.4	Browarth Point to Kallimay Point	Hold the Line
B1.1	Great Porth North	Hold the Line
B1.2	Stinking Porth	Do nothing
B1.3	Gweal Hill	Do nothing
B1.4	Great Popplestones	Hold the Line
B1.5	Little Popplestones	Hold the Line
B1.6	Popplestones Brow	Do nothing
B2.1	Popplestones Brow to Hangman Island	Do nothing
B2.2	Kitchen Porth	Do nothing
B2.3	Post Office to The Bar	Do nothing
B3.1	The Bar to the Quay	Do nothing
B3.2	Southward	Do nothing
B3.3	The Brow to Works Point	Do nothing
B4	Works Point to Great Carn	Retreat the Line
M1.1	The Mermaid Wall	Hold the Line
M1.2	The Quay	Hold the Line
M1.3	The Quay to Custom House	Hold the Line
M1.4	Custom House to Carn Thomas	Hold the Line

M2	Porth Mellon	Hold the Line
M3	Porth Thomas	Do nothing
M4	Porth Loo	Retreat the Line
M5	Taylor's Island	Do nothing
M6	Innisidgen to Porth Hellick Point	Do nothing
M7	Porth Hellick	Hold the Line
M8	Salakee Down	Do Nothing
M9	Porth Minick	Hold the Line
M10	Tolman Point	Do Nothing
M11	Tolman Point to Old Town Slip	Do Nothing
M12	Old Town Slip to Old Church	Hold the Line
M13	Old Church to Carn Leh	Do Nothing
M14	Carn Leh to Playground	Do Nothing
M15	Playground to Slipway	Hold the Line
M16.1	Slipway to Little Carn	Hold the Line
M16.2	Little Carn to Sally Port	Hold the Line
M17	Sally Port to The Quay	Do Nothing
N1	Tean Sound	Do Nothing
N2	St. Martin's Bay	Do Nothing
N3	St. Martin's Flats	Do Nothing
N4	Middle Town	Do Nothing
T1	New Grimsby	Hold the Line
T2	Castle Down	Do Nothing
T3.1	Island Hotel	Hold the Line
T3.2	Old Grimsby	Do Nothing
T4	Rushy Point	Do Nothing
T5	South Beach/Pentle Bay	Advance the Line
T6	Appletree Bay	Advance the Line
T7	Tresco Flats	Retreat the Line

Economic Assessment

The following table provides a brief summary of damages determined by the SMP2 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. The damages for each epoch are current values. These are discounted to give present values in the final column.

ASSESSMENT OF EROSION DAMAGES

Epoch	0 -20 year		20 – 50 years		50 – 100 years		Total	
No Active Intervention *Location*	**Number of properties**	**Present Value x £1000**	**Number of properties**	**Present Value x £1000**	**Number of properties**	**Present Value x £1000**	**Number of properties**	**Present Value Damages (£x1000)**
PDZ5	**0**	**0**	**12**	**794**	**39**	**579**	**51**	**1373**

ASSESSMENT OF POTENTIAL FLOOD RISK

Epoch	Flood risk tidal 2025		Flood risk tidal 2055		Flood risk tidal 2105		Total	
No Active Intervention *Location*	**Number of properties**	**Present Value x £1000**	**Number of properties**	**Present Value x £1000**	**Number of properties**	**Present Value x £1000**	**Number of properties**	**Present Value Damages (£x1000)**
PDZ5	3	49	3	26	33	64	33	139

PDZ 18: Isles of Scilly
Management Area Statements

PDZ 18 has been sub-divided into 4 principal management areas, these being:

MA42 – St Mary's

Covering previous SMP1 management units:

M1.1	The Mermaid Wall
M1.2	The Quay
M1.3	The Quay to Custom House
M1.4	Custom House to Carn Thomas
M2	Porth Mellon
M3	Porth Thomas
M4	Porth Loo
M5	Taylor's Island
M6	Innisidgen to Porth Hellick Point
M7	Porth Hellick
M8	Salakee Down
M9	Porth Minick
M10	Tolman Point
M11	Tolman Point to Old Town Slip
M12	Old Town Slip to Old Church
M13	Old Church to Carn Leh
M14	Carn Leh to Playground
M15	Playground to Slipway
M16.1	Slipway to Little Carn
M16.2	Little Carn to Sally Port

MA43 – St Martin's

Covering previous SMP1 management units:

N1	Tean Sound
N2	St. Martin's Bay
N3	St. Martin's Flats
N4	Middle Town

MA44 – Tresco

Covering previous SMP1 management units:

T1	New Grimsby
T2	Castle Down
T3.1	Island Hotel
T3.2	Old Grimsby
T4	Rushy Point
T5	South Beach/Pentle Bay
T6	Appletree Bay
T7	Tresco Flats

MA45 – Bryher

Covering previous SMP1 management units:

B1.1	Great Porth North
B1.2	Stinking Porth
B1.3	Gweal Hill
B1.4	Great Popplestones
B1.5	Little Popplestones
B1.6	Popplestones Brow
B2.1	Popplestones Brow to Hangman Island
B2.2	Kitchen Porth
B2.3	Post Office to The Bar
B3.1	The Bar to the Quay
B3.2	Southward
B3.3	The Brow to Works Point
B4	Works Point to Great Carn

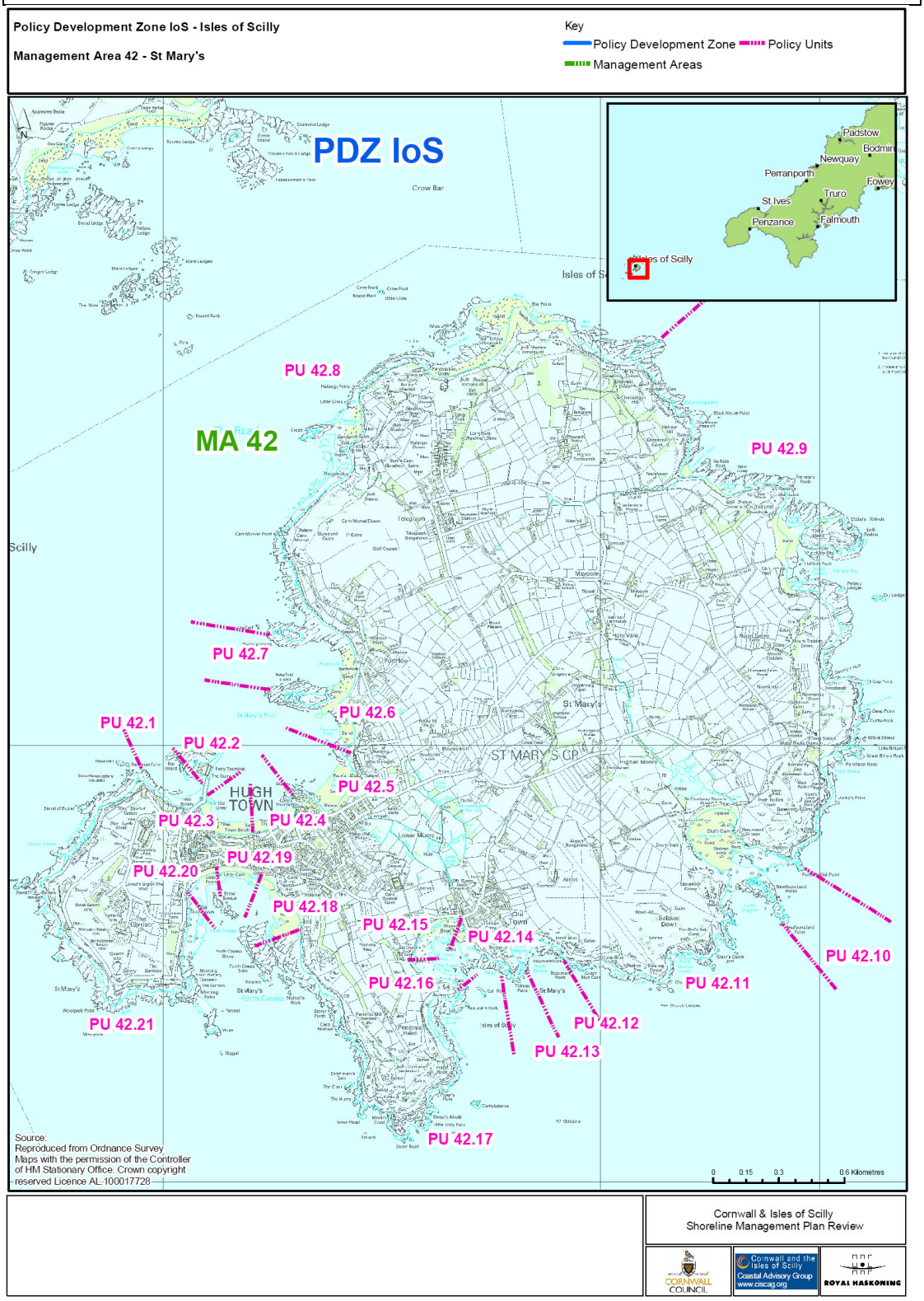
MA46 – St Agnes and Gugh

Covering previous SMP1 management units:

A1	Tol Tuppens to Kittern Rock
A2	Kittern Rock to The How
A3.1	The Hoe to The Bar
A3.2	The Bar
A3.3	The Bar to Tol Tuppens
A4.1	Kallimay Point to the Jetty
A4.2	The Jetty to The Bar
A5	The Bar to Tean Plat Point
A6	Tean Plat Point to Long Point
A7	Long Point to Perigilis Slips
A8.1	Periglis Slips to Ginamoney Carn
A8.2	Ginamoney Carn to Browarth Point
A8.3	Browarth Point
A8.4	Browarth Point to Kallimay Point

Within these areas a summary of policy is provided below. Management Areas statements are provided in the following sheets.

Location reference:	**St Mary's**
Management Area reference:	**MA42**
Policy Development Zone:	PDZ18



DISCUSSION AND DETAILED POLICY DEVELOPMENT

The following text provides a more detailed consideration of the issues which need to be addressed by the preferred plan and the reasoning and justifications for the suggested draft policy to implement the preferred plan. Generally St Mary's has a greater number of discrete locations where there are management issues then the other four islands considered within the SMP. There are still large extents of undefended coastline around the northern part of St Mary's, where a general approach of no active intervention is required. Hugh Town and the Harbour area present the largest concentration of locations (policy units) where a range of policy choices co-exist in near proximity.

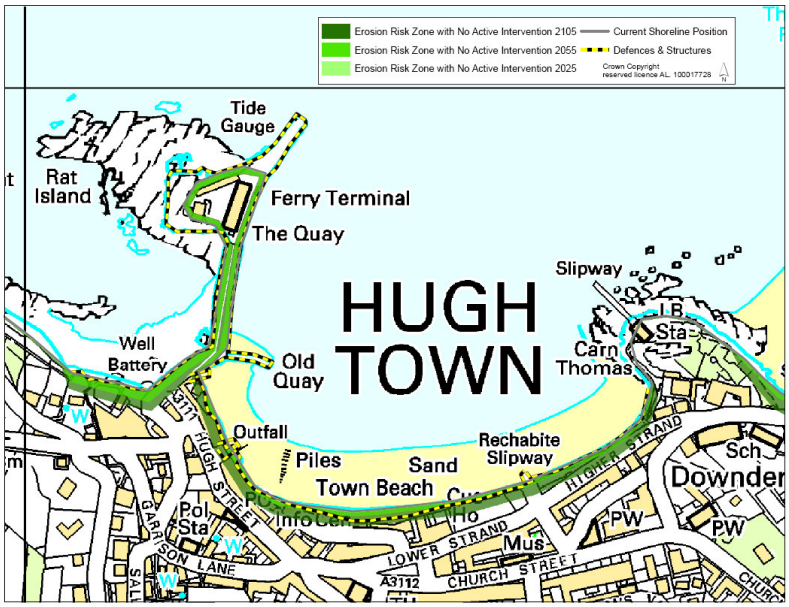
An essential element of the discussion for St Mary's is the consideration of what would happen along the vulnerable frontages under the NAI scenario. At Porth Mellon, the dune recession estimates suggest that the dune would be squeezed against the A3111 to potentially create a flow route through to the Porth Mellon industrial estate. This would affect the viability of the industrial estate's non-water compatible uses, as well as threatening the Lower Moors SSSI and its water resource. The Waste Management Site - Incinerator, Ash landfill and Waste Transfer Station - if inundated, would liable to be rendered inoperative. Once the design life of the Porthcressa defences was exceeded, storms would threaten property and life in Hugh Town. Parts of the sewage collection network would be flooded with seawater and could cause domestic flooding from sewage and seawater if toilets etc were not fully sealed. Any new sewage collection, treatment and discharge facility based on biological treatment would be rendered inoperative due to the impact of seawater ingress on the biological system. Once the design life of the defences around Old Town and Porth Hellick were exceeded there would be risks of ground water contamination from seawater during frequent storms.

The erosion mapping indicates that perhaps 15m of erosion could occur by 2105 under the no active intervention scenario inside the harbour. The more sheltered nature of the Town Beach frontage means it is under less pressure than, for instance, the Porthcressa frontline defences, but in reality the risks from either side of the isthmus could potentially impact on all of the policy units local to Hugh Town.

Well Battery (The Mermaid Wall) - This part of Hugh Town's quay is integral to the continued shelter of the remainder of the Town Beach frontage. If maintenance of the wall

were not to continue the defence would fail (probably during epoch 2) with consequences for the rest of the harbour area. The preferred policy would be to continue with a policy of holding the line. Economic justification will remain whilst the current harbour provides the main landing point for passenger and cargo vessels and generally provides protection to the Town Beach frontage and boat moorings. Whilst this important economic driver remains, any other policy choice is deemed unsuitable.

Main Quay - This part of the quay, as with the Mermaid Wall, is also integral to the continued shelter of the remainder of the harbour and the Town Beach frontage. There is no scope to realign the defence and its continued presence and maintenance is assumed when setting out the preferred plan and management approach for other parts of the Hugh Town frontage. For that reason, (in addition to its historic value and overall importance to the economic well being of St Mary's) the preferred policy would be to continue holding the line, again while the economic justification of being the main landing point for passenger and cargo vessels remains. Proposals for the extension of the quay and ferry terminal technically include advancing the line; this would have no significant negative impacts on coast protection and would not adversely affect a policy of hold the line thereafter.



Quay to Custom House - Increasing pressure upon this part of the frontage due to sea level rise can be seen indicated in the map left. This dictates that consideration is given to how some longer term accommodation of rising sea levels is made. Although the pressure is primarily due to still water levels and flooding often consists of still water events (see inset photo, right), a certain amount of wave energy enters the harbour. During extreme north westerly storms the wave impacts can be quite pronounced. The main issue for this frontage (and Hugh Town in general) is that there is very little scope for realignment of any significance. Given the very limited width of the isthmus (at its narrowest point between the Town Beach defences and those at Little Carn, Porthcressa, the width is only 130m).

Regardless of shoreline management approach, increasing flood risks to property and infrastructure need to be addressed. Historically there have been significant depths of flooding along the High Street, and infiltration into the sewer network from high water levels on the Porthcressa side. In the future, parts of the sewage collection network would be flooded with seawater and could cause domestic flooding from sewage and

seawater if toilets etc were not fully sealed. Any new sewage collection, treatment and discharge facility based on biological treatment would be rendered inoperative due to the impact of seawater ingress on the biological system. Property level flood resistance and resilience measures should be promoted, and incorporated into any redevelopment.

The preferred plan here is to maintain the current defences under a hold the line policy through epochs 1 and 2, but there may need to be some limited allowance for rising sea levels attempted through realignment of the frontage beyond 2055. There is really no scope in terms of available area but a realignment may be inferred as a slight adjustment of the current defensive line to provide a transition into the next policy unit - **Custom House to Carn Thomas** – where there is slightly more scope to realign, possibly by up to 25m (see inset photo, right) although this would have implications for Higher Strand in terms of loss of promenade and possible reduction in road width.

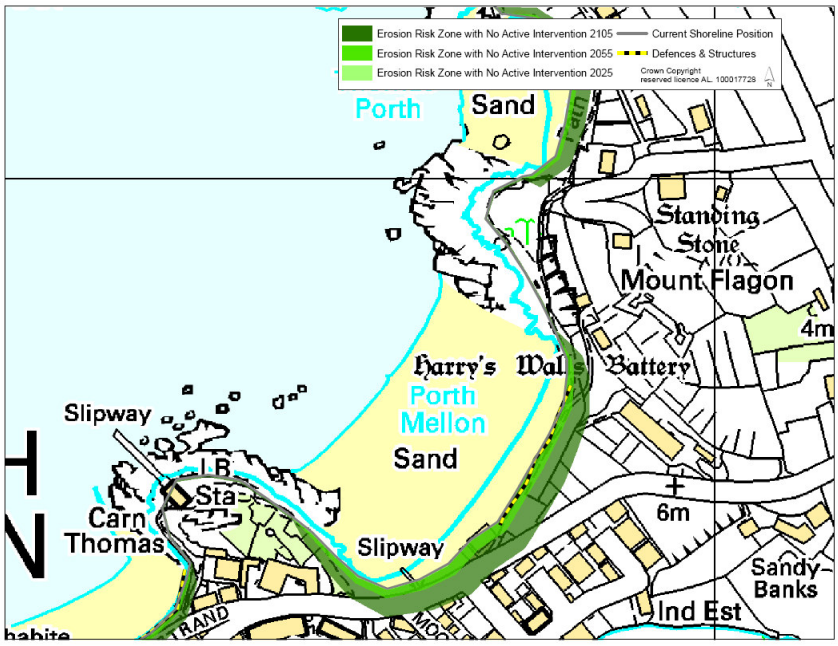
Any approach to realignment here would need to take detailed guidance from a more in-depth strategy. A key recommendation resulting from the SMP review is the requirement for a detailed strategy to be undertaken for the entire Hugh Town area. This needs to consider the very long-term implications of climate change for the whole settlement.

