

**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 than 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 above. 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.

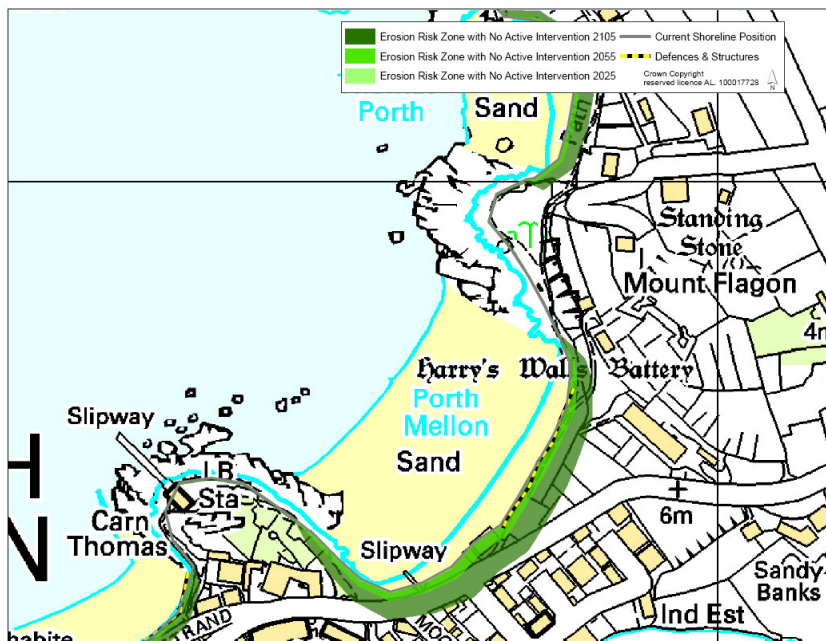
Moving to the north-east of Carn Thomas **Porth Mellon is the next discrete location requiring policy consideration.**

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, above).

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



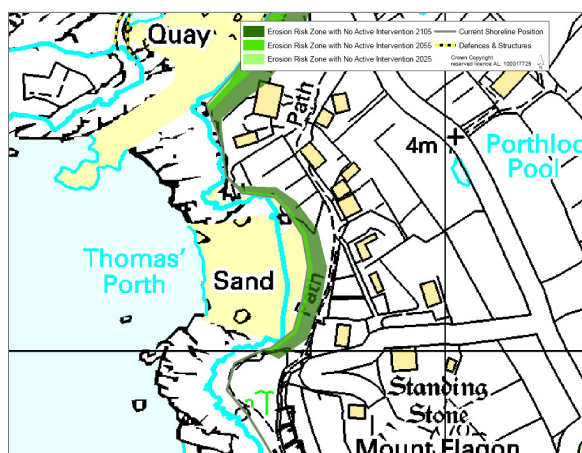
to roll back without reducing its crest height or width (ideally increasing these). In addition it may be necessary to consider improving defensive standard in the south-west corner of the beach adjacent to the road, as part of an overall realignment.

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.

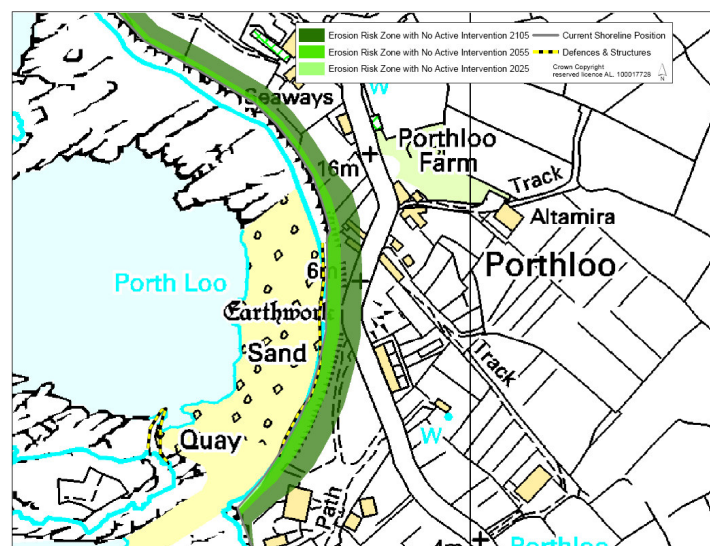
Managed realignment might be delivered through provision of hard defences, but preferably through management of the dunes. Whilst a hard defence might be feasible on the seaward side of the A3111, it is questionable whether this would be affordable, and it would impact on the landscape and natural habitat 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 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.



