

PDZ: 12	Newquay (Pentire Point West to Trevelgue Head)	Management Area 31 Management Area 32
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Newquay (Pentire Point West to Trevelgue Head)

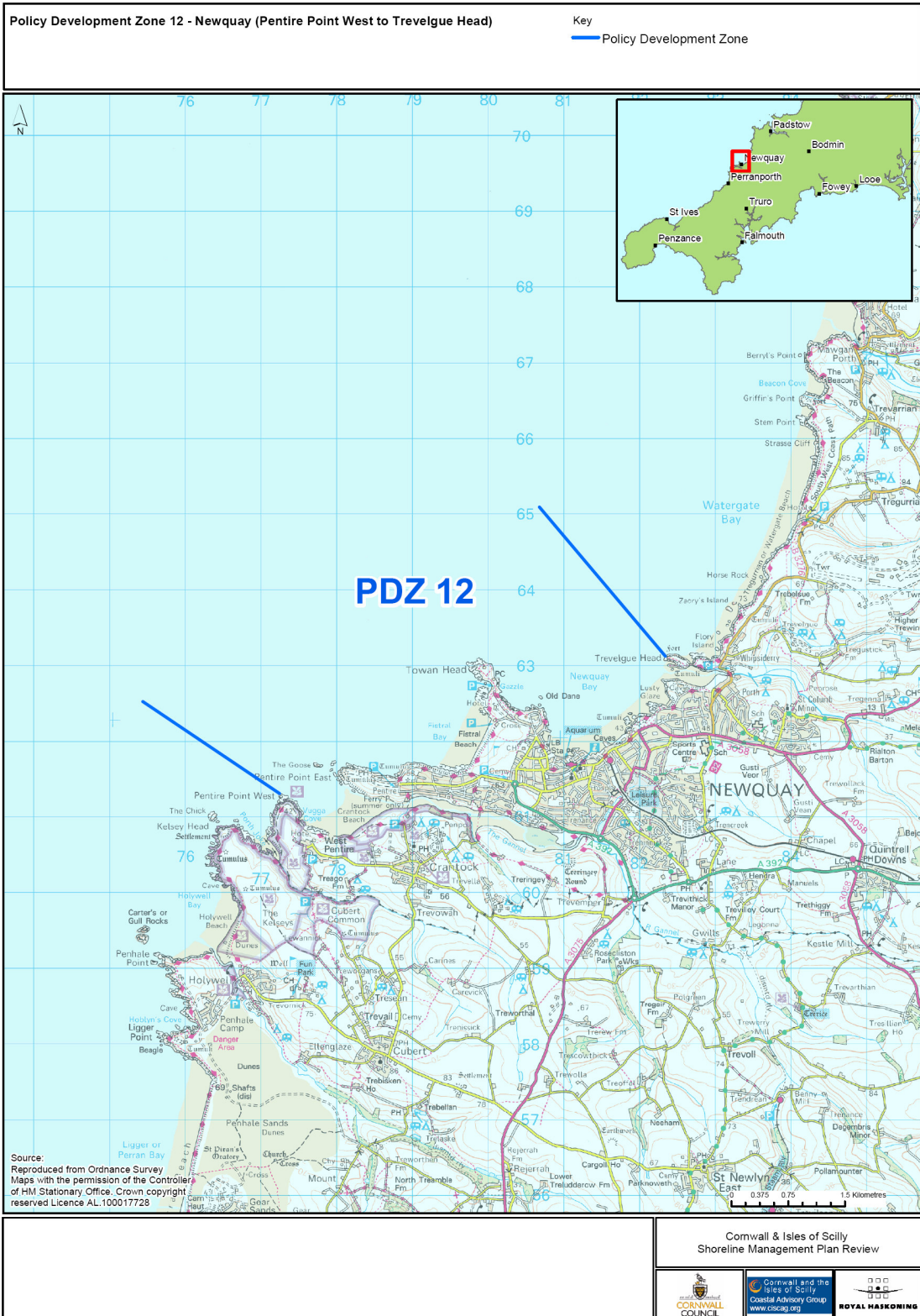
This section of coastline encompasses those beach frontages and cliffs associated with the Newquay conurbation. Its contemporary character is of a frontage dominated by sandy surf beaches, heavily used in terms of year round water-based recreation, and with extensive development providing huge amounts of holiday accommodation. The importance of the beaches to Newquay cannot be overstated. The vast majority of businesses in the town are linked in one way or another to the presence of the beaches.

Although its character subtly changes between the seasons, Newquay displays at all times the juxtaposition of the contemporary, fashionable resort with a past era of Victorian hotels, B&Bs and cream teas. Newquay attracts visitors from all over the UK and the importance and influence of Newquay on the local economy for many miles up and down the coast is extremely significant, as it has been for many years.