It must consider the costs and sustainability of managing the risks to Hugh Town in-situ, versus the costs (and wider social and economic implications) of looking toward a strategy of gradually relocating the main settlement away from the risk zone and on to higher ground to the east. Although management of the risks in-situ, based upon current projections for sea level rise in isolation, appears achievable, it is the uncertainty within the climatic projections which dictates that Hugh Town is in a very vulnerable position. We have limited actual grasp of how increased storminess (of both return frequency and magnitude) would affect the frontage, other than to anticipate that it may lead to erosion of the Porthcressa beach frontage, leading to greater pressure on the defences. In addition, if sea level rise were to increase by a substantial amount above the current projections, percolation through and rising water levels within the main body of the isthmus may have severe implications for foundation stability of buildings and general stability of the isthmus itself (but again the SMP cannot look at this in sufficient detail to provide prescriptive guidance). Stability of the isthmus and issues relating to building stability and safety must be addressed through the detailed strategy.

Moving to the north-east of Carn Thomas **Porth Mellon** is the next discrete location requiring policy consideration**.** Significant pressure on the Porth Mellon frontage from sea level rise and increasing storminess dictate that a careful management approach is required. There are both local and strategic issues to consider at Porth Mellon. Locally, there is erosion risk to the frontage, particularly to the A3111 (Telegraph Road) and the boatsheds, gig sheds and café which

are located to the rear of Porth Mellon beach (see inset photo, right).

The more strategic risk relates to the hinterland behind the beach which is low-lying and provides a route for flood waters into the Lower Moors area. This has implications for the freshwater supply for the whole island of St Mary's. Therefore the future management strategy needs to accommodate the increases in sea level rise and avoid coastal squeeze and foreshore narrowing but at the same time prevent serious inundation of the Lower Moors area. It is felt that a realignment approach beyond epoch 1 needs to consider strengthening the natural dune system behind the beach and allowing it room to roll back without reducing its crest height or width (ideally increasing these). In addition it may be necessary to consider improving defensive standard in the south-west corner of the beach adjacent to the road, as part of an overall realignment.

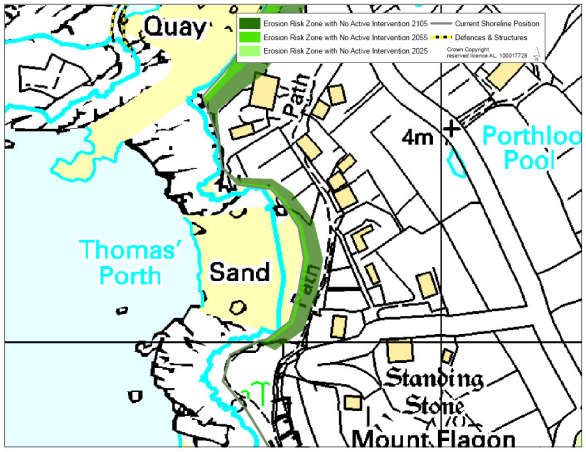


The preferred plan therefore would be to hold the line during epoch 1 whilst planning for strategic realignment in epochs 2 and 3. The primary aim of realignment should be to improve the natural standard of defence provided to the low-lying hinterland. An integral part of this objective is allowing the beach width to be maintained, assisting in the robust natural defence being effective At Porth Mellon, the estimates of dune recession suggest that the dunes would be squeezed against the A3111 to potentially create a flow route through to the Porth Mellon industrial estate during storms (and possibly high spring tides in the longer term). This would affect the viability of the industrial estate's non-water compatible uses, as well as threatening the Lower Moors SSSI and its water resource. The Waste Management Site - Incinerator, Ash landfill and Waste Transfer Station - if inundated would liable to be rendered inoperative.

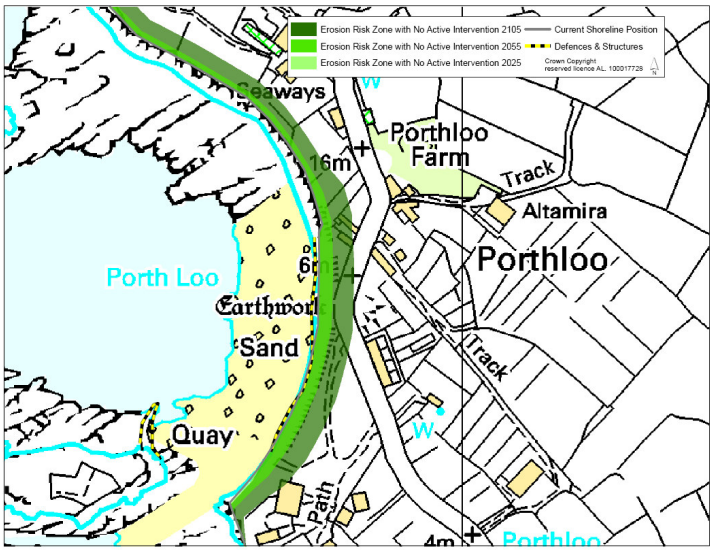
Managed realignment might be delivered through provision of hard defences, but preferably through management of the dunes. Whilst a hard defence might be feasible on the seaward side of the A3111, it is questionable whether this would be affordable, and it would impact on the landscape and natural habitat value of the area through the loss of the dune system. Alternatively, allowing for the full extent of dune recession and sufficient width behind this to retain the dunes, then the current buildings within the dunes, the A3111 and possibly some of the northern most industrial properties would need to be relocated.

This represents significant coastal change to the area, for which Land Use Planners should identify a Coastal Change Management Area in order to support the delivery of the Managed Realignment policy.

At **Thomas Porth**, risks from erosion may result in up to 15m of landward recession (see inset map and photo below) but the implications of this are limited to some minor encroachment of erosion onto some property boundaries and a requirement to re-route the coastal footpath. Therefore the preferred plan and policy is to continue with the SMP1 policy of 'do nothing' with a no active intervention approach. Given that there are no strategic risks as seen at Porth Mellon to the south, this would be suitable over the three epochs. This should satisfy objectives relating to both the AONB and the Special Area of Conservation designations.



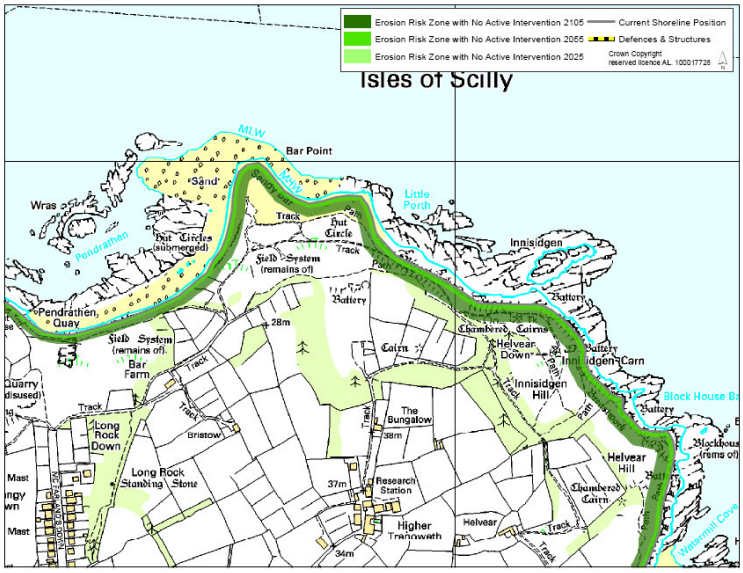
The preferred plan and policy of no active intervention is continued from Thomas Porth along the **Porth Loo** frontage during epoch 1. Porth Loo is considerably more exposed to direct wave action than Hugh Town and although possible inland extent of erosion may be 30m by 2105, there is no strategic risk and the implications of the erosion are localised. Impacts would be limited to some significant encroachment on property boundaries and gardens and possible total loss of one or two properties. A short (50m) section of the Porth Loo Lane (see inset map, right) is also at risk of loss in epoch 3.



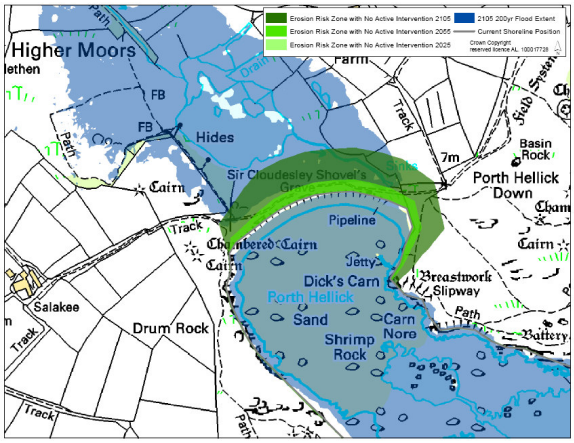
There is currently a 175m length of rock armour at Porth Loo. Although this has played a role in retarding erosion to date, it is very unlikely that there is sufficient justification in terms of lost assets to justify funding of a hold the line policy along this section. In addition, attempting to hold the line into the future would inevitably lead to narrowing and

erosion of the foreshore, possibly leading to loss of the beach altogether in the long term. This would have serious implications in rapidly increasing the rate of erosion. Therefore HTL has been rejected in favour of NAI (and MR in epochs 2 and 3). Given the local importance of the Porth Loo Lane for access to properties, it is likely to be necessary to consider realignment of the road beyond epoch 1, when erosion risks start to pose a more significant risk to the route. The policy would still be NAI in principle, but with allowance of MR for Porth Loo Lane. This could though include a strategy to manage further erosion risks to property, if monitoring shows rapid recession of the low ram cliffs. The overall approach at Porth Loo should satisfy objectives relating to the AONB and SAC designations.

The **Taylor's Island to Innisidgen** section of coastline covers a large proportion of the sparsely developed northern coastline of St Mary's. The assessment of erosion risks indicates that there may generally be up to 15m of cliff line recession along this extensive frontage which runs from Taylors Island to the north of Porthloo to Bar Point on the north coast. This may increase by up to another 15m (30m total) for the coastline running from Bar Point to Blockhouse Point (see inset map above). This is likely to result in the loss of the current coastal path route and possibly affect local access points to beaches and private boathouses. It will also impact on fields and flower growing areas along the cliff top. It is not considered necessary to undertake any protection of this frontage, as pathways can be re-routed and other risks relate to non-residential assets, therefore a no active intervention approach through all three epochs is the preferred plan. This approach would satisfy objectives relating to the Scilly AONB and Special Area of Conservation designations.



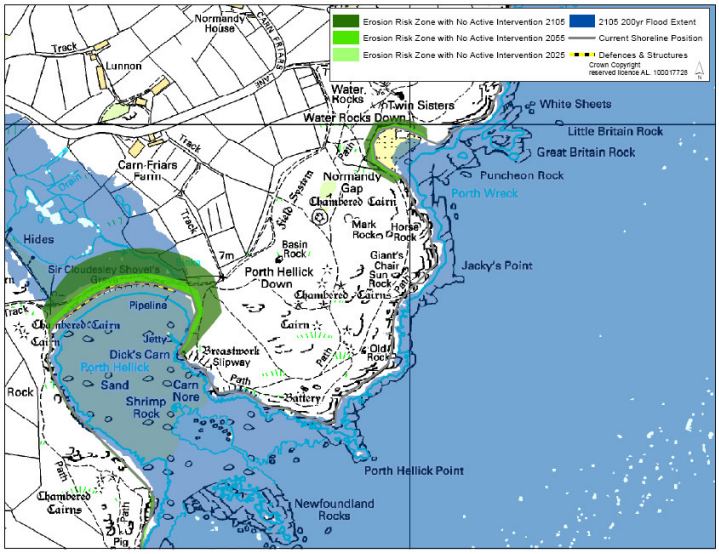
Erosion rates along the **Innisidgen to Porth Hellick** frontage are expected to be lower than for those along the previous frontage length, apart from the Pelistry Bay and Porth Wreck sections, where recession may be 15-20m at the rear of the beaches. Again there is very little at risk, other than two sections of the coastal path (which can be re-routed). A continuation of the no active intervention policy (do nothing from SMP1) is preferred. This approach would satisfy objectives relating to the Scilly AONB and Special Area of Conservation designations.



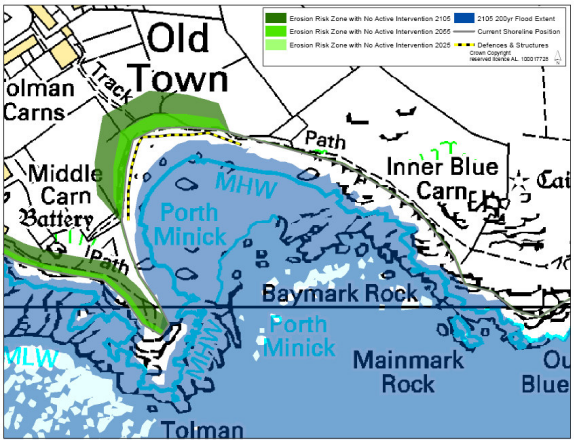
The south-east facing bay and beach of

Porth Hellick is very exposed to south-easterly storms and waves. Low-lying hinterland behind makes this a location vulnerable to inundation due to storm surge and wave run-up. Porth Hellick provides a route through which storm surge and wave overtopping driven flooding can inundate a significant area adjacent to Carn Friars Farm and the Higher Moors (see inset map below) and also affecting Carn Friars Lane. This has very significant strategic implications for the fresh water supply to St Mary's because salt water could contaminate the water supply. In addition to the flood inundation risk, erosion is also a potential problem. Up to 65m of erosion could potentially occur by 2105. Although this puts no assets at risk, it would potentially cut right through the higher embankment which forms the defence and which separates the bay from the Higher Moors. However holding the defence in its current position will become increasingly unsustainable beyond epoch 1. It would also lead to coastal squeeze seaward of the defence and a narrowing of the intertidal area. This would increase pressure on the existing defence and increase greatly the risk of a catastrophic inundation of the Higher Moors.

The preferred plan proposes managed realignment as a way to strengthen the defensive embankment by allowing the beach to roll back in response to sea level rise and to encourage the deposition of sediment so that a more robust defence in the form of natural dunes is established. This has the advantage over engineered defences in that it would adapt its position according to the actual rates of sea level rise experienced, as opposed to having to predict where a sustainable position may be to set back engineered defences. However, there are other issues such as percolation through the bank which may affect fresh water supplies and the SMP cannot sufficiently guide on this.



The SMP would therefore recommend that there is requirement for a strategic investigation into the combined risks posed by overtopping and inundation and percolation and ground water levels for St Mary's. This should consider The Lower and Higher Moors areas, and the coastal inundation routes at Porth Mellon, Porth Hellick and Porth Minick / Old Town Bay. An important aspect of such a strategy would be the monitoring of the nearshore to offshore wave climate. The introduction of wave buoy monitoring with a deployment to the south-east of Salakee Down & Penennis Head would provide a measured record of the south-easterly wave climate which affects Porth Hellick.



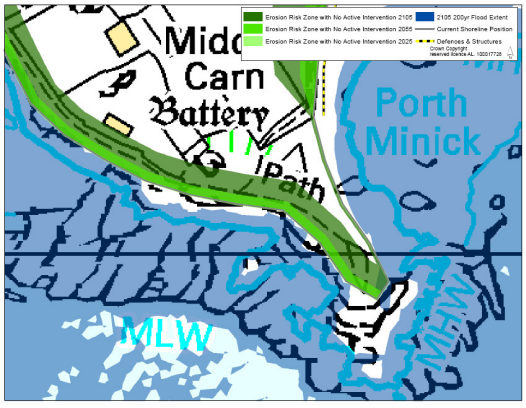
Proposed managed realignment strategies are intended to provide more natural and robust defence of the frontages (Porth Hellick, Porth Mellon) which are at risk from overtopping and subsequent inundation of the Lower and Higher Moors areas. However it should be acknowledged that this approach could potentially have some impact on the terrestrial SSSI designations due to roll back of the frontage.

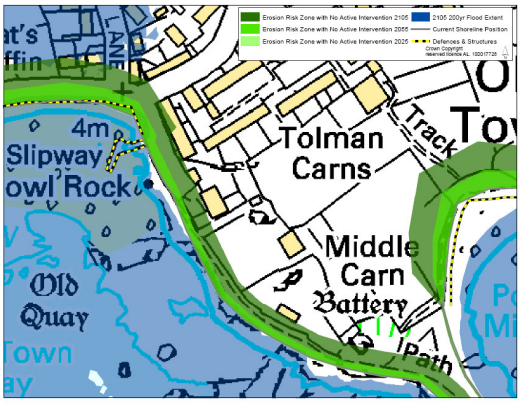
To the immediate south-west of Porth Hellick, **Salakee Down** is a hard, stable south-east facing headland. St Mary's airport is located on top of Salakee Down. No risks have been identified, with little erosion or recession anticipated along the hard cliffed coast. Therefore this is seen as a stable, low-risk frontage with no requirement for intervention. No active intervention would effectively continue the 'do nothing' policy from SMP1. This approach would satisfy objectives relating to the Scilly AONB and Special Area of Conservation designations.

On the southwestern flank of Salakee Down, **Porth Minick** has historically been breached with subsequent inundation of the area behind, adjacent to Old Town. The SMP flood risk mapping indicates no risk of flooding at this location, (see inset map above), however this simply indicates that the mechanism for flooding is driven by overtopping due to severe storm waves approaching from the south-east, to which Porth Minick is very exposed. Still water extreme tide levels in isolation present no risk of overtopping (although percolation through the embankment remains a potential concern).