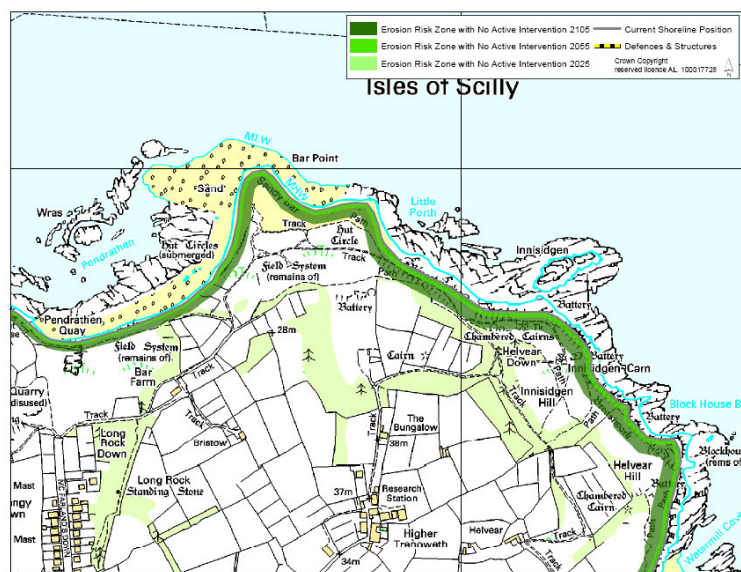
The preferred plan and policy of no active intervention is continued from Thomas Porth along the **Porth Loo** frontage during epoch 1. Porth Loo is considerably more exposed to direct wave action than Hugh Town and although possible inland extent of erosion may be 30m by 2105, there is no strategic 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 Taylor's 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 right). 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.

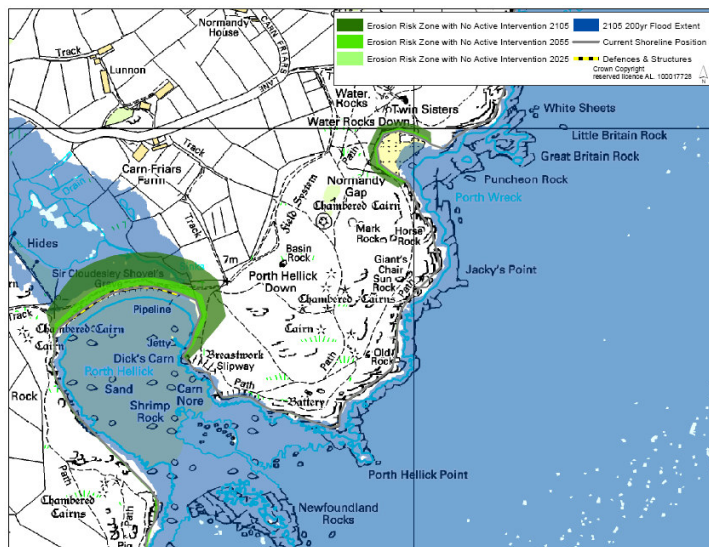


Erosion rates along the **Innisidgen to Porth Hellick** frontage are expected to be lower than for those along the previous frontage length, apart from the Pelistry Bay and Porth Wreck sections, where recession may be 15-20m at the rear of the beaches. Again there is very little at risk, other than two 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

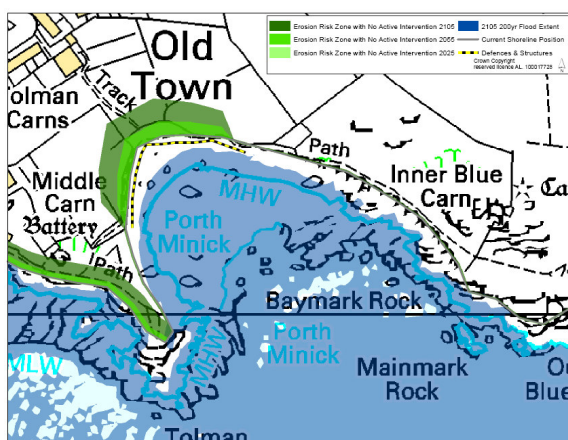


would adapt its position according to the actual rates of sea level rise

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.

