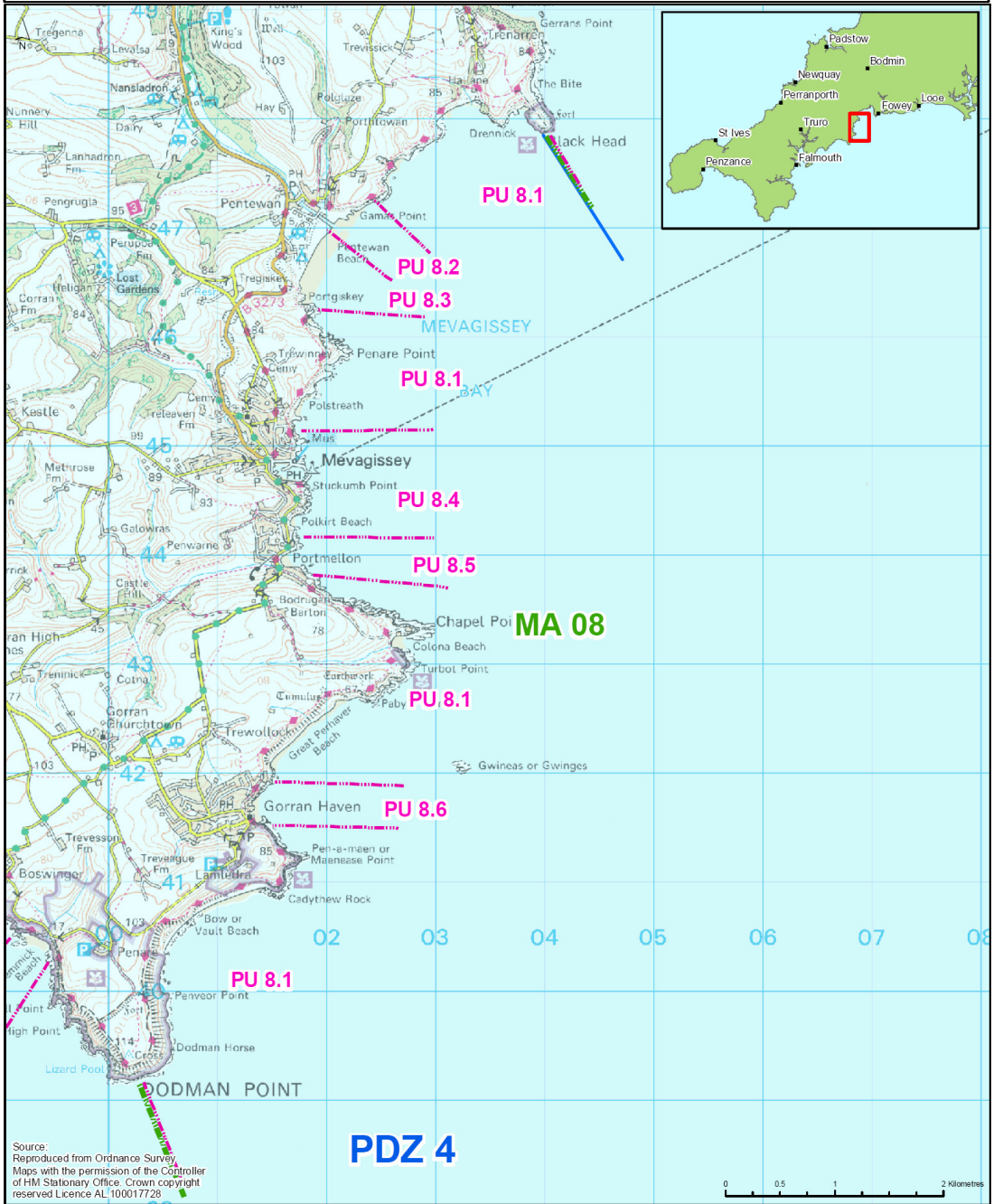


Location reference: Black Head to Dodman Point
Management Area reference: MA08
Policy Development Zone: PDZ4

Policy Development Zone 4 - Black Head to Zone Point
Management Area 8 - Black Head to Dodman Point