Porth Minick embankment

Particularly severe flooding was experienced due to waves during the storms of January 1989. The current defences (a sloped concrete mat revetment with stone on top – see inset photo, right) were established following this event but they will come under increasing pressure from sea level rise in the future. It may be sustainable to maintain the revetment in position for the short term (epoch 1) but erosional pressure will increase continually. To no longer defend the rear of the beach and allow un-checked recession to occur will significantly increase the risk of future inundation of Old Town around Tolman Carns. The preferred option would be to undertake some realignment of the defence to prevent excessive coastal squeeze developing but to maintain a standard of protection appropriate to the level of risk. This would help to maintain the natural defence provided by the beach but to also maintain a

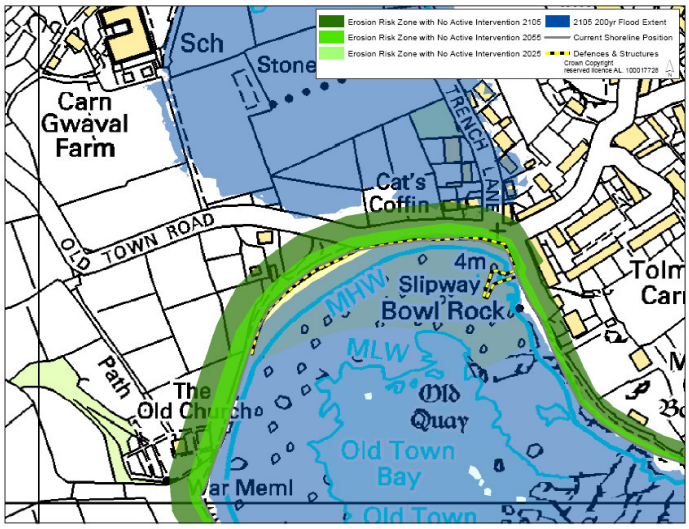




crest width and height necessary to provide protection from wave overtopping. Economic justification for expenditure may be more difficult to justify into the future and the entire Old Town settlement is likely to be subject to increasing risk during epochs 2 and 3.

Some recession of the low ram cliffs around **Tolman Point**, (a small headland sitting on the south-west flank of Porth Minick) may cause quite a reduction in the extent of this feature (see inset map, above). Despite the possible pronounced morphological change, there are no risks identified other than to the coastal footpath – therefore a no active intervention approach is the preferred plan, at least in the short to medium term, with monitoring of cliff recession as part of that approach. If monitoring identified impending total loss of the feature, a study would need to assess the implication for Porth Minick and how this may alter erosion and flood risks there. The NAI approach would satisfy objectives relating to the AONB and Isles of Scilly SAC.

From **Tolman Point** around to **Old Town Slip** some recession of the low ram cliffs would be expected along this frontage, perhaps as much as 20m by 2105. This may indicate some risk to isolated built assets within epoch 3; however a no active intervention approach is preferred at least in the short to medium term, with monitoring of cliff recession as part of that approach. Sediment inputs from the eroding low cliffs are locally important to the Old Town beach frontage so this has to be considered. The NAI approach would satisfy objectives relating to the AONB and Isles of Scilly SAC.



Significant erosional pressure along the **Old Town Slip to Old Church** – plus the risk of inundation of the low-lying hinterland (Lower Moors) between Old Town and Porth Mellon dictate that this is one of the most pressurized frontages on Scilly. Up to 30m of erosion could occur by 2105 under the no active intervention scenario (see inset map, right). Old Town Road which runs immediately behind the beach for some 150m also provides the main link route between Hugh Town and St Mary's airport. The Old Church may be at risk during epoch 2 and beyond. It is recommended to hold the line in the short term in order to monitor further rise in sea level and changes in the beach morphology but in the longer term it is likely to be necessary to realign the route (or upgrade an alternative route) and consider the controlled roll back of the defences. However holding the defence in its current position will become increasingly unsustainable beyond epoch 1. It would also lead to coastal squeeze seaward of the defence and a narrowing of the intertidal area. This would increase pressure on the existing defence and increase the risk of a more extreme inundation of the Lower Moors.

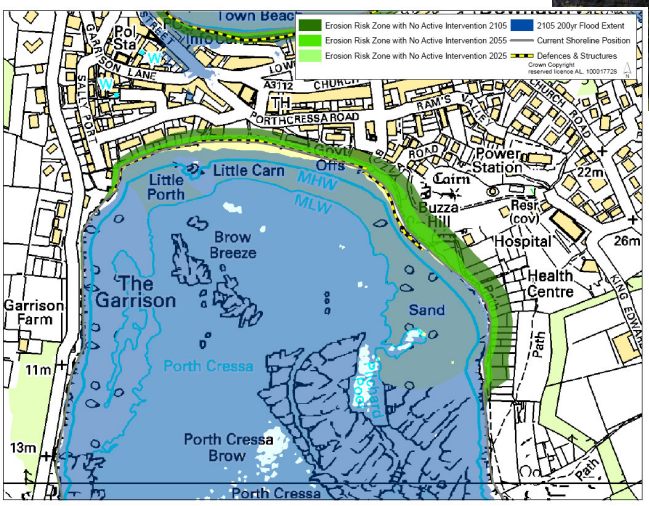
The preferred plan proposes managed realignment as a way to maintain a more sustainable and less pressured defensive line and to provide protection of the Lower Moors area (which is an integral part of the fresh water supply system together with the

Higher Moors). By allowing the beach to roll back in response to sea level rise and maintain beach width the coastal squeeze effects can be offset. This frontage should be considered as part of the wider strategy to look at security of fresh water supply mentioned previously at Porth Hellick. A managed realignment approach (as at Porth Hellick) could help to manage the risks to the current water supply system and Lower Moors area, but it will not remove the risk entirely. Indeed the risk will increase with time and wave overtopping risk (particularly through the Trench Lane area), which leads to inundation of the fresh water areas will increase in line with sea level rise and increasing storminess. As at Porth Hellick, the saline intrusion risks due to percolation during wave run-up and escalating hydrostatic pressure due to generally increasing sea levels are possibly more difficult to deal with. These would potentially require the introduction of a hydraulic barrier or membrane of some kind but this is by its nature a specialist branch of engineering and the SMP can provide only limited guidance on this. The SMP would therefore recommend that there is requirement for a strategic investigation into the combined risks posed by overtopping and inundation and percolation and ground water levels for St Mary's. This should consider The Lower and Higher Moors areas, and the coastal inundation routes at Porth Mellon, Porth Hellick and Porth Minick / Old Town Bay.

Old Church to Carn Leh - Some recession of the low ram cliffs would be expected along this frontage – up to 30m perhaps over 100 years. There are no specific risks identified other than to the coastal footpath – therefore a no active intervention approach is preferred. Monitoring of cliff recession is recommended as part of that approach. The NAI approach would satisfy objectives relating to the AONB and Isles of Scilly SAC.

Carn Leh to Playground - The more resistant shoreline running from Carn Leh to the playground at Porthcressa is expected to undergo very little change over 100 years, with little in the way of erosion anticipated. An ongoing no active intervention policy is preferred. The NAI approach would satisfy objectives relating to the AONB and Isles of Scilly SAC.

Playground to Slipway (Porthcressa) - Significant erosion would be expected under the NAI policy, however with little development or assets immediately at risk, economic justification for holding the line may become difficult. It may be necessary to move to a no active intervention policy. The sediment inputs



from the eroding cliffs would provide the benefit of an important local sediment source to Porthcressa beach, helping to maintain the level of defence it provides to the rest of the frontage. The NAI approach would satisfy objectives relating to the AONB and Isles of Scilly SAC.

Slipway to Little Carn - The Porthcressa frontage is generally pressurized, with residential development exposed to wave overtopping and inundation. The narrow intertidal zone is already likely to be subject to coastal squeeze effects and long term sustainability of the current shoreline position is unlikely. The recession mapping indicates up to 20m of erosion (inset map, below). Holding the line in the short term will allow further monitoring of the coastal squeeze impacts, particularly in terms of beach levels, and changes in the beach slope and width. Managed realignment of the defensive line is however likely to be required in the medium to longer term., The objective of a managed realignment policy along this frontage should be to allow adaptation and adjustment of the defensive alignment but without any excessive loss of the area around Porthcressa Road and Buzza Road, as this is the most elevated and widest part of the Porthcressa frontage (and therefore still a potential point of control). Any significant landward retreat will have the effect of an overall narrowing of the isthmus – this is generally undesirable and may result in a potentially greater risk of breaching between Porthcressa and Town Beach. Indeed a managed realignment approach may necessitate widening at some points if deemed suitable.

The occurrence of a significantly large storm exceeding the design standards of the Porthcressa defences probably represents the greatest magnitude of immediate risk to Hugh Town. Given that the risk is directly related to an unpredictable aspect of the climatic system and that climate change is expected to increase storminess into the future, this must be taken very seriously indeed. Planning for such an event must consider the high risks to life, the flooding impacts on Hugh Town property and assets, damage to defences, erosion potential and the impacts upon essential services and infrastructure, including port operations and links to and from the airport. The overall risk of a significant breach across the isthmus must also be considered.

Dealing with these risks along the Porthcressa frontage is central to managing the overall risk to Hugh Town. As such it needs to be considered as part of the wider detailed strategy. Given the constrained nature of the Porthcressa frontage, realignment options are limited (as with the Town Beach frontage). It is suggested that a scheme which can allow the water from overtopping during south-easterly storms to be routed through the town (possibly a type of storm drainage system) and discharged into the harbour could form part of a medium term solution. The SMP cannot however provide accurate options appraisal or costs related to this and again it needs to be considered as part of a more detailed strategy.

For Hugh Town this represents a significant coastal change, requiring support from the Land Use Planning system which should identify this area as a Coastal Change Management Area. The Porthcressa Vision should consider these issues when drawing up details for any development changes.

Little Carn to Sally Port - As above - holding the line in the short to medium term will allow further monitoring of changes in the beach slope and width. Managed realignment of the defensive line is likely to be required in the medium to longer term. In addition to the storm wave overtopping and erosion risks, the issue of high surge tide levels rising within the isthmus and up through the drainage system (see inset photo, left) need to be addressed as part of the more detailed strategy.

The final policy unit on St Mary's runs from **Sally Port to the Quay (The Garrison)** - It is generally concluded that there is little uniform recession likely around the resistant Garrison frontage (see inset map, below right) however localised erosion resulting in small caves and weak spots does occur and localised works to address these risks has taken place in the past. Therefore the preferred plan of no active intervention should not preclude localised management taking place along the shoreline to stabilise cliffs where the Garrison walls are threatened by localised undercutting etc., This should be undertaken on the proviso that any works do not create a linear transfer of wave energy along the north-east facing Garrison coastal section into the Well Battery area.

It is felt that this approach will allow English Heritage to address the risks on an on-going localised basis, as and when the need dictates. The NAI approach would satisfy objectives relating to the AONB and Isles of Scilly SAC.

SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION

PLAN:

Location reference:	**St Mary's**
Management Area reference:	**MA42**
Policy Development Zone:	PDZ18

PREFERRED POLICY TO IMPLEMENT PLAN:	
From present day (0-20 years)	NAI along the undefended cliffs and coves. Generally HTL along current defended frontages and closely monitor cliff recession rates, beach levels, widths and slope changes.
Medium term (20-50 years)	NAI along the undefended cliffs and coves. Continue to HTL around Quay and Town Beach frontage. Adapt and realign the Old Town, Porth Cressa and Porth Mellon and Porth Loo frontages.
Long term (50 -100 years)	NAI along the undefended cliffs and coves. Continue to HTL along the Quay but look to realign and adapt the Town Beach frontage from the quay to Thomas Porth. Continue to adapt and realign the Old Town, Porth Cressa and Porth Mellon and Porth Loo frontages.

SUMMARY OF SPECIFIC POLICIES

Policy Unit		**SMP1 Policy**	**SMP2 Policy Plan**			
		50 yrs	**2025**	**2055**	**2105**	**Comment**
42.1	The Mermaid Wall	Hold the line	HTL	HTL	HTL	This part of the quay is integral to the continued shelter of the remainder of the Town Beach frontage.
42.2	The Quay	Hold the line	HTL	HTL	HTL	This part of the quay is also integral to the continued shelter of the remainder of the Town Beach frontage.
42.3	The Quay to Custom House	Hold the line	HTL	HTL	**MR**	Increasing pressure upon this part of the frontage may dictate that a longer term accommodation of rising sea levels is made.
42.4	Custom house to Carn Thomas	Hold the line	HTL	HTL	**MR**	As with the previous policy unit frontage, a longer term realignment to accommodate rising sea levels and address the increasing risk factors is likely to be necessary.
42.5	Porth Mellon	Hold the line	HTL	**MR**	**MR**	Realignment beyond epoch 1 needed to consider management of the increasing flood risk. Inundation risks to Lower Moors area and fresh water supply must be addressed by policy.
42.6	Thomas Porth	Do nothing	NAI	NAI	NAI	Risks from erosion and flooding are indicated to be limited at Thomas Porth.
42.7	Porth Loo	Retreat the line	NAI	MR	MR	Likely to be necessary to consider realignment of the road beyond epoch 1.

Policy Unit		SMP1 Policy	SMP2 Policy Plan			
		50 yrs	2025	2055	2105	Comment
42.8	Taylor's Island to Innisidgen	Do nothing	NAI	NAI	NAI	It is not considered necessary to undertake any protection of the is frontage, as pathways can be re-routed and other risks relate to non-residential assets.
42.9	Innisidgen to Porth Hellick Point	Do nothing	NAI	NAI	NAI	A continuation of the no active intervention policy is preferred. Would satisfy objectives relating to the AONB and Heritage Coast designations.
42.10	Porth Hellick	Hold the line	HTL	**MR**	**NAI**	Consideration should be given to realignment of the embankment to provide improved, robust natural defence to the Higher Moors area.
42.11	Salakee Down	Do nothing	NAI	NAI	NAI	No risks have been identified for Salakee Down.
42.12	Porth Minnick	Hold the line	HTL	**MR**	**MR**	The preferred option would be to undertake some realignment of the defence to prevent excessive coastal squeeze developing. Inundation risks to Lower Moors area and fresh water supply must be addressed by policy.
42.13	Tolman Point	Do nothing	NAI	NAI	NAI	Would satisfy objectives relating to the AONB.
42.14	Tolman Point to Old Town Slip	Do nothing	NAI	NAI	NAI	Would satisfy objectives relating to the AONB.
42.15	Old Town Slip to Old Church	Hold the line	HTL	**MR**	**MR**	It is recommended to hold the line in the short term and consider the controlled roll back of the defences over longer term. Inundation risks to Lower Moors area and fresh water supply must be addressed by policy.
42.16	Old Church to Carn Leh	Do nothing	NAI	NAI	NAI	Some low-risk recession of the low ram cliffs would be expected along this frontage.
42.17	Carn Leh to Playground	Do nothing	NAI	NAI	NAI	An ongoing no active intervention policy is preferred. Would satisfy objectives relating to the AONB and Heritage Coast designations.
42.18	Playground to Slipway	Hold	HTL	**NAI**	**NAI**	Significant erosion may be expected under the

Policy Unit		SMP1 Policy	SMP2 Policy Plan			
		50 yrs	2025	2055	2105	Comment
	(Porthcressa)	the line				NAI policy, however with little development or assets immediately at risk, economic justification for holding the line in longer term may become difficult. This frontage must however, be a key consideration as part of the overall management of risk at Porthcressa, particularly tying in with Policy Units 42.19 and 42.20.
42.19	Slipway to Little Carn	Hold the line	HTL	**HTL (with localised MR)**	**MR**	Holding the line in the short to medium term will allow further monitoring of the coastal squeeze impacts, particularly in terms of beach levels, and changes in the beach slope and width. However the management intention must be to also address the very significant risks posed by potential occurrence of an extreme storm event. Managed realignment of the defensive line is however likely to be required in the medium to longer term – but the intention would not be to allow significant narrowing of the isthmus to occur.
42.20	Little Carn to Sally Port	Hold the line	HTL	**HTL (with localised MR)**	**MR**	The rationale is as stated for Policy Unit 42.19 above.
42.21	Sally Port to the Quay (The Garrison)	Do nothing	**NAI (with localised HTL)**	**NAI (with localised HTL)**	**NAI (with localised HTL)**	A no active intervention approach is preferred in the long term. However this should not preclude localised management taking place (defined as localised HTL) around all sections of the Garrison frontage to address ongoing stability issues along cliff line.

- **POLICIES SHOWN IN BOLD DENOTES A CHANGE FROM SMP1**

ENVIRONMENTAL ASSESSMENT
Strategic Environmental Assessment (SEA):
For the island of St Mary's, the long-term policy plan is NAI along the undefended cliffs and coves and HTL and MR used selectively to maintain current standards of defence for key assets including commercial / residential properties, Listed Buildings (Former Fish Salting Trough), beaches and tourist and recreational facilities and other infrastructure. The NAI policy will allow natural processes to prevail benefiting the geological and biodiversity interests of the designated sites of the Isles of Scilly Complex SAC, St Mary's including the Watermill Cove SSSI, Higher Moors & Porth Hellick Pool SSSI, Lower moors SSSI, Penninis Head SSSI, Porthloo SSSI, blanket bog BAP habitats and Isles of Scilly AONB and heritage coast. However, the policy of NAI through erosion may impact upon historic sites including the Giant's Cliff Castle and the following Listed Buildings: The Old Church of St Mary's; Pier House; and Outer Walls and Gateway of the Garrison. Managed realignment strategies in the second and third epochs at Porth Hellick and Porth Mellon are intended to provide a more natural, robust defence to the Lower and Higher Moors areas and the freshwater areas contained within, However some rollback of these frontages may also cause some impact on the terrestrial SSSI designations at those locations.
Habitat Regulations Assessment (HRA):
HTL is proposed for all Epochs at St Mary's (Mermaid Wall and The Quay), whilst HTL for Epochs 1 and 2 followed by MR is proposed at St Mary's (The Quay to Custom House, Custom House to Carn Thomas, Porth Mellon, Porth Hellick, Porth Minnick, Old Town Slip to Old Church, Playground to Slipway (NAI in Epochs 2 and 3), Slipway to Little Carn, and Little Carn to Sally Port),These policies occur close to or some distance (up to 300m) from the Site boundary, however, no direct loss or disturbance is expected on the Sites' features, and due to the localised nature of hydrodynamic effects coupled with the MR policies moving away from the Site boundary, no indirect effects on Site features are expected.