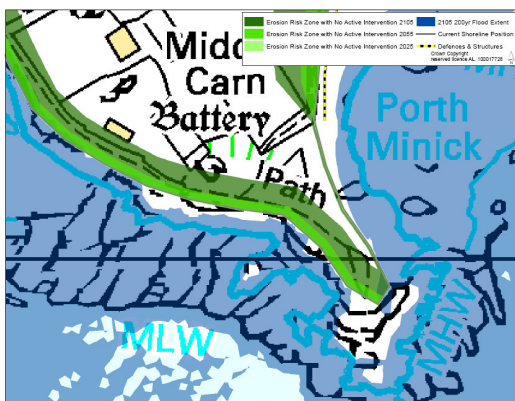
To the immediate south-west of Porth Hellick, **Salakee Down** is a hard, stable south-east facing headland. St Mary's airport is located on top of Salakee Down. No risks have been identified, with little erosion or recession anticipated along the hard cliffed coast. Therefore this is seen as a stable, 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.

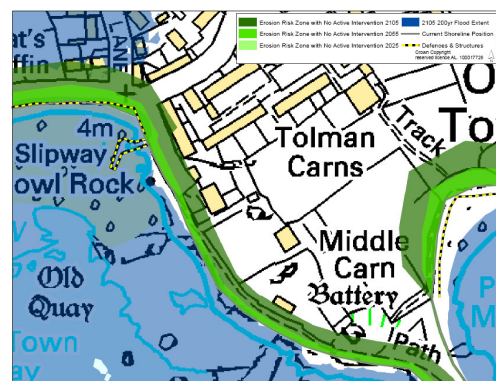
Particularly severe flooding was experienced due to waves during the storms of January 1989. The current defences (a sloped concrete mat revetment with stone on top – see inset photo, right) were established following this event but they will come under increasing pressure from sea level rise in the 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

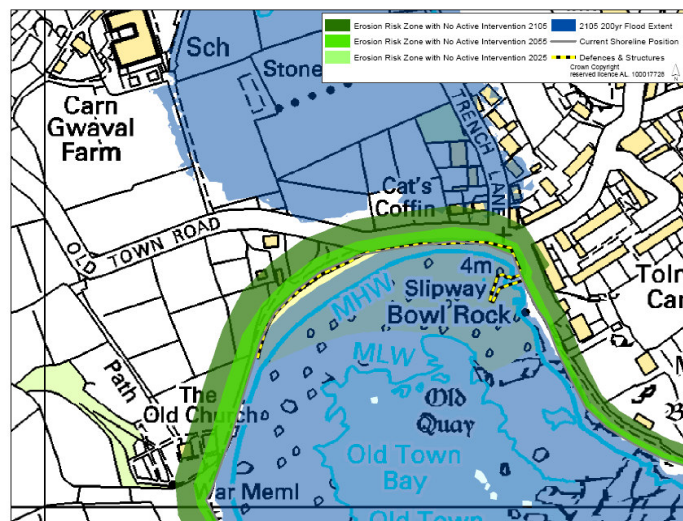


increasing risk during epochs 2 and 3.

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, left). 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.

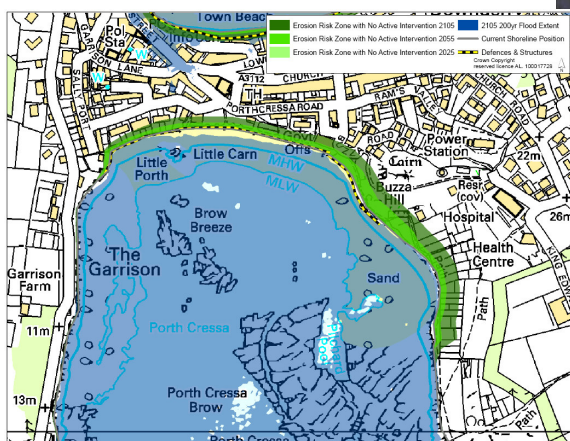
The preferred plan proposes managed realignment as a way to maintain a more sustainable and less pressured defensive line and to provide protection of the Lower Moors area (which is an integral part of the fresh water supply system together with the Higher Moors). By allowing the beach to roll back in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

