

Location reference: Fistral Bay and Crantock
Management Area reference: MA31
Policy Development Zone: PDZ12



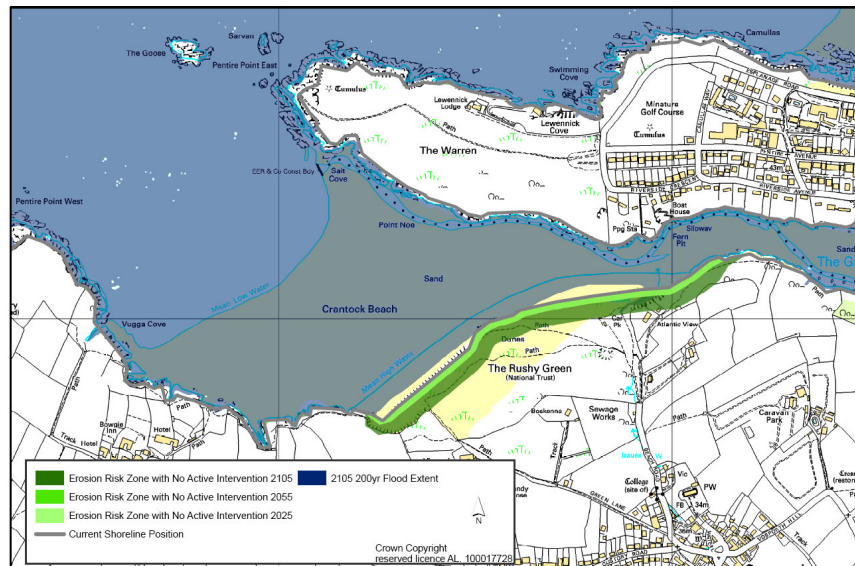
DISCUSSION AND DETAILED POLICY DEVELOPMENT

A no active intervention approach for the **undefended cliffs** between Kelsey Head and Crantock (including Porth Joke) and between Pentire Point East and Fistral Beach is seen as the only appropriate policy choice. No assets or historically valuable features are at risk. The NAI approach will meet high level SMP objectives and satisfy AONB and Heritage Coast criteria. It will also support the nature conservation value of the area.

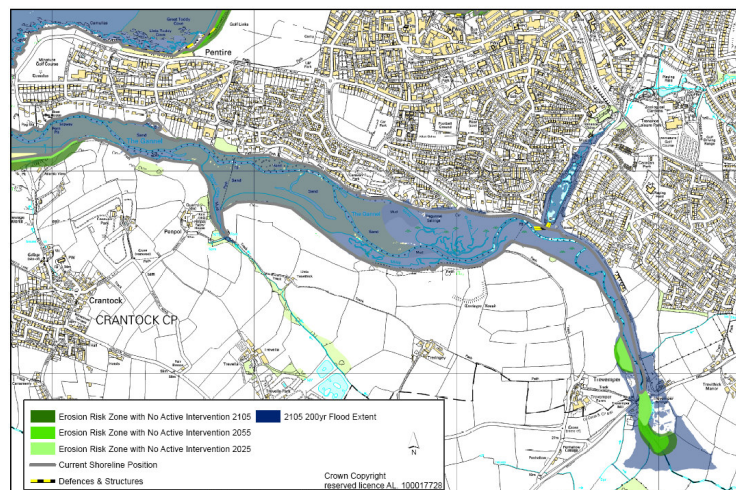
Some recession of the dune system is anticipated at **Crantock**. As previously discussed elsewhere on the north coast, the actual amount of recession will reflect the availability of new sediment for accumulation on the upper beach and dunes as they roll back.

Although as the mapping indicates, (see inset map below) the worst case scenario at Crantock may be 55m of erosion by 2105, this would not result in any assets becoming at risk. Allowing natural response to sea level rise will provide the most robust and sustainable defence to the hinterland. The National Trust are owners and managers of the entire

Crantock beach and dune site and NAI will correspond with the Shifting Shores strategy which the NT promotes. Historical interests are few at Crantock although it is possible that the scheduled historic Gannel Quarry could be affected by erosion in the third epoch under the NAI approach.



Flood risks are not predicted to increase greatly within the **Gannel** and erosion risks are minimal. The estuary was not considered as part of the first SMP. Any developing flood risk to property along Trenance Lane and Trevemper Road (adjacent to the boating lake) and at Trevemper Bridge, should be managed through flood resilience and adaptation plus improvement in the Environment Agency's



coastal flood warning systems, which are moving toward community based warnings. Therefore the preferred plan is no active intervention. NAI is suitable to support and enhance the existing estuarine and intertidal habitat value as the unconstrained left bank of the Gannel should allow some natural movement of the saltmarsh, although this should be monitored for future reviews of the SMP.