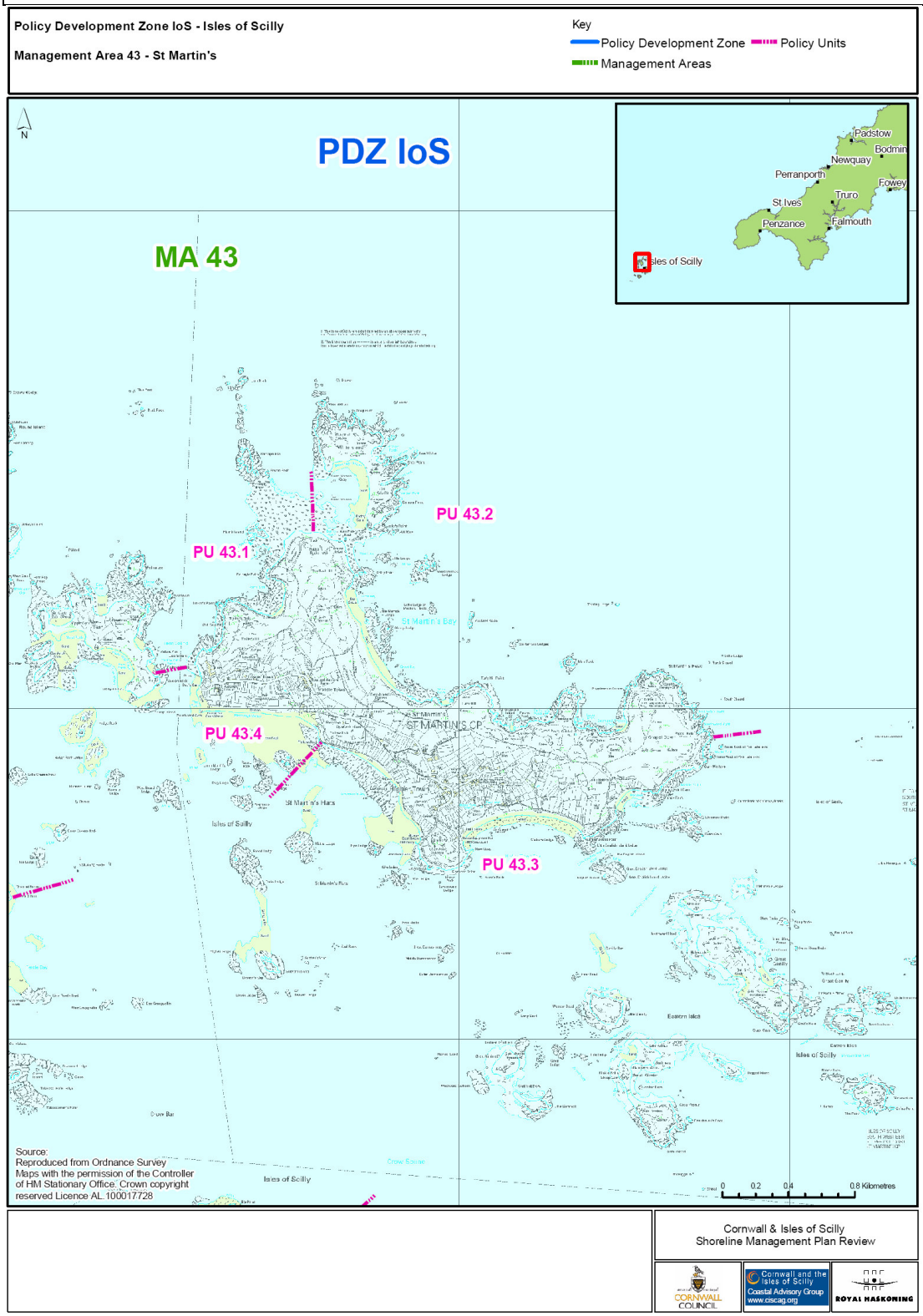
IMPLICATION WITH RESPECT TO BUILT ENVIRONMENT

Economics Summary		by 2025	by 2055	by 2105	Total £k PV
Property	Potential NAI Damages (£k PV)	48.8	90.0	409.0	575.8
	Preferred Plan Damages (£k PV)	16.3	27.0	90.3	133.6
	Benefits of preferred plan (£k PV)	32.5	62.9	318.7	442.1
	Costs of Implementing plan £k PV	2738	1682	1544	5963
			Benefit/Cost ratio of preferred plan		0.07

Notes

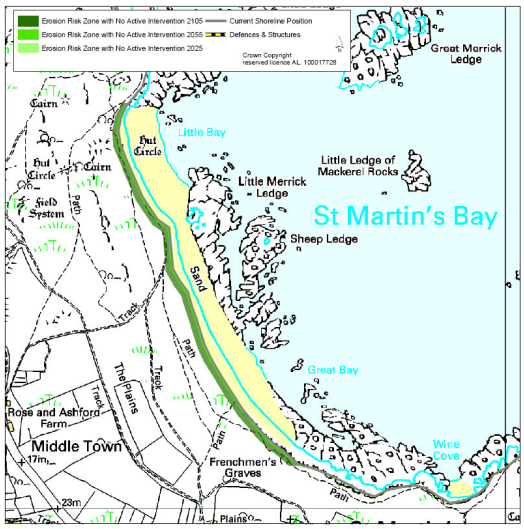
Very low numbers of properties at flood risk through still water tidal projections is not representative of the large number of properties at risk of flooding through wave dominated events especially in the lower part of Hugh Town. Further work is required to quantify properties at risk and include in detailed economics assessment.

Location reference:	**St Martin's**
Management Area reference:	**MA43**
Policy Development Zone:	PDZ18

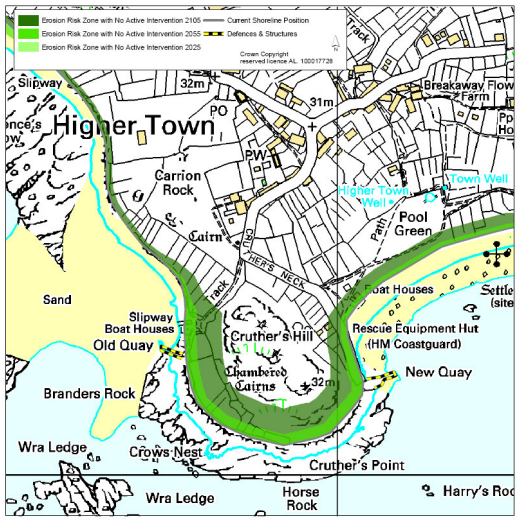


DISCUSSION AND DETAILED POLICY DEVELOPMENT

St Martins is one of the least developed of the five inhabited islands being covered in detail by the SMP and much of it is managed as a wildlife reserve by the Isles of Scilly Wildlife Trust. It has no formal sea defences or coast protection structures. There are quays (the Old Quay and the New Quay) on the east and west sides of Cruthers Hill, adjacent to Higher Town. There is also a quay at Lower Town. A complete no active intervention policy is the preferred plan across all three epochs. The four policy units established within SMP1 are kept as part of the policy review, in order to provide some comparative discussion of the future evolution of the coastline.



Very little risk is identified for **Tean Sound**. Low rates of shoreline recession are likely, generally less than 5m over the next 100 years. No active intervention is the preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

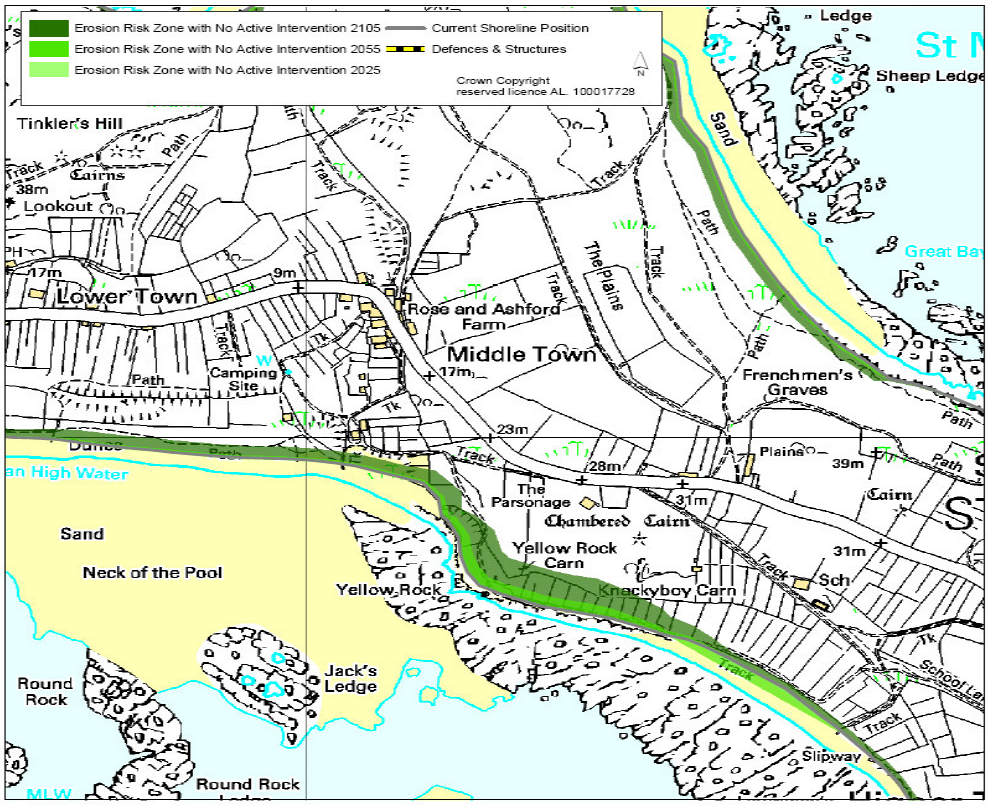


Little risk is identified for **St Martin's Bay** other than to footpaths in the general St Martin's Bay area where erosion rates may possibly reach 15-20m over 100 years (see inset map, above). No active intervention is the preferred ongoing policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Higher rates of erosion are likely along the **St Martin's Flats** frontage, particularly around Cruther's Hill where a possible 60m of recession could be experienced by 2105. There are significant historic interests at risk including prehistoric graves on the hill itself and historic quay and boathouse situated on the western shoreline (see inset map,

above). Although these are very unlikely to justify publicly funded intervention (which would interfere with natural processes) ongoing monitoring of the condition of the sites should be part of the NAI approach. It would also be important to note that the wider NAI approach should not preclude localised works at the slipways and landing quays to allow their continued use as access points for St Martin's. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Some increased rates of erosion (possibly as much as 40m by 2105) are possible around **Middle Town** but there is little at risk within this policy unit – although sections of the coastal footpath may require re-routing and some flower-growing areas may be affected (see map below). No active intervention is the preferred ongoing policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.



SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION PLAN:

Location reference:	**St Martin's**
Management Area reference:	**MA43**
Policy Development Zone:	PDZ18

PREFERRED POLICY TO IMPLEMENT PLAN:	
From present day (0-20 years)	NAI along entire frontage. Monitor condition of historic suites at Cruther's Hill.
Medium term (20-50 years)	NAI along entire frontage. Monitor condition of historic suites at Cruther's Hill.
Long term (50 -100 years)	NAI along entire frontage. Monitor condition of historic suites at Cruther's Hill.

SUMMARY OF SPECIFIC POLICIES

Policy Unit		**SMP1 Policy**	**SMP2 Policy Plan**			
		50 yrs	**2025**	**2055**	**2105**	**Comment**
43.1	Tean Sound	Do nothing	NAI	NAI	NAI	Very little risk identified. Low rates of shoreline recession likely.
43.2	St Martins Bay	Do nothing	NAI	NAI	NAI	Little risk identified other than to footpaths in St Martin's Bay area.
43.3	St Martin's Flats	Do nothing	NAI	NAI	NAI	Higher rates of erosion likely along this frontage, particularly around Cruther's Hill where a possible 60m of recession could be experienced by 2105. NAI would satisfy objectives relating to the AONB and Heritage Coast designations. Coastal tracks and footpaths at risk and will require re-routing.
43.4	Middle Town	Do nothing	NAI	NAI	NAI	No active intervention is the preferred ongoing policy. Would satisfy objectives relating to the AONB and Heritage Coast designations.

Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention
MR – Managed Realignment

ENVIRONMENTAL ASSESSMENT
Strategic Environmental Assessment (SEA):
For the island of St Martin, the overall policy is one of NAI along the entire frontage of the island with no impact anticipated on infrastructure and development on the island. The policy will also benefit the following designated sites: Isles of Scilly SPA; Isles of Scilly Ramsar; Isles of Scilly Complex SAC; Pentle Bay, Merrick & Round Islands SSSI; St Helen's SSSI; Tean SSSI; Porth Seal SSSI; White Island SSSI; St Martin's Sedimentary Shore SSSI; Plains & Great Bay SSSI; Eastern Isles SSSI; Various historic features; and Isles of Scilly Heritage Coast.
Habitat Regulations Assessment (HRA):
Due to a total implementation of NAI around the entire frontage of St Martin's, no direct loss or disturbance is expected on the SAC Sites' features. No loss of supporting habitat for the species for which the SPA is designated is expected

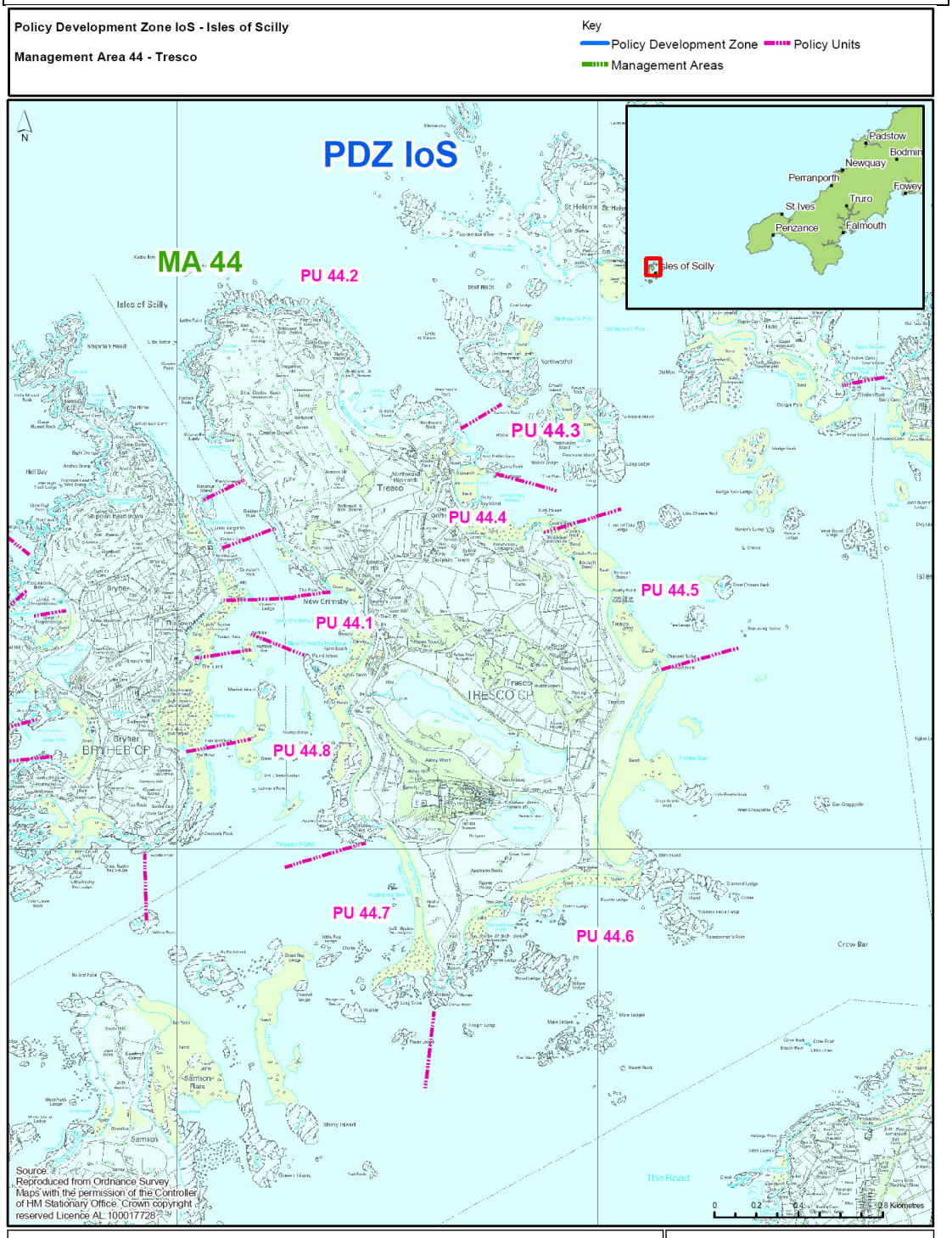
IMPLICATION WITH RESPECT TO BUILT ENVIRONMENT