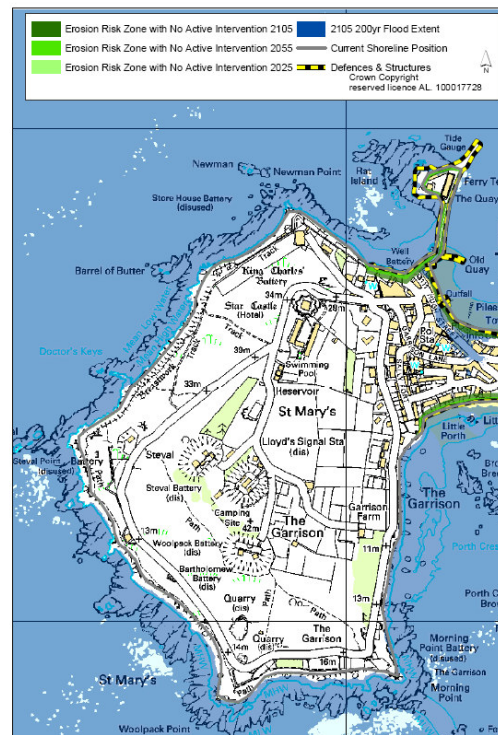
within the isthmus and up through the drainage system (see inset photo, left) need to be addressed as part of the more detailed strategy.

The final policy unit on St Mary's runs from **Sally Port to the Quay (The Garrison)**. The Garrison, which contains scheduled monuments, listed buildings and an English Heritage Guardianship Site, is by far the most significant heritage asset on St Mary's.

It is generally concluded from the erosion mapping that there is little uniform recession likely around the resistant Garrison frontage (see inset map, below right) however localised erosion of the cliffs can result in small caves and weak spots developing and there is also localised erosion of the ram (head) deposits which overlay the granite and upon which the Garrison walls are constructed. Localised works to address these risks has taken place in the past and a number of repairs to stabilise sea caves were completed by English Heritage around twenty years ago.

Based upon the generally low erosion risk, the preferred plan is no active intervention. This management intent is proposed on the basis that in general, there is no desire to enforce a hold the line approach around the Garrison perimeter and that on the whole, natural coastal process should be allowed to occur. An important caveat for this site however, is that NAI should not preclude localised management continuing to take place along the shoreline to stabilise cliffs where the Garrison walls are threatened by localised undercutting and cliff instability,

These types of works should only be undertaken however on the proviso that they 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. This is likely to be managed through the finalization of a Conservation Plan for the entire Garrison area which will look in detail at localised erosion around the headland and investigate specific areas of risk. At the broader scale the NAI approach will satisfy conservation objectives relating to the AONB and Isles of Scilly SAC.

The economic assessment for St Mary's (Management Area 42) provides a benefit / cost ratio of only 0.07. This relates primarily to the low numbers of properties shown at risk in the 1:200 year flood outline. In reality it is acknowledged that all properties in the

lower-lying parts of Hugh Town are at some risk. The assessment does not reflect this and at this location more detailed economic assessment based on the impacts of storms and waves is critical. Costs relating to maintenance of the Harbour are also high and the assessment does not take account of road losses. The Economics Summary Table below, and Appendix H, provides more detail.

## SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION PLAN:

<b>Location reference:</b>	<b>St Mary's</b>
<b>Management Area reference:</b>	<b>MA42</b>
<b>Policy Development Zone:</b>	<b>PDZ18</b>

PREFERRED POLICY TO IMPLEMENT PLAN:	
<b>From present day (0-20 years)</b>	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.
<b>Medium term (20-50 years)</b>	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.
<b>Long term (50 -100 years)</b>	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			Comment
		50 yrs	2025	2055	2105	
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	<b>MR</b>	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	<b>MR</b>	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	<b>MR</b>	<b>MR</b>	Realignment beyond epoch 1 needed to consider management of the increasing flood risk.
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.
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

Policy Unit		SMP1 Policy	SMP2 Policy Plan			Comment
		50 yrs	2025	2055	2105	
						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.
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.
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 (Porthcressa)	Hold the line	HTL	NAI	NAI	Significant erosion may be expected under the 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



Policy Unit		SMP1 Policy	SMP2 Policy Plan			Comment
		50 yrs	2025	2055	2105	
						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.

#### 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 Summ		by 2025	by 2055	by 2105	Total £k PV
<b>Property</b>	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.