Key
— Policy Development Zone — Policy Units
— Management Areas



Cornwall & Isles of Scilly
Shoreline Management Plan Review





DISCUSSION AND DETAILED POLICY DEVELOPMENT

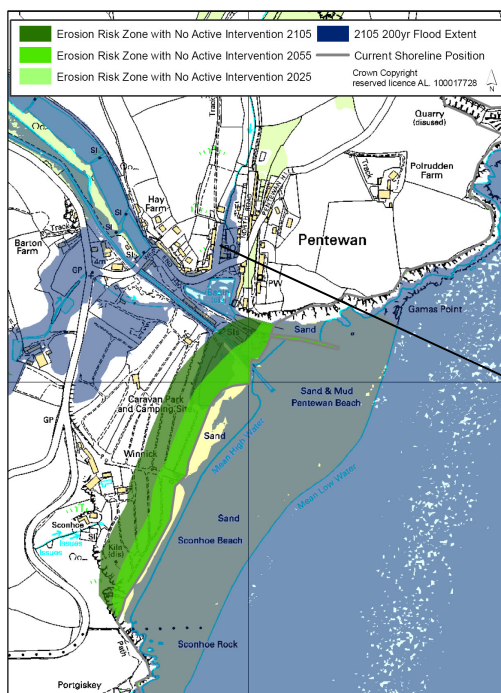
This management area comprises a relatively resistant, east facing coastline of hard slate cliff, sparsely populated except at the interspersed coastal settlements of Pentewan, Mevagissey, Portmellon and Gorran Haven. There is also a small cliff top settlement at Chapel Point, around 1km to the south-east of Portmellon. Both flooding and erosion in discrete areas play a significant role in dictating the preferred plan and policy choice. The entire frontage is designated as Heritage Coast and the Roseland AONB designation starts just to the south of Portmellon. These factors alongside the objective to retain a naturally functioning coastline wherever possible dictate that the preferred plan and policy for the undefended cliff frontage sections (Policy Unit 8.1) from Black Head to Dodman Point in no active intervention, on an ongoing basis.



At **Pentewan**, the known combined risk from fluvial and tidal flooding has been addressed recently with the opening of the Environment Agency's Pentewan Stream flood defence scheme in February 2003 to alleviate flooding from this watercourse.

However a significant flood risk still exists in and around the Pentewan inner harbour (inset photo, left) and north-east corner of Pentewan Beach, under the scenario of a 0.5% annual

exceedance probability (AEP) extreme tide level event occurring.



The built environment of Pentewan village is wholly designated as a conservation area and the flood risk extends through much of this, including West End and North Road areas (inset photo, below). In addition to the flood risk, there is a very significant potential erosion risk along the length of the beach.



This has obvious implications for recreational use of the beach and in particular for the Pentewan Sands Holiday Park. The SMP1 policy at Pentewan recommended a do nothing approach in the vicinity of the harbour whilst holding the line along the rear of the beach. Re-development of the harbour area, harbour structures and enclosed inner harbour is a possibility at Pentewan and it is likely that a managed realignment policy would be more supportive of the local objectives and would allow adjustment of the defensive line to provide a transition into the beach frontage. It could also allow for improved management of the flood risk. Any adjustment should aim to provide a shoreline position which can be sustainably defended to at least 2105 under a hold the line approach during epoch 3.

The extent of possible beach recession under the no active intervention scenario, even by the end of epoch 2 could be up to 50m, (with up to 100m possible by 2105) and to constrain this natural response to rising sea levels would be likely to result in loss of dune area and a narrowing of the beach. This in turn would increase the associated flood risk in the adjacent policy unit (Pentewan village). Employing any strategy to fix the current shoreline in position is therefore seen to be unsustainable.