Economics Summary		by 2025	by 2055	by 2105	Total £k PV
Property	Potential NAI Damages (£k PV)	0.0	0.0	0.0	0.0
	Preferred Plan Damages (£k PV)	0.0	0.0	0.0	0.0
	Benefits of preferred plan (£k PV)	0.0	0.0	0.0	0.0
	Costs of Implementing plan £k PV	0	0	0	0
			Benefit/Cost ratio of preferred plan		N/A

Notes

No works

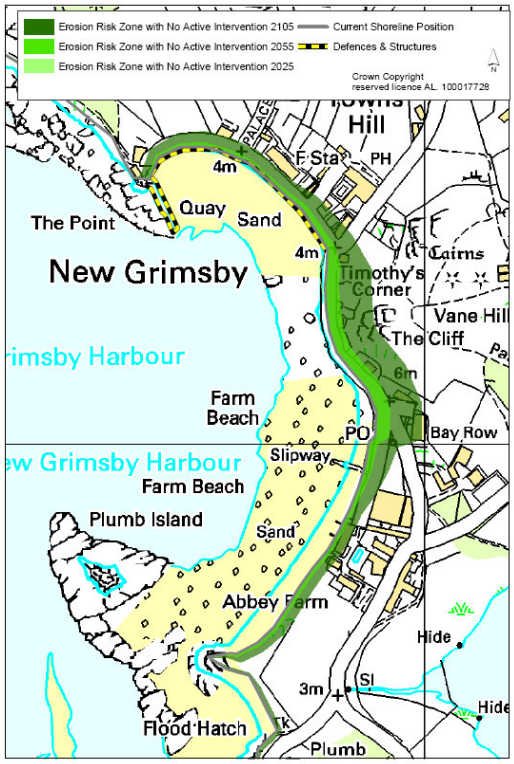
Location reference:	**Tresco**
Management Area reference:	**MA44**
Policy Development Zone:	PDZ18

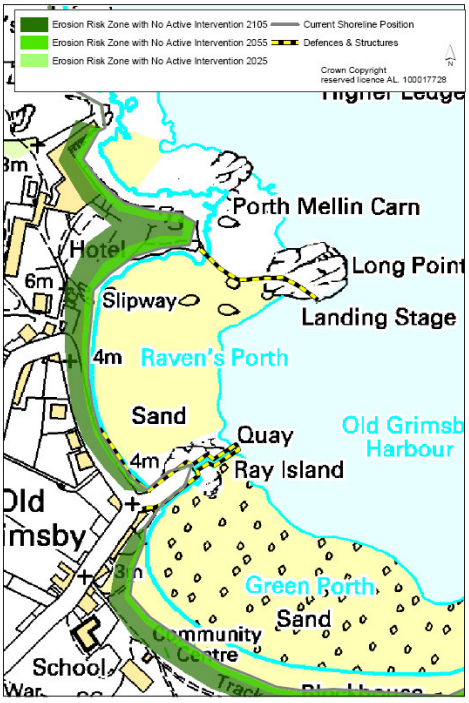


DISCUSSION AND DETAILED POLICY DEVELOPMENT

Tresco has a few developed areas where sea defences and coast protection structures have been established. It is still on the whole an island dominated by natural coastal processes and the preferred plan would be to support this as much as possible and reduce future reliance on defences and discourage the building of new engineered sea defences. It is a little more sheltered from some of the prevailing westerly Atlantic conditions than the other islands, although exposure to south-easterly storms along its easterly facing Pentle Bay coast means higher erosion is anticipated here. There is a general trend on Tresco of risk to a number of roads which run immediately parallel or close to the shoreline (which can be seen demonstrated by all the inset maps within this discussion section). A number of road sections could be lost by 2105. The impact of this on the local population and economy needs to be considered though it is worth noting that motorised vehicles are generally not used on Tresco and the roads provide transport links for only non-motorised traffic.

The current shoreline position at **New Grimsby**, in the northern part of Grimsby Harbour, is likely to be generally technically sustainable, although some coastal squeeze pressures may develop into the longer term. The frontage is sheltered which should aid longevity of current shoreline position. The significant impact of adopting a no active intervention approach dictates that (in order to maintain the value of New Grimsby to Tresco), the preferred plan would be to hold the line. Remedial works have recently been carried out along this frontage.

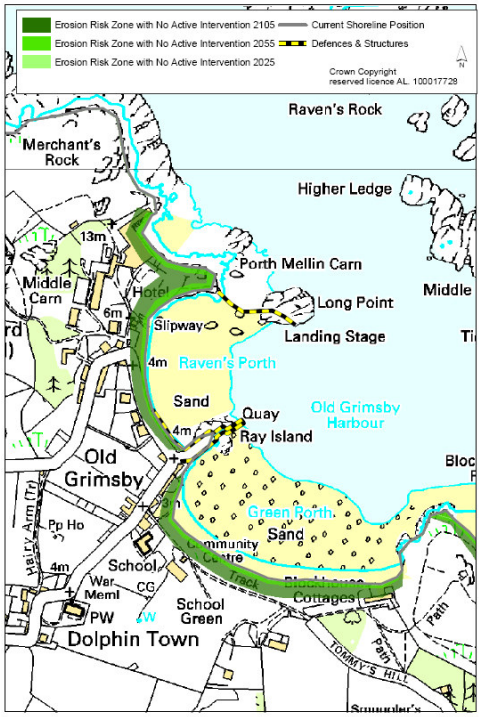




This recognises the importance of the settlement to tourism and the wider economy of the Islands. There is likely to be some erosion threat to the position of the lane which runs between New Grimsby and the slipway at the Flying Boat Club frontage. This could occur as early as epoch 1 (inset map, above). Any realignment of this route should take into account the likely position of the shoreline in 2105.

Castle Down in the north of the island forms a large part of Tresco. From New Grimsby around to the Island Hotel, erosion rates along the hard rocky coastline of Castle Down are expected to be low (generally <3m) and subsequently little risk develops though to 2105. Therefore no active intervention is the preferred continuing policy, as established by SMP1. This would satisfy objectives relating to the AONB and SAC designations.

Erosion rates adjacent to the **Island Hotel,** on the east side of the island, are predicted to be up to 25m over 100 years (see inset map, above) which may present a risk to the Hotel and associated facilities. There is currently around 130m of defended shoreline with rock armour fronting low vertical masonry sea walls (see inset photo, below). These are located adjacent to Porth Mellin Carn, fronting the Hotel itself (north of Raven Porth). Some width in the shoreline exists in front of the hotel itself and risks may not be significant until epoch 3 but to the south, residential properties adjacent to the Old Grimsby Quay may be at risk by epoch 2. This more exposed frontage may require some realignment in the longer term. The preferred plan is to hold the line in epochs 1 and 2, moving to some form of realignment in epoch 3, in order to absorb some of the impacts of climate change and sea level rise.

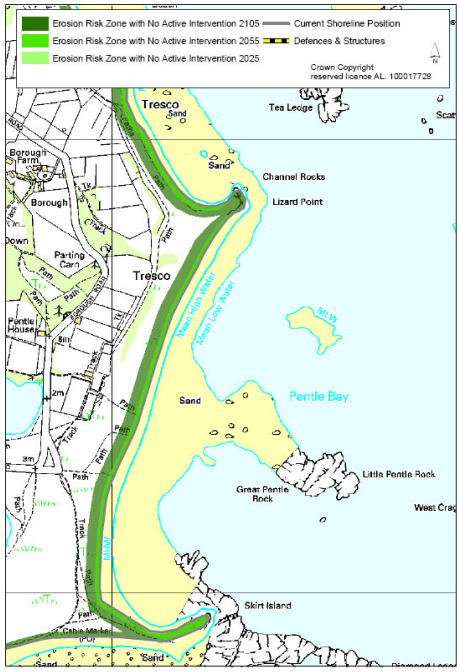



Defences fronting the Island Hotel, Tresco

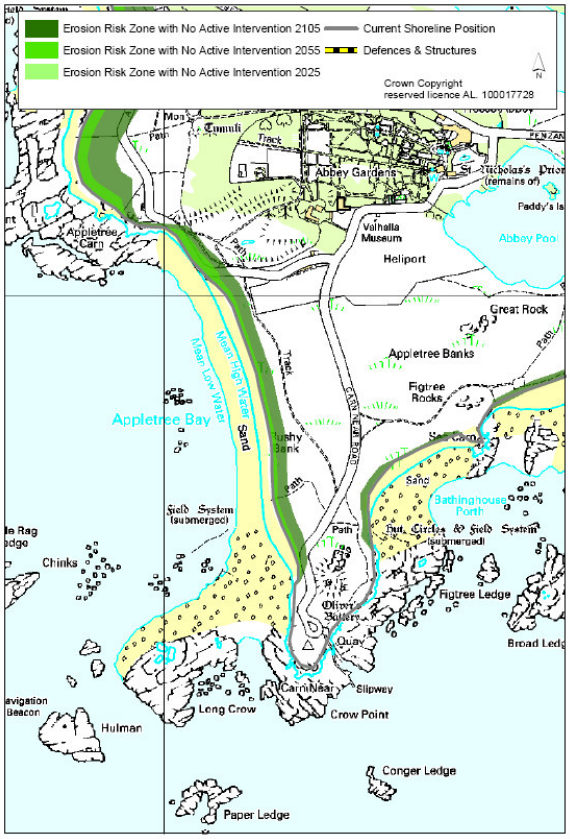
Despite anticipated erosion of up to 25m over 100 years at **Old Grimsby**, (south of the Island Hotel) and its more exposed nature, there appears to be enough width within the upper beach and dunes to provide a buffer to the impacts of sea level rise and increased storminess and allow a natural responding beach to prevail. Therefore a continuation of the do nothing policy from SMP1 as no active intervention is preferred. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Little risk is identified at **Rushy Point**, although potential erosion of the low ram cliffs along the shoreline by up to 30m may require the re-routing of a number of the coastal footpaths and access points. No active intervention is the preferred ongoing

policy across the three epochs. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.



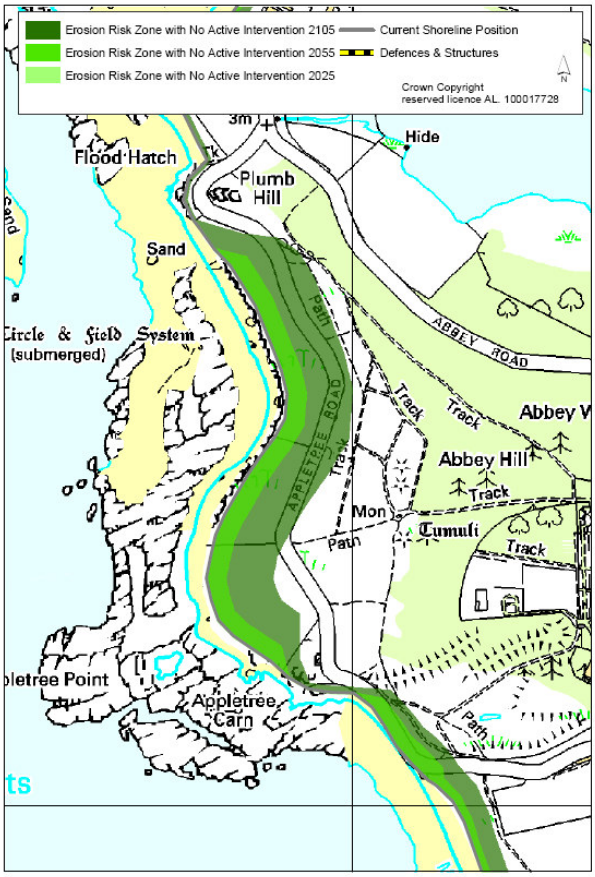
Erosion of the shoreline may exceed 30m over 100 years along the coastline of **South Beach** / **Pentle Bay** (see inset map, right) which runs for some 1.7km to the south of Rushy Point. Re-routing of coastal footpaths will be necessary but there is seen to be no active justification for continuing with the advance the line policy advocated in SMP1. A no active intervention approach is preferred, as it allows natural evolution of the coast and will continue to provide new sediment inputs to the beaches and dunes, helping to maintain their stability and healthy response to sea level rise. However it is acknowledged that some localised management of the eroding dune front along South Beach is planned by Tresco Estates and that this work would be self-funded. The preferred plan would not preclude this type of activity, as long as it met with objectives to support nature conservation designations. The wider no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.



Erosion of the shoreline may exceed 30m over 100 years along the low ram coastline of **Appletree Bay** (see inset map below). Re-routing of coastal footpaths will be necessary but there is seen to be no active justification for continuing with the advance the line policy advocated in SMP1. A no active intervention approach is preferred, as it allows natural evolution of the coast and will continue to provide new sediment inputs to the beaches and dunes, helping to maintain beach stability and width and encouraging the dunes to provide robust natural response to sea level rise. The preferred plan will inevitably involve some retreat of the shoreline but given that few infrastructure assets are at risk, hold the line is not seen as suitable or justifiable. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Potential erosion by 2105 of up to 75m may threaten the route of Appletree Road (see inset map) along the west facing **Tresco Flats** frontage. There is seen to be no justification to any intervention along this frontage however and any benefits gained from retaining the road route and preventing some cliff line recession would be outweighed by impacts on the landscape value and the reduction in sediment inputs into the nearshore system. No active intervention is therefore the preferred ongoing policy throughout the three epochs. The policy advocated in SMP1 was 'retreat the line'. In effect, no active intervention will anticipate and accept a general retreat of the shoreline due to natural coastal processes.

The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations. Any realignment of Appletree Road and coastal footpaths should consider the possible position of the shoreline in 2105 to ensure the realignments are as sustainable as possible.



SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION

PLAN:

Location reference:	**Tresco**
Management Area reference:	**MA44**
Policy Development Zone:	PDZ18

PREFERRED POLICY TO IMPLEMENT PLAN:	
From present day (0-20 years)	HTL at New Grimsby. HTL at Island Hotel. NAI along the remainder of the Tresco frontage.
Medium term (20-50 years)	HTL at New Grimsby. HTL at Island Hotel. NAI along the remainder of the Tresco frontage.
Long term (50 -100 years)	HTL at New Grimsby. MR at Island Hotel. NAI along the remainder of the Tresco frontage.

SUMMARY OF SPECIFIC POLICIES

Policy Unit		**SMP1 Policy**	**SMP2 Policy Plan**			
		50 yrs	**2025**	**2055**	**2105**	**Comment**
44.1	New Grimsby	Hold the line	HTL	HTL	HTL	Current shoreline position is likely to be technically sustainable into the longer term, although some coastal squeeze pressures may develop. Recent remediation works have been undertaken.
44.2	Castle Down	Do nothing	NAI	NAI	NAI	Would satisfy objectives relating to the AONB and SPA / SAC designations.
44.3	Island Hotel	Hold the line	HTL	HTL	**MR**	This more exposed frontage may require some realignment in the longer term. Rock armour and masonry wall defences are currently in position fronting the hotel.
44.4	Old Grimsby	Do nothing	NAI	NAI	NAI	Would satisfy objectives relating to the AONB.
44.5	Rushy Point	Do nothing	NAI	NAI	NAI	Would satisfy objectives relating to the AONB
44.6	South Beach / Pentle Bay	Advance the line	**NAI**	**NAI**	**NAI**	Would satisfy objectives relating to the AONB and SPA / SAC designations. Does not preclude private works relating to dune stabilisation at South Beach.
44.7	Appletree Bay	Advance the line	**NAI**	**NAI**	**NAI**	Would satisfy objectives relating to the AONB
44.8	Tresco Flats	Retreat the line	**NAI**	**NAI**	**NAI**	No active intervention is the preferred ongoing policy. Would satisfy objectives relating to the AONB

Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention
MR – Managed Realignment

- **POLICIES SHOWN IN BOLD DENOTES A CHANGE FROM SMP1**

ENVIRONMENTAL ASSESSMENT
Strategic Environmental Assessment (SEA):
For the islands of Tresco and Bryher, the overall policies to be implemented include NAI along all undefended cliff and cove shoreline and HTL and MR used selectively to maintain current standards of defence for key assets including commercial / residential properties, beaches and tourist and recreational facilities and other infrastructure on the islands. The policy of NAI will benefit the following designated sites: Isles of Scilly SPA;Isles of Scilly Ramsar;

Isles of Scilly Complex SAC; Shipman Head & Shipman Down SSSI; Norrard Rocks SSSI; Pool of Bryher & Popplestone Bank SSSI; Rushy Bay & Heathy Hill SSSI; Samson SSSI;Pentle Bay, Merrick & Round Islands SSSI; Great Pool SSSI; St Helen's SSSI; and Isles of Scilly Heritage Coast.

However, the policy of NAI through erosion may cause disturbance or deterioration to historic sites and their settings including the following: Prehistoric Cairn Group On Abbey Hill, Tresco (SM); St Nicholas' Priory, Tresco (SM); Cromwell'S Castle Mid-17Th Century Blockhouse (SM); King Charles' Castle (SM); and Tresco Historic Parks and Gardens. Monitoring should be undertaken.

Habitat Regulations Assessment (HRA):

HTL is proposed for all Epochs at Tresco (New Grimsby) and HTL for Epochs 1 and 2 followed by MR at Tresco's Island Hotel, These policies occur close to or some distance (up to 300m) from the Site boundary, however, no direct loss or disturbance is expected on the Sites' features, and due to the localised nature of hydrodynamic effects coupled with the MR policies moving away from the Site boundary, no indirect effects on Site features are expected.