Monitoring of the cliff line at **Pentire and South Fistral** during epoch 1 should determine actual likely recession potential and the threat to cliff top road and properties. Mapping indicates low risk but defences are currently in place and there remains uncertainty. This frontage receives high wave energy, so erosion potential does exist. The preferred plan therefore is to hold the line in the first epoch, and, assuming that monitoring over 20 years shows there is actually little erosion potential, to then move to a no active intervention approach during epochs 2 and 3.

Allowing natural response to sea level rise and increasing storminess is essential to maintain beach width and sand levels along **central Fistral beach and dunes**. Any additional constraint of the shoreline as seen at north Fistral should be avoided. Fistral Beach as a self-contained sediment compartment should be well able to adjust its profile and shoreline position in response to sea level rise and increased storminess, given the huge store of relict sediments locked up in the dune system which is now mostly occupied by the Newquay golf links course.

The present management scenario sits somewhere between these positions – the Cornwall Sand Dune and Beach Management Strategy reports that there is severe wave erosion at the toe of the dunes and that tourist pressures are leading to trampling and



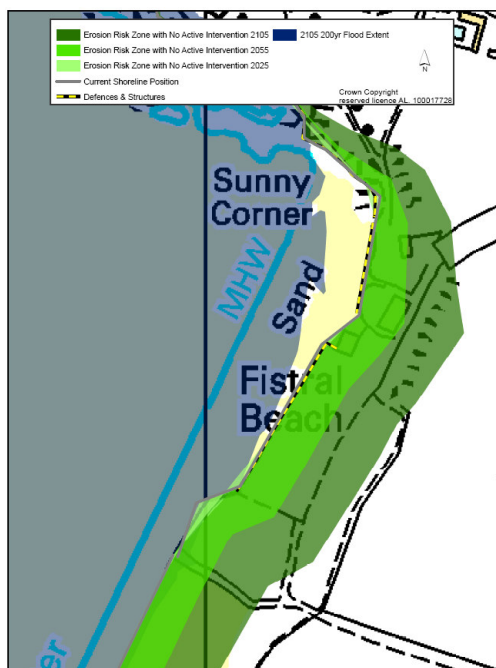
destruction of the vegetation. Recommendations to remedy the situation at Fistral include strong fencing to reduce trampling; information boards; construction of boardwalks; preventing any more sand removal from the car park. In addition it is suggested that beach nourishment may be required in the future – however the SMP feels that if natural response and roll back is allowed there is more than adequate sediment in the natural system to accommodate changes. Given that erosion may be as much as 50m under the high NAI scenario by 2105, it would appear that a critical aspect of future management is not constraining the natural response. This would need to allow for re-routing of the coastal footpath and allowing some roll back of the dunes. Land Use Planning should acknowledge this requirement and any future strategy will of course require discussion with the golf course owners.

As mentioned above, the erosion mapping indicates that the landward movement of the shoreline position may be as much as 50m by 2105 (see inset map, above). As

previously discussed elsewhere on the north coast of Cornwall, the actual amount of recession will reflect the availability of new sediment for accumulation on the upper beach and dunes as they roll back (as well as the actual rate of sea level rise experienced). At Fistral this could come from both contemporary offshore sources (mostly marine shell) and that locked up in the fixed dune areas.

The preferred plan for the central part of Fistral Beach and its dune area is managed realignment through all three epochs. Managed realignment will accommodate the aspiration to allow this frontage to adapt and respond naturally to coastal processes and would allow priority to be given to enhancement of the natural dune system as a UK priority BAP Habitat. Funding may be available to assist with management of the frontage by demonstrating that Government outcome measures will be met through enhancement of BAP habitat. Managed realignment would support local measures which aim to protect the narrow and fragile dune system from recreational pressures; however attempts to hold the dune line artificially in position should not be encouraged and natural process should dictate the position of the foredunes.

The importance to the local economy of the surf centre (Fistral Blu), car parking and RNLI lifeguard station at **North Fistral** (photo, right) is recognised by the SMP. A preferred plan which proposes a hold the line policy in epoch 1 and continuing into epoch 2 reflects this. However beyond mid-epoch 2, it is likely to become technically and economically unsustainable to maintain the current shoreline position. It will also be increasingly detrimental to dune habitat and general functioning of the beach-dune system as the shoreline and dunes to the south of the car park roll back landward.



The inset map below indicates the evolving position of the shoreline through to 2105, under a NAI scenario. This scenario indicates that the shoreline is under pressure and if it were not constrained would want to roll back by up to 55m by 2105.

Therefore some realignment and adjustment of the current shoreline position should be considered and planned for by 2040, possibly earlier. During the intervening time period however, monitoring of the beach width and elevation should continue to inform and adapt future strategies for management, accordingly. Long-term strategies which focus on providing hard defence to the current shoreline development should be discouraged as this may detrimentally affect sediment transport patterns. Therefore planners and coastal managers should instead focus on managing the frontage in its existing position over the next 25-30 years but accepting that

the longer term impacts of climate change are likely to force a realignment of the shoreline and relocation of the development out of the risk zone. Ideally in the longer term, the shoreline of Fistral beach should be constrained by as little waters-edge development as possible. The best policy plan to serve the long-term interests of the community would be to allow the beach to function as naturally as possible. This approach will support the very important recreational and amenity value of Fistral as a tourist attraction and renowned, quality surf beach. It is also the best option for supporting and enhancing the environmental and habitat value of the frontage.