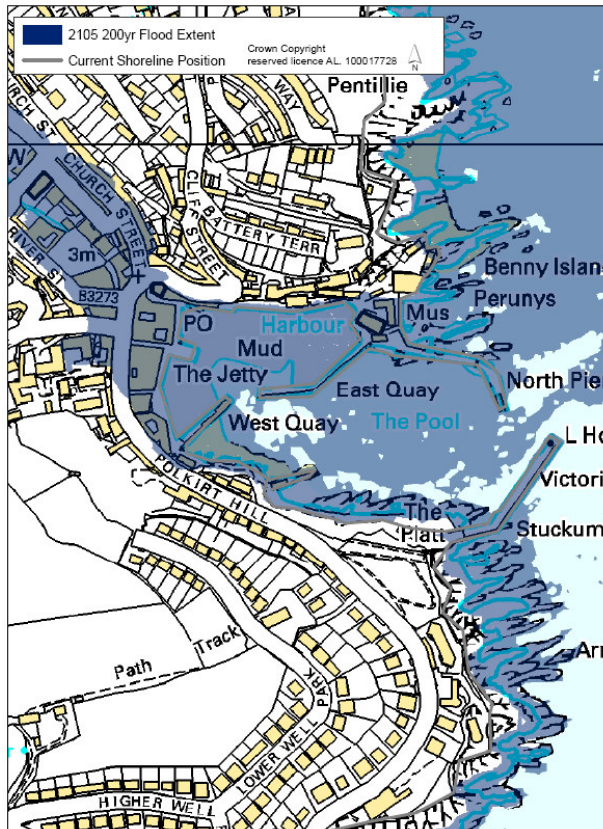
Given the nature of the hinterland and seasonal occupation of the development at risk, it is therefore also unlikely that there would be an economic justification for continued holding of the current 'line' along the rear of the beach. Instead an initial period of NAI, followed by MR is preferred. The ultimate aim is to adjust the natural defence through improvement of the area over which the beach is expected to retreat. If it is possible to improve this area to include the establishment of sand dunes, then this could provide valuable BAP habitat. This would also provide a more robust defence to the area behind – and therefore an improved management of the risks to the holiday park (which will need to adapt and roll back to an extent).

Beach recession during the first epoch is predicted to be insignificant, which would provide time and scope to plan the realignment of the frontage and to assess the potential for dune enhancement. This would also need to include roll back of the holiday park facilities as necessary.

With up to 100m of beach recession predicted in the area of the Caravan Park and Holiday Camp, Pentewan may be appropriate for consideration as a Coastal Change Management Area by the Local Development Framework. If it is not defined as a CCMA, there will nonetheless need to be a development plan lead adaptation strategy for the village and holiday park to respond to rising sea levels from climate change. This should be addressed further in any Village Strategy. These may be supported by the tidal risk management study proposed by the Environment Agency in its Medium Term Plan.

Funding for works at both Pentewan Village and Beach may require some part private funding where economic justification struggles to reach unity, however the possible creation of sand dune area could attract funding via the achievement of important outcome measures relating to BAP habitat and this could assist with funding an integrated Pentewan strategy across the whole frontage and within the village.

To the south of Pentewan, the well documented flood risks at **Mevagissey** will become increasingly severe with time as sea levels rise. The South West Regional Flood Risk Appraisal (2007) states that by 2060, tidal flood events which today we give a 0.5% probability of occurring each year will be 14 times more likely to occur; resulting in a 7% chance of occurring each year at places like Mevagissey. The inset map below indicates the extent of the current 0.5% flood risk area adjacent to the harbour.



There is no significant erosion predicted from the currently indicated shoreline position. Management of the flood risk which affects large parts of the conservation area and would impact upon numerous listed buildings (in excess of 45) is therefore the priority at Mevagissey and drives the selection of policy and generally the meeting of local objectives. The detailed approach to how the flood risk is managed will require more detailed options to be appraised, but the preferred plan at Mevagissey would be to employ a hold the line approach together with an option to realign the defences (including the harbour structures) as necessary – this could be either landward or seaward realignment – in all probability a detailed strategy at Mevagissey may require a combination of both. Significant amounts of money (£5M) have been