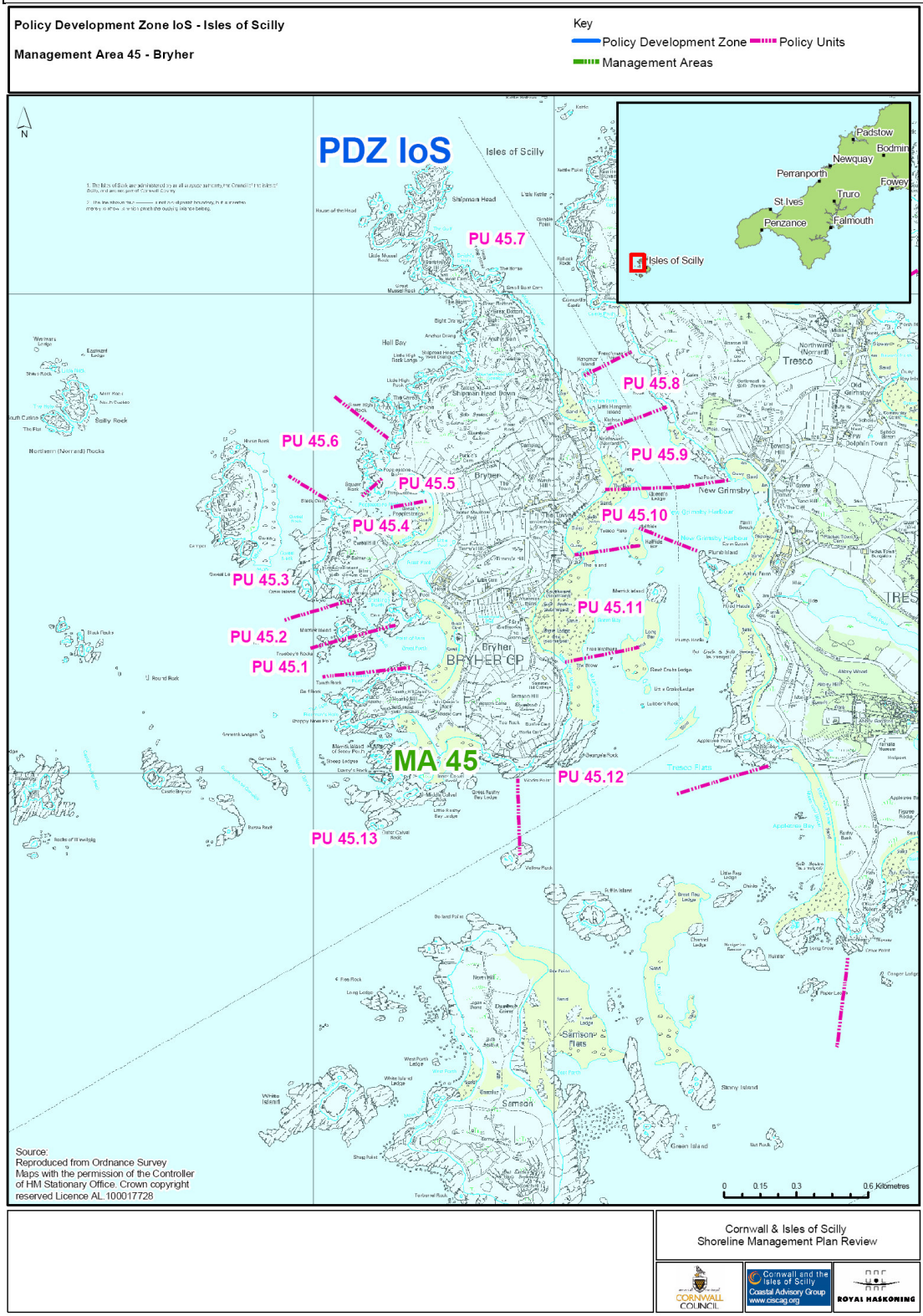
IMPLICATION WITH RESPECT TO BUILT ENVIRONMENT

Economics Summary		by 2025	by 2055	by 2105	Total £k PV
Property	Potential NAI Damages (£k PV)	0.0	702.2	227.3	929.5
	Preferred Plan Damages (£k PV)	0.0	175.5	56.8	232.4
	Benefits of preferred plan (£k PV)	0.0	526.6	170.5	697.1
	Costs of Implementing plan £k PV	459	81	230	770
			Benefit/Cost ratio of preferred plan		0.91

Notes

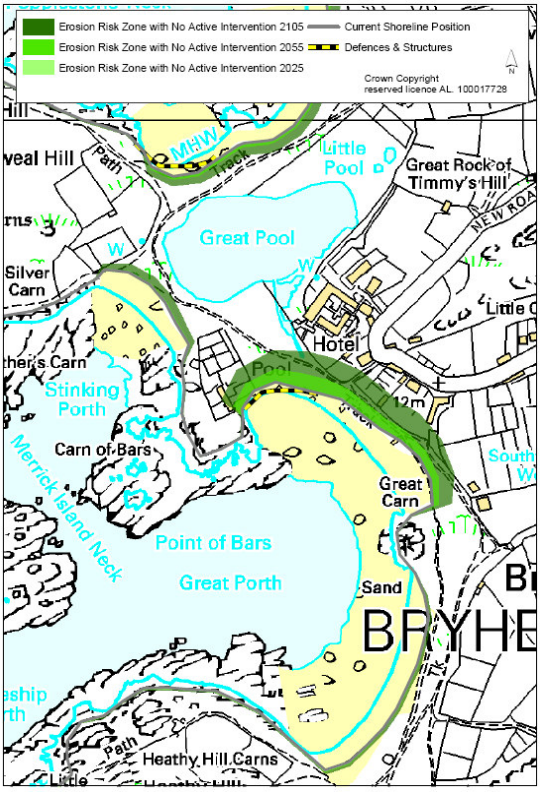
Marginal B/C ratio is influenced by high harbour maintenance costs.

Location reference:	**Bryher**
Management Area reference:	**MA45**
Policy Development Zone:	PDZ18



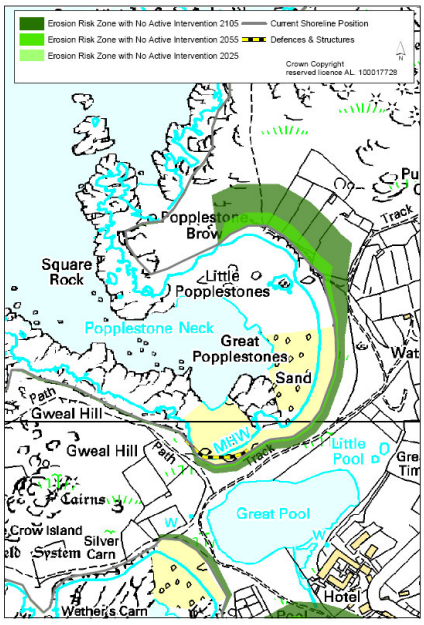
DISCUSSION AND DETAILED POLICY DEVELOPMENT

Bryher sits directly due west of Tresco, consequently its western flank is very exposed to prevailing Atlantic conditions, dictating that erosion issues dominate the risks there. Its eastern flank in contrast is more sheltered.



Recession at **Great Porth North** is predicted to be up to 35m over 100 years. There is currently a substantial area of upper beach around 35-40m wide above mean high water. HTL is preferred in epoch 1. It is intended however that the HTL policy only applies to the rock armour defence which is currently in place along the most northerly part of the shoreline.

There may be some risk to development if the defence were allowed to fail however a better understanding of the risks may be developed through monitoring of the rate of shoreline recession. In the medium to longer term the preferred intent of management would be to allow the wide upper beach and vegetated zone to be managed as a no active intervention area, providing a natural and responsive beach-dune system more able to adapt itself to sea level rise and coastal squeeze pressures. There may be some economic justification for continued holding the line beyond epoch 1 if ongoing rates of erosion were likely to pose substantial risk to the hotel and other development, given the significance of this to Bryher's economy. The inset map, (above right) shows the anticipated maximum extent of erosion and the ongoing measurement of this must inform subsequent reviews if the SMP.



No significant erosion risks are identified at **Stinking Porth**, although it may provide a route through for wave overtopping, flooding and inundation affecting the Great Pool. Historically there has been some flood risk at this location (storms during 1989) and wave overtopping risks are likely to increase in line with sea level rise and increasing storminess. Although rock armour was placed along the rear of the beach in response to the perceived risks following flooding occurrences, ongoing erosion will lead to increased breach potential into the Great Pool. No active intervention would be preferred policy

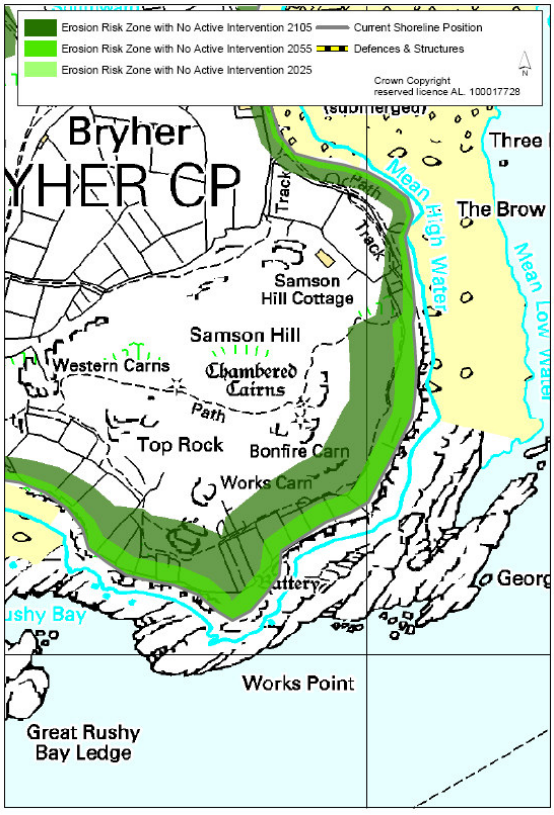
however this is an important location, given the proximity to the Great Pool, for monitoring of the shoreline response to wave and tide forcing. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

No significant erosion risks are identified for **Gweal Hill**, the west-facing headland which separates Great Porth and Great Popplestones. Therefore no active intervention would be the preferred plan and policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Assessment of erosion risks at **Great Popplestones** indicates only a small amount of recession is likely adjacent to the Great Pool (see inset map, right). There are water resource issues related to the Great Pool and an initial hold the line policy should monitor the rate to test that a longer term aim to move to no active intervention is correct. This policy choice only applies to the area fronting the Great Pool.

Although erosion may exceed 50m at **Little Popplestones** (see inset map, above) there appears little justification for any continuation of a hold the line policy, with no assets or residential property at risk. The preferred policy therefore would be no active intervention, to allow natural process to continue to dictate evolution of the shoreline. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

The remainder of the Bryher shoreline is generally undeveloped and sparsely populated. The low level of risk attached to the remainder of the shoreline dictates that no active intervention is the preferred plan across the three epochs for the remainder of the shoreline. The policy units established within SMP1 are briefly assessed below.



Popplestone Brow - No significant risks identified, shoreline is resistant and stable, erosion not expected to exceed 3m, no active intervention would be preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Popplestone Brow to Hangman Island - No significant risks identified, shoreline is resistant and stable, erosion not expected to exceed 3m, no active intervention would be preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Kitchen Porth – The coastline is active and erosion may exceed 15m over 100 years and possibly affect some discrete properties in the very long term - no

active intervention would be preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Post Office to the Bar - No significant risks identified, although the coastline is very active along the interface between mean high water and the low dunes and ram cliffs, where erosion may exceed 20m over 100 years and possibly affect some cliff top land use. No active intervention would be preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations. Some re-routing of coastal footpaths would be necessary.

The Bar to the Quay - No significant risks identified, although the coastline is very active along the interface between mean high water and the low dunes and ram cliffs, where erosion may exceed 20m over 100 years and possibly affect some cliff top land use. No active intervention would be preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations. Some re-routing of coastal footpaths would be necessary.

Southward - No significant risks to existing assets are identified, although local knowledge indicates that some localised vulnerability to flooding may exist. Any future essential development therefore should be subject to detailed flood risk assessment. However any development in the erosion risk zone should be strongly discouraged as erosion along this frontage may exceed 60m over 100 years. This may also affect some cliff top land use and possibly historic sites. No active intervention would remain the preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations. Some re-routing of coastal footpaths would be necessary (see inset map, above).

The Brow to Works Point - No significant risks identified, although the coastline is very active along the interface between mean high water and the low dunes and ram cliffs, where erosion may exceed 20m over 100 years and possibly affect some cliff top land use. No active intervention would be preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations. Some re-routing of coastal footpaths would be necessary.

Works Point to Great Carn - No significant risks identified, although the coastline is very active along the interface between mean high water and the low dunes and ram cliffs, where erosion may exceed 20m over 100 years around Rushy Bay and possibly affect some cliff top land use. No active intervention would be preferred policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations. Some re-routing of coastal footpaths would be necessary.

SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION PLAN:

Location reference:	**Bryher**
Management Area reference:	**MA45**
Policy Development Zone:	PDZ18

PREFERRED POLICY TO IMPLEMENT PLAN:	
From present day (0-20 years)	NAI along all undefended cliff and cove shorelines. HTL at Great Porth North and Great Popplestones.
Medium term (20-50 years)	NAI along all undefended cliff and cove shorelines.
Long term (50 -100 years)	NAI along all undefended cliff and cove shorelines.

SUMMARY OF SPECIFIC POLICIES

Policy Unit		**SMP1 Policy**	**SMP2 Policy Plan**			
		50 yrs	**2025**	**2055**	**2105**	**Comment**
45.1	Great Porth North	Hold the line	HTL	**NAI (with localised HTL)**	**NAI (with localised HTL)**	Holding the line in epoch 1 would allow monitoring of the rate (predicted up to 35m over 100 years) of shoreline recession. Erosion due to wave action remains principal risk.
45.2	Stinking Porth	Do nothing	**NAI (with localised HTL)**	**NAI (with localised HTL)**	**NAI (with localised HTL)**	Historically there has been some flood risk at this location and wave overtopping risks likely to increase. Erosion will lead to increased breach potential into the Great Pool. NAI approach should not preclude localised intervention in deemed necessary
45.3	Gweal Hill	Do nothing	NAI	NAI	NAI	No significant risks identified.
45.4	Great Popplestones	Hold the line	HTL	**NAI**	**NAI**	Initial hold the line should monitor rate to test, but longer term aim would be to move to NAI.
45.5	Little Popplestones	Hold the line	NAI	**NAI**	**NAI**	The preferred policy would be NAI, which should satisfy objectives relating to the AONB
45.6	Popplestone Brow	Do nothing	NAI	NAI	NAI	No significant risks identified
45.7	Popplestone Brow to Hangman Island	Do nothing	NAI	NAI	NAI	No significant risks identified
45.8	Kitchen Porth	Do nothing	NAI	NAI	NAI	Coastline very active and erosion may exceed 15m over 100 years possibly affecting some cliff top land use.

45.9	Post Office to the Bar	Do nothing	NAI	NAI	NAI	Coastline very active and erosion may exceed 20m over 100 years possibly affecting some cliff top land use.
45.10	The Bar to the Quay	Do nothing	NAI	NAI	NAI	Coastline very active and erosion may exceed 20m over 100 years possibly affecting some cliff top land use.
45.11	Southward	Do nothing	NAI	NAI	NAI	Some localised vulnerability to flooding may exist. Coastline also actively eroding – possibly up to 60m over 100 years.
45.12	The Brow to Works Point	Do nothing	NAI	NAI	NAI	Coastline very active and erosion may exceed 20m over 100 years possibly affecting some cliff top land use.
45.13	Works Point to Great Carn	Retreat the line	**NAI**	**NAI**	**NAI**	Coastline very active and erosion may exceed 20m over 100 years possibly affecting some cliff top land use.
Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention MR – Managed Realignment						

- **POLICIES SHOWN IN BOLD DENOTES A CHANGE FROM SMP1**

ENVIRONMENTAL ASSESSMENT
Strategic Environmental Assessment (SEA):
For the island of Bryher, the overall policies to be implemented include NAI along all undefended cliff and cove shoreline and HTL and MR used selectively to maintain current standards of defence for key assets including commercial / residential properties, beaches and tourist and recreational facilities and other infrastructure on the islands. The policy of NAI will benefit the following designated sites: Isles of Scilly SPA;Isles of Scilly Ramsar; Isles of Scilly Complex SAC; Shipman Head & Shipman Down SSSI; Norrard Rocks SSSI; Pool of Bryher & Popplestone Bank SSSI; Rushy Bay & Heathy Hill SSSI; Samson SSSI;Pentle Bay, Merrick & Round Islands SSSI; Great Pool SSSI; St Helen's SSSI; and Isles of Scilly Heritage Coast. However, the policy of NAI through erosion may cause disturbance or deterioration to historic sites and their settings.
Habitat Regulations Assessment (HRA):
HTL is proposed for all Epochs at Great Porth North, whilst HTL for Epochs 1 and 2 followed by MR is proposed at Great Popplestones. These policies occur close to or some distance (up to 300m) from the Site boundary, however, no direct loss or disturbance is expected on the Sites' features, and due to the localised nature of hydrodynamic effects coupled with the MR policies moving away from the Site boundary, no indirect effects on Site features are expected. Possible indirect disturbance effects may occur at Great Popplestones (Bryher). However, no loss of supporting habitat for the species for which the SPA is designated is expected provided appropriate preventative and mitigation measures are incorporated in various scheme proposals (such as following existing defence line, use of similar materials, etc). **These preventative and mitigation measures are included within the SMP Action Plan.**