In summary, across the full frontage of Fistral Bay the combination of the scale of predicted erosion of the dune system, the amenity and economic importance of the Golf Course and Fistral Beach facilities, suggest that this is an area of significant coastal change. As such, the Land Use Planning system should identify a Coastal Change Management Area, which should then support policies for the adaptation of the area to sea level rise and the potential enhancement of UK BAP habitat (coastal sand dunes). Any Newquay Town Strategy should also consider these conflicting interests.

Benefit / cost ratios indicate that there is little support for hold the line policies along the frontage of Fistral Bay, therefore lending support to the management intent that it is more sustainable to look toward medium and long term realignment and to avoid further modification of the shoreline where possible and to allow natural coastal processes to dominate.

SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION

PLAN:

Location reference:	Fistral Bay and Crantock
Management Area reference:	MA31
Policy Development Zone:	PDZ12

PREFERRED POLICY TO IMPLEMENT PLAN:	
From present day (0-20 years)	NAI along undefended frontage. NAI at Crantock. NAI within the Gannel. HTL at Pentire. MR along central Fistral beach and dunes. HTL at North Fistral.
Medium term (20-50 years)	NAI along undefended frontage. NAI at Crantock. NAI within the Gannel. NAI at Pentire (subject to monitoring information). MR along central Fistral beach and dunes. HTL (but beginning to plan for MR) at North Fistral.
Long term (50 -100 years)	NAI along undefended frontage. NAI at Crantock. NAI within the Gannel. NAI at Pentire (subject to monitoring information). MR along central Fistral beach and dunes. MR at North Fistral.

SUMMARY OF SPECIFIC POLICIES

Policy Unit		SMP1 Policy	SMP2 Policy Plan			Comment
		50 yrs	2025	2055	2105	
31.1	Undefended cliffs	Do nothing	NAI	NAI	NAI	Will meet high level objectives and satisfy AONB and heritage coast criteria
31.2	Crantock Beach	Do nothing	NAI	NAI	NAI	Some recession of dune system anticipated. No assets at risk. Natural response to sea level rise provides most robust accommodation of sea level rise and increasing storminess.
31.3	The Gannel	<i>Not considered in SMP1</i>	NAI	NAI	NAI	Any developing risk to property should be managed through flood resilience and adaptation plus improvement in flood warning systems.
31.4	Pentire / south Fistral	Hold the line	HTL	NAI	NAI	Monitoring of cliff line during epoch 1 should determine actual likely recession potential and threat to cliff top road and properties. Mapping indicates low risk but defences currently in place.
31.5	Central Fistral & Dunes	Do nothing	MR	MR	MR	A managed realignment approach is preferred to accommodate the natural variability of this area. This would allow priority to be given to enhancement of the natural dune system as a UK priority BAP Habitat, whilst continuing to encourage natural and sustainable response to climate change impacts.
31.6	North Fistral	Hold the line	HTL	HTL/MR	MR	Realignment and adjustment of the current shoreline position should be considered and planned for by 2055, possibly earlier.
Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention MR – Managed Realignment						

ENVIRONMENTAL ASSESSMENT

Strategic Environmental Assessment (SEA):

The long-term policy for Godrevy Point to St Agnes Head is NAI across the undefended cliffs and a policy of MR to provide continued protection to settlement and assets of North Fistral including Importance to the surf centre, car parking and RNLI lifeguard station.

The policy of NAI will provide essential natural processes for the Kelsey Head SSSI and various RIG sites including The Gannel Quarry and Fistral Bay, although there is potential for loss of footprint extents associated with the golf course, access roads of Fistral and the Trevemper Bridge (LB). Monitoring should be undertaken.

Appropriate Assessment (AA):

HTL is proposed for Newquay Harbour and Towan Beach, and Porth, whilst HTL is proposed in the first Epoch for Pentire/South Fistral, and HTL is proposed for the first two Epochs at Tolcarne Beach and North Fistral followed by NAI or MR respectively. These policy locations are at least 7km from the nearest Natura 2000 Site and, therefore no direct or indirect effects 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)	49.5	29.1	9.3	87.9
	Preferred Plan Damages (£k PV)	0.0	12.3	3.3	15.6
	Benefits of preferred plan (£k PV)	49.5	16.8	6.0	72.3
	Costs of Implementing plan £k PV	279	88	0	367
				Benefit/Cost ratio of preferred plan	0.20

Notes

Marginal B/C ratio because of high HTL/MR costs for North Fistral. Potential for private contributions should be investigated.