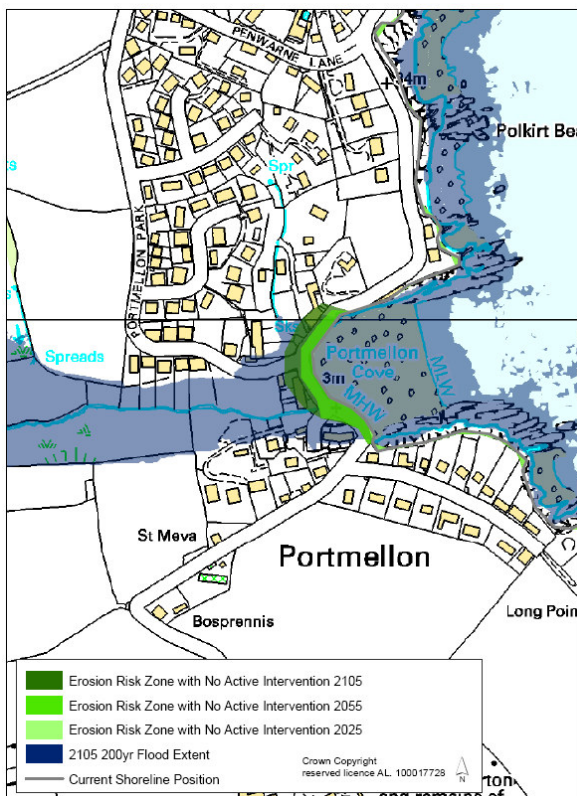
spent on the Victoria Pier recently. The Victoria Pier, although essentially a harbour structure, provides a significant amount of shelter from the wave climate during south-easterly storm conditions, reducing wave set-up effects within the harbour and therefore providing a flood defence benefit. Emergency works were carried out upon the other outer harbour arm, the north Pier, in 2008. This structure also provides shelter from the wave climate, but to a lesser extent.

There is a commitment to invest further funding into the assessment of both tidal and fluvial flood risks at Mevagissey in the coming years. Any such assessment should consider Managed Realignment options, including changes to the harbour structure arrangements, and must link in to the Land Use Planning system. The pre-feasibility study for Mevagissey has also confirmed that assessment requires further tidal monitoring support from the Coastal Monitoring Programme to inform options and risks. It is considered that the HTL/MR approach for the period of the SMP will meet the greatest number of both high level and local objectives. However the economic justification and general affordability is difficult to support. The pre-feasibility study reflected this and the economic assessment undertaken by the SMP notes the very high

cost of harbour maintenance (as indicated above in costs to the Victoria Pier). This results in a benefit/cost ratio of 0,22 being reached (presented in the Economics Summary Table below and in Appendix H) but it is very important to note that this figure does not take into account the very significant heritage and tourism values of Mevagissey.

So it should be noted that regardless of the policies put forward by the SMP review, it is of key importance that the Land Use Planning system, and any community strategies, must determine a sustainable long term approach for the adaptation of the whole of Mevagissey to climate change. This should be informed by any further Flood and Coastal Risk Management assessment as well as the current pre-feasibility report. This might consider use of a Community Infrastructure Levy to provide large scale structural changes to the village and harbour.

Portmellon lies just to the south of Mevagissey. The mapping of flood and erosion risk indicates that a significant hinterland flood risk exists, increasing in extent in line with sea level rise through to 2105. It also demonstrates that up to 9 properties (terraced houses, flats and the Rising Sun Inn) are at risk from erosion. Although very sheltered from the prevailing westerly wave climate, there is a periodic major wave action risk at



this location due to extreme storm events from the east and south east. This poses a clear threat to the terraced houses. The erosion and possible loss of the Mevagissey road (by 2055, see inset map, left) provides a greater problem at Portmellon, in that loss of the through route would disrupt the main local transport link. Total loss of the route is probably unacceptable in the short term however a hold the line policy would be unsustainable, technically and possibly economically in the long term. Realignment of the road from Portmellon Park Road up towards Bosprennis should be explored. Any such realignment scheme should also look for UK BAP coastal habitat creation or enhancement.

In addition loss of the current SW Coast Path route could occur, though re-routing should not be particularly

problematic. It is possible that a re-routing could occur by the upgrading of Portmellon Park road and re-routing across to join the Gorran Haven Road at St Meva and Bosprennis. This would of course have to be appraised for both its environmental acceptability and technical / economical feasibility as would any further defence of the properties exposed by the failure of the road structures.