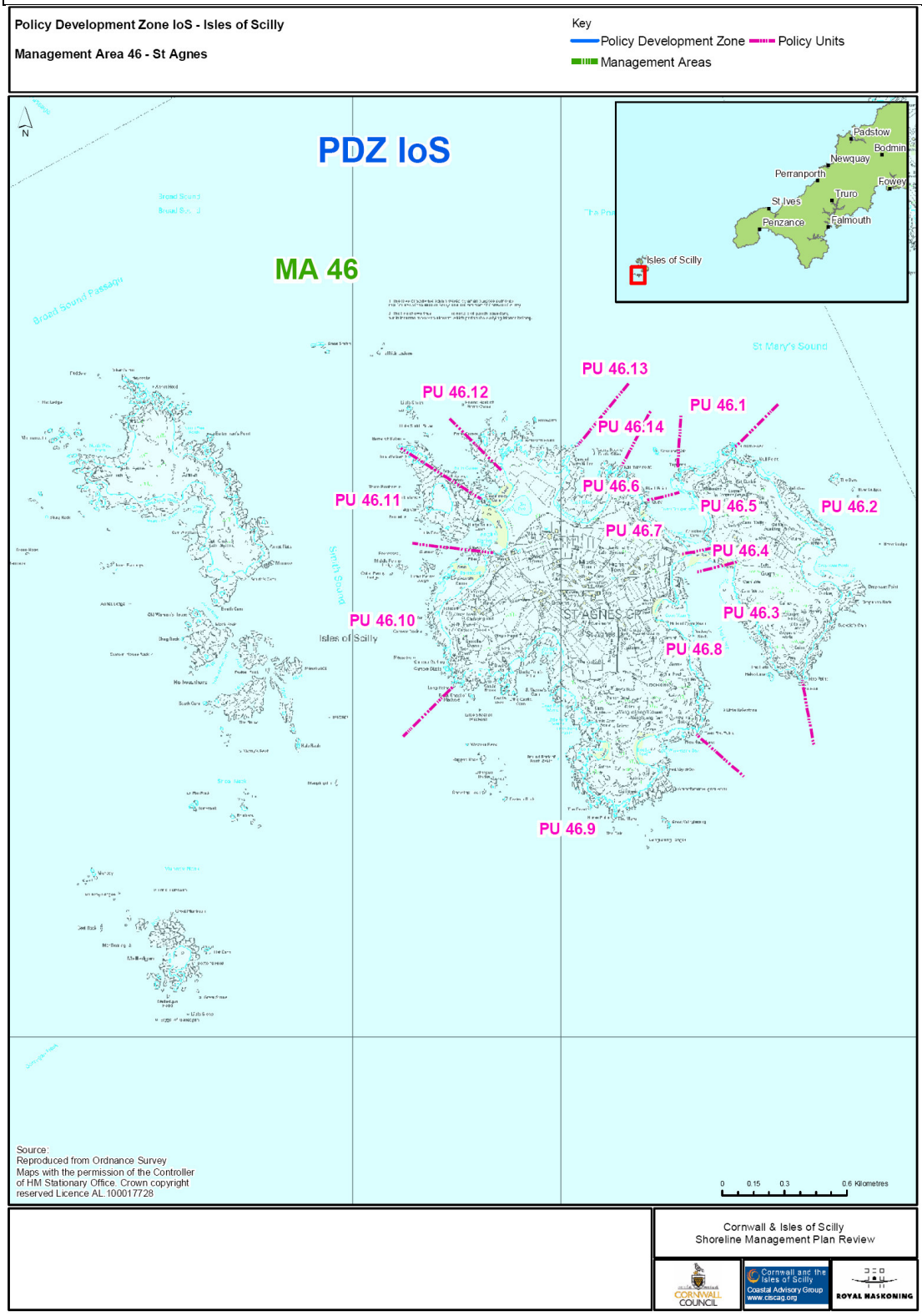
IMPLICATION WITH RESPECT TO BUILT ENVIRONMENT

Economics Summar		by 2025	by 2055	by 2105	Total £k PV
Property	Potential NAI Damages (£k PV)	0.0	0.0	6.2	6.2
	Preferred Plan Damages (£k PV)	0.0	0.0	6.2	6.2
	Benefits of preferred plan (£k PV)	0.0	0.0	0.0	0.0
	Costs of Implementing plan £k PV	60	0	0	60
			Benefit/Cost ratio of preferred plan		N/A

Notes

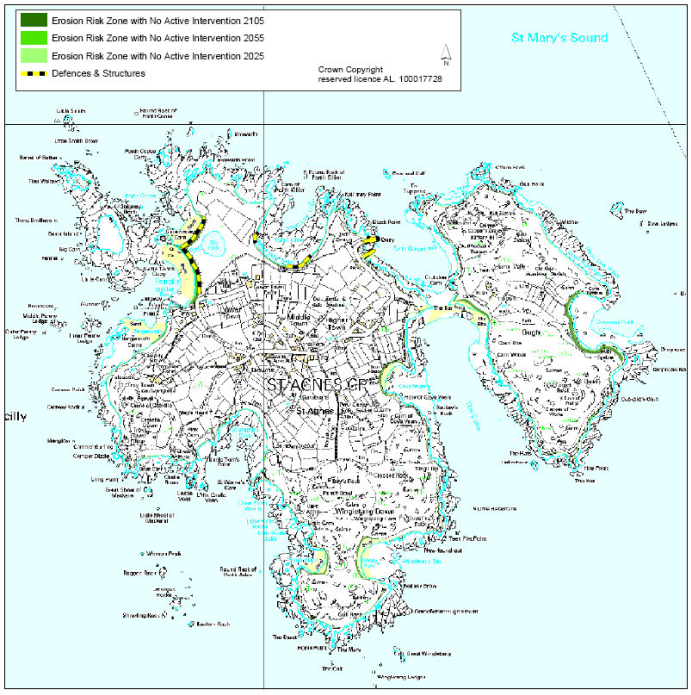
Initial HTL policy is not justified economically

Location reference:	**St Agnes and Gugh**
Management Area reference:	**MA46**
Policy Development Zone:	PDZ18



DISCUSSION AND DETAILED POLICY DEVELOPMENT

St Agnes and Gugh are almost exclusively hard, rocky-shored and generally resistant to erosion. Gugh has no formal sea defences or coast protection. St Agnes has some small sections of seawall and revetment at Porth Killier, embankments protecting the Big Pool (fresh water supply for the island) at Porth Coose and Pereglis and there are quays just to the south of Kallimay Point. As with the previous islands discussed, the policy units established for St Agnes and Gugh by SMP1 have been retained for this draft of the SMP review so that comparison with the previous policies can be made easily. It may be sensible for subsequent strategies to reduce the number of policy units, as the vast majority are now likely to be managed under a no active intervention approach and could therefore be grouped together.



The principle issue for St Agnes is the threat from erosion and inundation at the Big Pool, the islands main drinking water supply. On St Agnes, once the design life of the defences around Big Pool was exceeded there would be risks of ground water contamination from seawater during frequent storms. The preferred plan aims to make provision for the defence of this area, as it is so strategic to the well-being of the local community and the economy of the island. There may be some enhanced flood risk at Wingletang Bay and minor erosion experienced to the rear of Porth Askin, Wingletang Bay, Porth Vean, Porth Killier and Dropnose Porth (Gugh) (see inset map, above) but there are no assets thought to be at risk. The extent of flower growing areas affected is also very limited. There may be the loss of some foreshore and shoreline historic features and findspots due to the ongoing natural erosion. As with the other islands, there may be a requirement to re-route some of the coastal footpath route due to erosion. Each of the discrete policy units is considered below, with the likely amount of erosion identified.

Tol Tuppens to Kittern Rock - No risks identified, the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in

places). No active intervention is the preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations. Some re-routing of coastal footpaths would be necessary.

Kittern Rock to the Hoe - No risks identified as the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in places). No active intervention is the preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

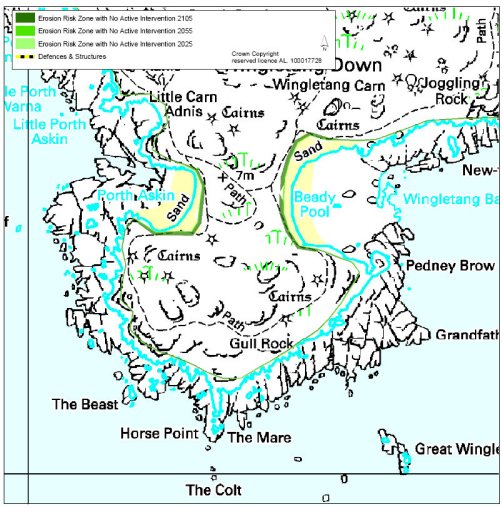
The Hoe to the Bar - No risks identified as the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in places). No active intervention is the preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

The Bar – the Bar is natural geomorphological feature connecting St Agnes and Gugh and it should be managed under a no active intervention approach. The Bar is likely to be subject to morphological change due to sea level rise. The feature should be monitored as part of the NAI approach. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

The Bar to Tol Tuppens - No risks identified as the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in places). No active intervention is preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Kallimay Point to the Jetty - No risks identified as the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in places). No active intervention is the preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

The Jetty to the Bar - No justification for entire hold the line along this frontage but NAI should not preclude local management of the quay and jetty structures to ensure a continued link to St Mary's.



The Bar to Tean Plat Point - No risks identified as the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in places). No active intervention is the preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

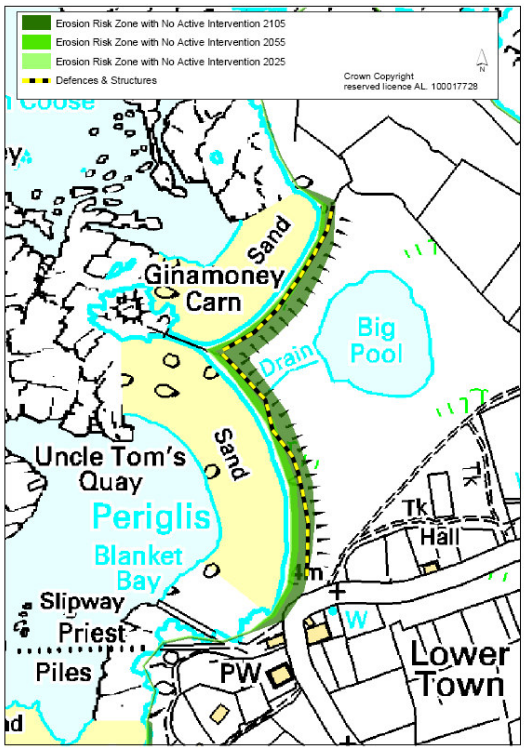
Tean Plat Point to Long Point - No risks identified as the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in

places). There is some reported flood risk to the neck of land extending between Wingletang Bay and Porth Askin (see inset map, above). No features are specifically at risk however and no active intervention is the preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Long Point to Pereglis Slips - No risks identified as the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in places). No active intervention is the preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Pereglis slips to Ginamoney Carn - Risk to the Big Pool from erosion and inundation and possible saline contamination of drinking water supply (see inset map, below). Whilst this area provides main potable supply to the island the preferred plan and policy would be to hold the line. For a longer term perspective it may be necessary to consider how this is done and whether it is technically sustainable into the future. There are also issues (as on the other islands) relating to percolation of sea water through the embankments and saline intrusion in to the islands groundwater, due to sea level rise. These potential issues need to be considered in more detail as part of an overall strategy into fresh water supply security for the entire archipelago.

Ginamoney Carn to Browarth Point – as with the above policy unit, there is a risk to the Big Pool from erosion and inundation and possible saline contamination of drinking water supply (see inset map, right). Whilst this area provides main potable supply to the island, the preferred plan and policy would be to hold the line.



Browarth Point - No risks identified as the shoreline is resistant to erosion (generally less than 5m expected though this may be locally exceeded in places). No active intervention is preferred long term policy. The no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

Browarth Point to Kallimay Point – There appears to be little justification to continue with a comprehensive HTL policy along this frontage. Erosion risks are concluded to be very slight; therefore a no active intervention policy is preferred across the majority of the frontage. However there are some discrete sections of defence at Porth Killier (sea wall and revetment) which provide protection to the Big Pool area and periodic maintenance of these structures may be required to prevent failure and inundation. Therefore although NAI is preferred, localised HTL is acceptable within this policy unit, (applying only to the existing defence lengths). The wider no active intervention approach would satisfy the objectives relating to the AONB and Isles of Scilly SAC designations.

SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION

PLAN:

Location reference:	**St Agnes and Gugh**
Management Area reference:	**MA46**
Policy Development Zone:	PDZ18

PREFERRED POLICY TO IMPLEMENT PLAN:	
From present day (0-20 years)	NAI along all undefended cliff and cove shorelines. HTL around the south-west and north-west facing shorelines of the Big Pool area. Localised HTL at Porth Killier where necessary.
Medium term (20-50 years)	NAI along all undefended cliff and cove shorelines. HTL around the south-west and north-west facing shorelines of the Big Pool area. Localised HTL at Porth Killier where necessary.
Long term (50 -100 years)	NAI along all undefended cliff and cove shorelines. HTL around the south-west and north-west facing shorelines of the Big Pool area. Localised HTL at Porth Killier where necessary.

SUMMARY OF SPECIFIC POLICIES

Policy Unit		**SMP1 Policy**	**SMP2 Policy Plan**			
		50 yrs	**2025**	**2055**	**2105**	**Comment**
46.1	Tol Tuppens to Kittern Rock (Gugh)	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion.
46.2	Kittern Rock to The Hoe (Gugh)	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion.
46.3	The Hoe to the Bar (Gugh)	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion..
46.4	The Bar	Do nothing	NAI	NAI	NAI	May be subject to morphological change due to sea level rise. Should be monitored.
46.5	The Bar to Tol Tuppens	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion.
46.6	Kallimay Point to the Jetty	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion.
46.7	The Jetty to the Bar	Hold the line	**NAI**	**NAI**	**NAI**	Local management of the quay and jetty structures to ensure continued link to St Mary's.
46.8	The Bar to Tean Plat Point	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion.
46.9	Tean Plat Point to Long Point	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion.
46.10	Long Point to Pereglis slips	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion.
46.11	Pereglis Slips to Ginamoney Carn	Hold the line	HTL	HTL	HTL	Risk to the Big Pool from erosion and inundation. Risk to fresh water supply.
46.12	Ginamoney Carn to	Hold the line	HTL	HTL	HTL	Risk to the Big Pool from erosion and inundation.

	Browarth Point					Risk to fresh water supply.
46.13	Browarth Point	Do nothing	NAI	NAI	NAI	No risks identified shoreline is resistant to erosion.
46.14	Browarth Point to Kallimay Point	Hold the line	**NAI (with localised HTL)**	**NAI (with localised HTL)**	**NAI (with localised HTL)**	Generally low risks identified to non-defended shoreline, however discrete lengths of defence at Porth Killier may require periodic maintenance to address inundation risk to Big Pool area and associated fresh water supply risks.
Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention MR – Managed Realignment						

- **POLICIES SHOWN IN BOLD DENOTES A CHANGE FROM SMP1**

ENVIRONMENTAL ASSESSMENT
Strategic Environmental Assessment (SEA):
For the island of St Agnes and Gugh, the overall policies to be implemented include NAI along all undefended cliff and cove shoreline and HTL used selectively to maintain current standards of defence for the protection of Big Pool from erosion and inundation and possible saline contamination of drinking water supply. However, the Big Pool is designated as a SSSI, thus the policy may influence natural processes and the integrity of the pool which is currently meeting 100% of the PSA target. The policy of NAI will benefit the following designated sites: Isles of Scilly SPA; Isles of Scilly Ramsar; Isles of Scilly Complex SAC; Annet SSSI; Gugh SSSI; Wingletang Down SSSI; Western Rocks SSSI; Isles of Scilly Heritage Coast; and The Gugh RIG.
Habitat Regulations Assessment (HRA):
HTL is proposed for all Epochs at Pereglis Slips to Ginamoney Carn, and Ginamoney Carn to Browarth Point). These policies occur close to or some distance (up to 300m) from the Site boundary, however, no direct loss or disturbance is expected on the Sites' features, and due to the localised nature of hydrodynamic effects coupled with the MR policies moving away from the Site boundary, no indirect effects on Site features are expected. A potential exists for possible direct loss of supporting habitat at Pereglis Slips to Ginamoney Carn, and Ginamoney Carn to Browarth Point) due to the existing defence line being located within the SPA and Ramsar Site boundary. However, no loss of supporting habitat for the species for which the SPA is designated is expected provided appropriate preventative and mitigation measures are incorporated in various scheme proposals (such as following existing defence line, use of similar materials, etc). **These preventative and mitigation measures are included within the SMP Action Plan.**

IMPLICATION WITH RESPECT TO BUILT ENVIRONMENT

Economics Summary		by 2025	by 2055	by 2105	Total £k PV
Property	Potential NAI Damages (£k PV)	0.0	0.0	0.0	0.0
	Preferred Plan Damages (£k PV)	0.0	0.0	0.0	0.0
	Benefits of preferred plan (£k PV)	0.0	0.0	0.0	0.0
	Costs of Implementing plan £k PV	615	312	288	1215
			Benefit/Cost ratio of preferred plan		N/A

Notes

Value of assets not reflected in this assessment, particularly boat access and drinking water.

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6.1 COASTAL RISK MANAGEMENT ACTIVITIES

The Action Plan for the Cornwall & Isles of Scilly Shoreline Management Plan review provides the basis for taking forward the intent of management which is discussed and developed through Chapter 4 - and summarised through the preferred policy choices set out in Chapter 5. The SMP guidance states that the purpose of the Action Plan is to summarise the actions that are required before the next review of the SMP however in reality the Action Plan is looking much further into the future in order to provide guidance on how the overall management intent for 100 years may be taken forward.

For Cornwall and the Isles of Scilly SMP the Action Plan is a critical element, because there are various conditional policies for later epochs which need to be more firmly established in the future based on monitoring and investigation. The Action Plan can set the framework for an ongoing shoreline management process in the coming years, with SMP3 in 5 to 10 years time as an important next milestone.

This chapter therefore attempts to capture all intended actions necessary, on a policy unit by policy unit basis, to deliver the objectives at a local level. It should also help to prioritise FCRM medium and long term planning budget lines. A number of the actions are representative of ongoing commitments across the SMP area (for example to South West Regional Coastal Monitoring Programme).