It is suggested that a hold the line policy be employed for the first epoch followed by managed realignment policy in epoch 2 and 3. During epoch 1, the feasibility and necessity of realignment of the route should be appraised by both Cornwall coastal engineers and Transport Planners. An early appraisal of the requirement and feasibility of realignment options could allow managed realignment to be undertaken during epoch 2.

Land Use Planners should facilitate adaptation to climate change at Portmellon, which given the impacts on the connection to the two halves of the village, and importance of the frontage to the nature of the village, should be considered as significant coastal changes.



Properties at Little Perhaver Point

Some 1km to the south east of Portmellon a small group of Grade II listed buildings are located close to the cliff edge at Chapel Point, however the assessment of erosion risks does not indicate any risk to these over the next 100 years. The Chapel Point frontage is preferred to continue with a policy of no active intervention over the next 100 years (as part of Policy Unit 8.1).

The last settlement within this management area which requires consideration is **Gorran Haven**. Some erosion and flood risk is identified along the general frontage of Gorran Haven Beach (see inset map, below). The flood risk is restricted by the rapidly rising



topography of the settlement and this dictates that sea level rise will not dramatically increase the flood risks at Gorran Haven. However vulnerability to erosion poses more of a risk to the frontage and the scenario mapped for no active intervention in 2105 indicates risk to assets and property along the rear of Gorran Haven Beach (adjacent to Church Street) and on Little Perhaver Point (including the Grade II listed Fort Cottage - see inset photo above).



The pier at the southern end of Gorran Beach is a listed Grade II structure and is owned by the

Duchy of Cornwall. Much of the adjacent land and foreshore area is leased from the Duchy by Cornwall Council (who in turn leases it to Gorran Council). The pier provides some protection to the southern end of the frontage from the wave climate.

The preferred plan at Gorran Haven would be to hold the line in the short to medium term. This approach would cover the whole Gorran Haven Beach frontage. As Little Perhaver Point is thought to be an important part of the natural geological control of sediment movement along this frontage, the policy would extend to the northern side of the Point (refer to the Policy Unit mapping in Chapter 5 for any clarification). The Point needs to be considered as an integral part of any future management approach which is taken at Gorran Haven.

In the longer term, a hold the line policy may result in depletion of the sand beach (important to the local economy) and a reduction in its elevation and intertidal width. Not only would this reduce its amenity value but would also greatly reduce its effectiveness in providing natural flood defence. Therefore it may be technically and economically sound to consider some adjustment and realignment of the defences at the northern end of the beach during epoch 3. Managed realignment in the longer term would probably need to take the form of only slight positional change of defences (given the constraint immediately behind the beach). Defences aimed more at absorbing and attenuating wave energy would assist in improving the sustainability of the frontage when compared with the existing vertical structures which at present tend to reflect the wave energy (promoting scour and erosion).

An important administrative distinction exists between the defences along the rear of the beach which are Local Authority owned and maintained and the defences on Little Perhaver Point, which are privately owned. As already indicated the defences on the point need to be considered as part of the future management strategy at Gorran Haven but any publicly funded works on the point would require full justification and without this there will be no obligation on the public purse to fund such works.

Implementing a no active intervention approach to the north of Little Perhaver Point will avoid excessive impacts upon the Cuckoo Rock to Turbot Point SSSI and its geological exposures. There will continue to be a minor modification on the SSSI at Gorran Haven as its boundary extends halfway along Gorran Haven beach; however no concerns have been raised in relation to this. Under the preferred policy however the impacts should not increase beyond those modifications already caused by the existing defences and dwellings.

SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION PLAN:

Location reference:	Black Head to Dodman Point
Management Area reference:	MA08
Policy Development Zone:	PDZ4

PREFERRED POLICY TO IMPLEMENT PLAN:	
From present day (0-20 years)	NAI along undefended sections of cliff; MR at Pentewan Harbour & village; NAI along Pentewan Beach; HTL/MR at Mevagissey; HTL at Portmellon and Gorran Haven.
Medium term (20-50 years)	NAI along undefended sections of cliff; MR at Pentewan Harbour & village; MR along Pentewan Beach; HTL/MR at Mevagissey; MR at Portmellon and HTL at Gorran Haven.
Long term (50 -100 years)	NAI along undefended sections of cliff; HTL at Pentewan Harbour & village; NAI/HTL along Pentewan Beach; HTL at Mevagissey; MR and adjustment at Portmellon and Gorran Haven.