There are also actions that are representative of wide-scale intent of management, for example in relation to gaining a better understanding of the roles played by the various harbours and breakwaters located around the coast in terms of coast protection and sea defence. Additionally, gaining a better understanding of the influence of wave driven flooding and damage around the coastline at particular locations (as opposed to the derivation of flood risks from still water flooding) is identified as a key issue for this SMP coastline, and one that makes it fairly unique within the England and Wales.

At a local level, many of the actions relate to the monitoring of cliffs, dunes and beaches, in order to provide ongoing surveillance on the actual nature of morphological change at individual sites, where the preferred policies are based on the perceived pressure on the frontage due to sea level rise, increased erosion rates and so forth. Linked into this type of action, there are some discrete areas where it is felt that more intrusive studies such as geotechnical investigations would provide valuable insight into the longer-term sustainability of certain coastal settlements.

The CSG have approved the Action Plan based on the Preferred Plan. The Action Plan lists the identified measures necessary to implement the intent of management identified by the Preferred Plan. It identifies partners and sources of funding as well as

prioritising the actions into Low, Medium and High priorities. Through signing up to the Action Plan, each CSG partner is demonstrating a commitment of intent to undertaking each action, as priorities allow and funding permits.

A wide range of sources of funding have been considered in drawing up the Action Plan, which include Environment Agency Flood and Coastal Risk Management funding, Defra Grant in Aid funding, Plymouth Coastal Observatory, Nation Trust, English Heritage, and landowners such as private developers, the Duchy of Cornwall and Wildlife Trust. While the Action Plan does not commit these organisations to providing funding, it does document the wide range of interests that could be involved with investing in the sustainable management of the coastline. Furthermore the potential sources of funding listed in the Action Plan are not exhaustive. All funding routes should be investigated further as the Action Plan is implemented.

Table 6.1 is tabulated out into the 46 Management Areas. Within each of the 46 MAs, the required actions to implement the preferred plan are then set out on a Policy Unit basis.

Table 6.2 sets out an additional set of CFMP actions for a discrete number of Policy Units – these are derived from the relevant CFMPs (Tamar, East Cornwall and West Cornwall). Table 6.2 identifies those CFMP policies and actions at a number of locations which relate to coastal risk management activities and provides a comparison with the SMP actions identified in Table 6.1, to ensure no conflicts are present between the two plans.

TABLE 6.1 COASTAL RISK MANAGEMENT ACTIONS

Rame head to Hartland Point

	SMP2 POLICY									
POLICY UNIT	EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
SMP WIDE	Various	Various	Various	Wave dominated flooding strategy, including monitoring provision.	Short term	Quantify wave action, wave set up, wave run up and wind set up risks along the South West Coast. Assess and justify wave monitoring network. Determine wave risk assessment tool. Determine number of properties at risk. Revise Flood Map Inform LDF		EA, CC, PCO	High	FCRM GiA
SMP WIDE	Various	Various	Various	Digitise and orthrectify 1947 aerial photographs held by Cornwall Council	Short term	Provide long term cliff recession data.		CC, PCO, EA	Medium	FCRM GiA
SMP WIDE	Various	Various	Various	Undertake assessment of harbour breakwater structures.	Short term	Establish sea defence and coast protection roles of breakwaters and other harbour structures	Individual action plans or programmes of maintenance established for primary sites.	CC, EA, Harbour Commissioners	High	FCRM GiA

Rame head to Hartland Point

	SMP2 POLICY									
POLICY UNIT	EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
SMP WIDE	Various	Various	Various	Assessment of all locally important road routes at risk from erosion and/or flooding.	Short term	Establish viability of realignment or defence, identify priority routes	Individual action plans for specific road sections.	CC, HIGHWAYS	High	CC
SMP WIDE	Various	Various	Various	Assessment of Coast Path and priority sections at risk.	Short term	Establish options for re-routing, identify priority sections		CC, Coast Path Team, EH	Medium	CC

PDZ18	MA42 – MA46									
	ISLES OF SCILLY									
	SMP2 POLICY									
POLICY UNIT	EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
PDZ 18	Various	Various	Various	Wave Study and monitoring (notably on St Mary's for Porthcressa, Porth Hellick, Porthmellon and Harbour frontage, on St Agnes for Big Pool defences, and on Tresco for Island Hotel).	Short term. Wave buoys deployed during next 5 year phase of Strategic Monitoring Programme.	Improved wave climate understanding and quantify risk to property and infrastructure		PCO, EA, Council for IoS	High	FCRM GiA IoS
	various	Various	Various	LDF to identify CCMA for St Marys	Short term. This planning should commence by 2015 in line with the strategy (see below).	Manage spatial planning impacts of MR and sea level rise	CCMA identified in Core Strategy Policy for Community Adaptation included in Core Strategy	IoS Spatial Planners, EA	High	IoS
	various	Various	Various	Isles of Scilly FCRM Strategy	Short to medium Initial strategy is urgently required and should be completed in next 5-10 years.	Inform Spatial Planning of coastal pressure and defence options. Identify preferred scheme to manage flood and coastal risks to property and infrastructure.	Baseline evidence provided for LDF. Scale of MR understood. Impacts on infrastructure understood. Impacts on Ground water understood.	EA, Council for IoS, Land Owners, Duchy, NE, English Heritage	High	FCRM GiA, IoS

PDZ18	MA42 – MA46									
	ISLES OF SCILLY									
	SMP2 POLICY									
POLICY UNIT	EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
	various	Various	Various							

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
42.1	The Mermaid Wall	HTL	HTL	HTL							
42.2	The Quay	HTL	HTL	HTL							
42.3	The Quay to Custom House	HTL	HTL	MR	Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in next 5-10 years.	Quantify magnitude of required Managed realignment. Support resilience of critical infrastructure. Inform spatial planning.	Evidence base available for LDF. Evidence base for Sewerage Infrastructure improvements	PCO, IoS, EA, Duchy	High	FCRM GiA
					FCRM Scheme	Medium to Long term	Manage risks to life, property and infrastructure.	Number of properties at risk. Critical infrastructure at risk.	PCO, IoS, EA, Duchy, Landowners	High	FCRM GiA

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
42.4	Custom House to Carn Thomas	HTL	HTL	MR	Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in next 5-10 years.	Quantify magnitude of required Managed realignment. Support resilience of critical infrastructure. Inform spatial planning.	Evidence base available for LDF. Evidence base for Sewerage Infrastructure improvements	PCO, IoS, EA, Duchy	High	FCRM GiA
					FCRM Scheme	Medium to Long term Specific timescales dependent upon outcomes of strategy	Mange risks to life, property and infrastructure. Manage risks to Lower Moors water supply and SSSI. Where feasible, maintain Sand Dune	Number of properties at risk. Critical infrastructure at risk.	PCO, IoS, EA, Duchy, Landowners	High	FCRM GiA
42.5	Porth Mellon	HTL	MR	MR	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring	Confirm magnitude of erosion pressure	Improved understanding of beach and defence behaviour	PCO, IoS, EA	High	FCRM GiA,

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
						Programme					
					Beach and Dune Management Plan	Short to medium (next 5-10 years to inform SMP3)	Maintain and enhance Sand Dunes.	Area of BAP Habitat	PCO, IoS, EA, Duchy	High	FCRM GiA
					Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in next 5-10 years.	Quantify magnitude of required Managed realignment. Support resilience of critical infrastructure. Maintain Sand Dune. Inform spatial planning of implications for road and industrial estate.	Evidence base available for LDF. Evidence base for Waste Infrastructure improvement plans. Evidence base for water resource strategy.	PCO, IoS, EA, Duchy	High	FCRM GiA
					FCRM Managed Realignment Scheme	Medium to Long term Specific timescales dependent upon outcomes of strategy	Manage risks to life, property and infrastructure. Manage risks to Lower Moors water supply and SSSI. Where	Number of properties at risk. Critical infrastructure at risk. Area of BAP habitat. Condition of SSSI.	PCO, IoS, EA, Duchy	High	FCRM GiA

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
							feasible, maintain Sand Dune				
					Potential realignment of highway	Short/med term Specific timescales dependent upon outcomes of strategy	Investigate potential options. Combine with overall adaptation strategy.	Highway realigned away from erosion and flood risk zone.	IoS C, EA, Duchy	Medium	IoS Council
42.6	Thomas Porth	NAI	NAI	NAI							
42.7	Porth Loo	NAI	MR	MR							
42.8	Taylor's Island to Innisidgen	NAI	NAI	NAI							
42.9	Innisidgen to Porth Hellick Point	NAI	NAI	NAI							
42.10	Porth Hellick	HTL	MR	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal	Confirm magnitude of erosion pressure	Improved understanding of beach and defence behaviour	PCO, IoS, EA	High	FCRM GiA,

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
						Monitoring Programme					
					Beach Management Plan	Short to medium (next 5-10 years to inform SMP3)	Maintain beach as part of defence	Condition of beach	PCO, IoS, EA, Duchy	High	FCRM GiA
					Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in next 5-10 years.	Quantify magnitude of required Managed realignment. Support resilience of water resource.	Evidence base available for LDF. Evidence base for water resource strategy	PCO, IoS, EA, Duchy	High	FCRM GiA
					FCRM Scheme	Medium to Long term Specific timescales dependent upon outcomes of strategy	Manage risks to life, property and infrastructure. Manage risks to water supply	Number of properties at risk. Critical infrastructure at risk.	PCO, IoS, EA, Duchy	High	FCRM GiA
42.11	Salakee Down	NAI	NAI	NAI							
42.12	Porth	HTL	MR	MR							

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
	Minnick										
42.13	Tolman Point	NAI	NAI	NAI							
42.14	Tolman Point to Old Town Slip	NAI	NAI	NAI							
42.15	Old Town Slip to Old Church	HTL	MR	MR	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and defence behaviour	PCO, IoS, EA	High	FCRM GiA,
					Beach Management Plan	Short to medium (next 5-10 years to inform SMP3)	Maintain beach as part of defence		PCO, IoS, EA, Duchy	High	FCRM GiA
					Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in	Quantify magnitude of required Managed realignment. Support resilience of critical infrastructure.	Evidence base available for LDF. Evidence base for water resource strategy.	PCO, IoS, EA, Duchy	High	FCRM GiA

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
						next 5-10 years.	Inform spatial planning of implications for road and water resources.				
					FCRM Managed Realignment Scheme	Medium to Long term Specific timescales dependent upon outcomes of strategy	Mange risks to life, property and infrastructure. Manage risks to Lower Moors water supply and SSSI.	Number of properties at risk. Critical infrastructure at risk. Area of BAP habitat. Condition of SSSI.	PCO, IoS, EA, Duchy	High	FCRM GiA
42.16	Old Church to Carn Leh	NAI	NAI	NAI							
42.17	Carn Leh to Playground	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and defence behaviour	PCO, IoS, EA	High	FCRM GiA,
42.18	Playground to Slipway	HTL	NAI	NAI	Beach and erosion Monitoring and post storm	Short to medium	Confirm magnitude of erosion	Improved understanding of beach and	PCO, IoS, EA	High	FCRM GiA,

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
	(Porthcressa)				damage surveys	Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	pressure	defence behaviour			
42.19	Slipway to Little Carn	HTL	**HTL (with localised MR)**	MR	Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in next 5-10 years.	Quantify magnitude of required Managed realignment. Support resilience of critical infrastructure. Inform spatial planning.	Evidence base available for LDF. Evidence base for Porthcressa Vision.	PCO, IoS, EA, Duchy	High	FCRM GiA
					FCRM Scheme	Medium to Long term Specific timescales dependent upon outcomes of strategy	Manage risks to life, property and infrastructure.	Number of properties at risk. Critical infrastructure at risk.	PCO, IoS, EA, Duchy, Landowners	High	FCRM GiA
42.20	Little Carn to Sally Port	HTL	**HTL (with localised MR)**	MR	Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is	Quantify magnitude of required Managed realignment.	Evidence base available for LDF. Evidence	PCO, IoS, EA, Duchy	High	FCRM GiA

PDZ18		MA42									
		ST MARY'S									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
						urgently required and should be completed in next 5-10 years.	Support resilience of critical infrastructure. Inform spatial planning.	base for Porthcressa Vision. Evidence base for sewerage improvement plans			
					FCRM Scheme	Medium to Long term Specific timescales dependent upon outcomes of strategy	Manage risks to life, property and infrastructure.	Number of properties at risk. Critical infrastructure at risk.	PCO, IoS, EA, Duchy, Landowners	High	FCRM GiA
42.21	Sally Port to the Quay (The Garrison)	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and defence behaviour	PCO, IoS, EA, English Heritage	High	FCRM GiA, EH

PDZ18		MA43									
		ST MARTINS									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
43.1	Tean Sound	NAI	NAI	NAI							
43.2	St Martins Bay	NAI	NAI	NAI							
43.3	St Martin's Flats	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Low	FCRM GiA,
43.4	Middle Town	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Low	FCRM GiA,

PDZ18		MA44									
		TRESCO									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
44.1	New Grimsby	HTL	HTL	HTL	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,
44.2	Castle Down	NAI	NAI	NAI							
44.3	Island Hotel	HTL	HTL	MR							Land owner
44.4	Old Grimsby	NAI	NAI	NAI							
44.5	Rushy Point	NAI	NAI	NAI							
44.6	South Beach / Pentle Bay	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,

PDZ18		MA44									
		TRESCO									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
						SW Strategic Coastal Monitoring Programme					
44.7	Appletree Bay	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,
44.8	Tresco Flats	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,

PDZ18		MA45									
		BRYHER									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
45.1	Great Porth North	HTL	NAI (with localised HTL)	NAI (with localised HTL)	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,
45.2	Stinking Porth	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,
45.3	Gweal Hill	NAI	NAI	NAI							
45.4	Great Popplestones	HTL	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,

PDZ18		MA45									
		BRYHER									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
						Phase II of SW Strategic Coastal Monitoring Programme					
					Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in next 5-10 years.	Quantify magnitude of required Managed realignment. Support resilience of water resource.	Evidence base available for LDF. Evidence base for water resource strategy	PCO, IoS, EA, Duchy	High	FCRM GiA
45.5	Little Popplestones	NAI	NAI	NAI							
45.6	Popplestone Brow	NAI	NAI	NAI							
45.7	Popplestone Brow to Hangman Island	NAI	NAI	NAI							
45.8	Kitchen Porth	NAI	NAI	NAI							
45.9	Post Office to the Bar	NAI	NAI	NAI							
45.10	The Bar to	NAI	NAI	NAI							

PDZ18		MA45									
		BRYHER									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
	the Quay										
45.11	Southward	NAI	NAI	NAI							
45.12	The Brow to Works Point	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,
45.13	Works Point to Great Carn	NAI	NAI	NAI	Beach and erosion Monitoring and post storm damage surveys	Short to medium Continued monitoring 2011onwards through Phase II of SW Strategic Coastal Monitoring Programme	Confirm magnitude of erosion pressure	Improved understanding of beach and general frontage behaviour	PCO, IoS, EA	Medium	FCRM GiA,

PDZ18		MA46									
		ST AGNES & GUGH									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
46.1	Tol Tuppens to Kittern Rock (Gugh)	NAI	NAI	NAI							
46.2	Kittern Rock to The Hoe (Gugh)	NAI	NAI	NAI							
46.3	The Hoe to the Bar (Gugh)	NAI	NAI	NAI							
46.4	The Bar	NAI	NAI	NAI							
46.5	The Bar to Tol Tuppens	NAI	NAI	NAI							
46.6	Kallimay	NAI	NAI	NAI							

PDZ18		MA46									
		ST AGNES & GUGH									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
	Point to the Jetty										
46.7	The Jetty to the Bar	NAI	NAI	NAI							
46.8	The Bar to Tean Plat Point	NAI	NAI	NAI							
46.9	Tean Plat Point to Long Point	NAI	NAI	NAI							
46.10	Long Point to Pereglis slips	NAI	NAI	NAI							
46.11	Pereglis Slips to Ginamoney Carn	HTL	HTL	HTL	Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in next 5-10 years.	Quantify magnitude of required Managed realignment. Support resilience of water resource.	Evidence base available for LDF. Evidence base for water resource strategy	PCO, IoS, EA, Duchy	High	FCRM GiA
					HRA Action	Where works are to be undertaken along existing defence line at Big Pool within the Isles of Scilly, the surface materials should be similar to the existing materials, in order to avoid any loss of intertidal rocky habitats, and should be designed so as to maintain					

PDZ18		MA46									
		ST AGNES & GUGH									
		SMP2 POLICY									
POLICY UNIT		EPOCH 1	EPOCH 2	EPOCH 3	ACTIONS	INDICATIVE TIMESCALE	OBJECTIVES	MONITORING INDICATORS	PARTNERS	PRIORITY	FUNDING
						any bird roosting features. *Prevents adverse effects to the Isles of Scilly SPA and Ramsar site*					
46.12	Ginamoney Carn to Browarth Point	HTL	HTL	HTL	Isles of Scilly FCRM Strategy – see PDZ 18	Short to Medium Initial strategy is urgently required and should be completed in next 5-10 years.	Quantify magnitude of required Managed realignment. Support resilience of water resource.	Evidence base available for LDF. Evidence base for water resource strategy	PCO, IoS, EA, Duchy	High	FCRM GiA
					HRA Action	Where works are to be undertaken along existing defence line at Big Pool within the Isles of Scilly, the surface materials should be similar to the existing materials, in order to avoid any loss of intertidal rocky habitats, and should be designed so as to maintain any bird roosting features. *Prevents adverse effects to the Isles of Scilly SPA and Ramsar site*					
46.13	Browarth Point	NAI	NAI	NAI							
46.14	Browarth Point to Kallimay Point	NAI	NAI	NAI							