SUMMARY OF SPECIFIC POLICIES

Policy Unit		Policy Plan			Comment
		2025	2055	2105	
8.1	Undefended cliffs	NAI	NAI	NAI	Continue with existing approach
8.2	Pentewan Harbour & village	MR	MR	HTL	Policy to provide more flexibility to address flood risk and facilitate local re-development
8.3	Pentewan Beach	NAI	MR	NAI/HTL	Allow beach to respond naturally to sea level rise. Avoid constraining and reduction in beach and dune width. Guide land use planning towards a roll back policy through MR approach in second epoch.
8.4	Mevagissey	HTL/MR	HTL/MR	HTL	Allow flexible approach to landward/seaward adjustment in defensive strategy. Realignment of harbour structures could form part of a future flood risk management solution.
8.5	Portmellon	HTL	MR	MR	HTL for short term but accept long term defence not sustainable. Appraise options for re-alignment of route & management of risks to property during next 5 – 8 years to inform SMP3. Realignment could provide habitat opportunities.
8.6	Gorran Haven	HTL	HTL	MR	HTL for short to medium term, continue to hold pier but some realignment of shoreline defences required in epoch 3.
Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention MR – Managed Realignment					

ENVIRONMENTAL ASSESSMENT

Strategic Environmental Assessment (SEA):

Overall, the long-term policy plan between Black Head to Dodman Point is for NAI along the undefended sections of the coastline and beaches with HTL and MR used selectively at settlements to maintain current standards of defence. The NAI policy will allow natural processes to prevail benefiting the Cornwall AONB, heritage coast. The policy of HTL and MR will also ensure the continued protection of residential and commercial properties and assets and the following key features: Pentewan Sands

Holiday Park; Mevagissey Harbour; Polstreath and Portmellon Beaches; Gorran Haven Harbour; Little Perhaver, Gorran Haven and Bow/Vault Beaches; Pentewan Conservation Area; Gorran Haven Conservation Area; Lime Kiln South East of Sconhoe (LB); Beach Cottage (LB); The Mermaid Café and Adjoining House (LB); Step Cottage (LB); Church of St Just (LB); Fort Cottage (LB); Hill View (LB); Rising Sun Inn (LB); and Rock Cottage (LB).

However, the policy of HTL and MR may impact upon the environment reducing essential natural processes vital for the integrity of geological and biodiversity interests, while the policy of NAI will potentially impact upon the following key sites: Later Prehistoric Cliff Castle, Two Prehistoric Round Barrows, Medieval Field System, And Associated Remains On Dodman Point Cliff castle - Chynalls Point (SMs); Black Head promontory Fort (SM); Harbour Piers and Quays (LB); Mevagissey Conservation Area; and South West Coastal Path. Monitoring should be undertaken.

Habitats Regulations Assessment (HRA):

MR followed by HTL is proposed at Pentewan, HTL with MR is proposed in its first two Epochs is proposed at Mevagissey, HTL with MR in the 3rd Epoch is proposed at Portmellon. These policy locations are an extensive distance (at least 10km) from all Sites.

IMPLICATION WITH RESPECT TO BUILT ENVIRONMENT

Economics Summary		by 2025	by 2055	by 2105	Total £k PV
Property	Potential NAI Damages (£k PV)	999.2	927.0	406.9	2333.1
	Preferred Plan Damages (£k PV)	499.6	463.5	203.4	1166.5
	Benefits of preferred plan (£k PV)	499.6	463.5	203.4	1166.5
	Costs of Implementing plan (£k PV)	3365	1421	636	5422
				Benefit/Cost ratio of preferred plan	0.22

Notes

B/C ratio less than unity relates to the very high cost of maintaining harbours. Investigation into a wide range of funding sources would be required. Analysis does not take account of the heritage & high tourism value of Mevagissey