Crantock Bay (and the Gannel Estuary which discharges along the northern edge of Crantock Beach), forms the southern boundary to the Newquay conurbation. Much of this area is owned and managed by the National Trust. Although popular with year round recreational users and tourists alike, Crantock can be described as tranquil when compared to the neighbouring Fistral Bay.

Towan Head to the north then separates Fistral Bay from Newquay Bay. Newquay Bay is home to a number of beaches, disconnected at high tide but joined at low water. These more sheltered beaches are still extensively used for recreational purposes and are seen as the safer option for bathing compared to the more exposed high wave-energy environment at Fistral.

Porth Beach, a long funnel shaped area of sand which follows a smaller river valley at the northern edge of Newquay, is a quieter option to the busier town beaches.



General Description	
Built Environment	
<p>Although the shoreline of Newquay is significantly developed and modified in comparison to much of the rest of Cornwall, it still in places displays the rugged cliffs, beaches and dune landscape typically associated with the north coast of Cornwall. Fistral Beach is synonymous with surfing and hosts many competitions each year – this has had tangible effects upon the coastal zone itself, with fairly large scale development, including The Surf Centre, built at north Fistral in 2003, in addition to hard standing car parking directly behind the beach. This development has the effect of disconnecting the upper beach from the dunes behind it. There is also tourism-based development at the rear of the beaches within Newquay Bay, Although tourism is the main economic driver in Newquay, there is still a small but thriving fishing fleet which operates from the harbour located against the cliffs at Towan Beach.</p>	 <p>The new RNLi lifeguard station, north Fistral</p> <p>Heritage</p> <p>This stretch of coastline contains some of the largest known concentrations of Bronze Age barrows, notably at Kelsey Head. It also has some substantial and highly visited Iron Age Cliff Castles, such as Trevelgue Head. Many of these sites are actively eroding. There is one Conservation Area present at Crantock.</p>
Environment and Nature Conservation	
<p>The important dune areas at Crantock and Fistral represent important UK BAP Habitat sites (although currently undesignated). The dunes at Fistral are very constrained by the golf course sitting directly behind. There are important intertidal habitats within the Gannel estuary – sandbanks (and limited mudflat) in the lower estuary and saltmarsh in the upper part. There are a number of geological designations in the area including the Gannel Quarry and Fistral Bay RIGS.</p>	
Recreation and Amenity	
<p>Surfing is synonymous with the Newquay area and all water based activities related to the coast are important recreational activities in this very popular tourist destination. There is associated recreational development at North Fistral including a new flagship RNLi lifeguard station. There is a popular golf course directly behind Fistral Beach dunes. Tourist based facilities exist along the rear of the beaches in Newquay Bay, including the Blue Reef Aquarium located at the rear of Towan Beach.</p>	 <p>Fistral beach, recreational hotspot</p>

Key Values and Drivers

The importance of tourism to the area is obviously a primary value – being able to offer a lively, contemporary holiday experience set against the back drop of typically rugged coastline scenery of Cornwall is Newquay’s unique attraction to the visitor. To residents however, some protection of the other aspects of Newquay is also vital. To support fishing activity, to prevent further encroachment of development on the beaches, to prevent deterioration of the quality of the environment, to maintain the quality of the surf beaches. In reality, the aspirations of residents and those promoting Newquay as a tourist destination may be similar, for if Newquay were to lose what makes it inherently ‘Cornish’ it would probably lose its attraction to visitors.

- Amenity, tourism and recreation
- Importance of Newquay beaches
- Identity of Newquay as a place to live
- Existing landscape value and environmental quality

PDZ Management Intent

The high-level management intent therefore would be to facilitate the continued popularity of Newquay as a tourist destination, but to do this against the backdrop of a management regime for the beaches and cliffs which protects and enhances their wild and rugged ‘Cornishness’. Allowing natural evolution of the coast wherever possible and generally protecting and enhancing the coastal environment are critical to the continued prosperity of Newquay. Supporting the long-term adaptation of beaches (and their retention) is an important part of delivering the overarching management intent.

Context

Newquay is a significant human settlement. Although the primary urban areas have historically developed around the original primary industries of fishing, agriculture and mining, the tourist industry now plays a key role in the local economy of all these areas. Newquay is particularly key, being probably the most popular destination in Cornwall. Fistral Beach is particularly intensely used.

This unit extends to the town beaches of Newquay, Porth, and Whipsiderry.

TIDE AND WATER LEVELS (mODN)

								6.4	+3.6
Extremes(mODN)									
<i>Location:</i>	1:1	1:10	1:25	1:50	1:100	1:200	1:500	1:1000	
Newquay	4.14	4.35	4.46	4.52	4.63	4.71	4.81	4.89	

Wave Climate

This coastline is exposed to the dominant westerly wave climate. Fistral and Crantock beaches in particular have very energetic nearshore wave climates, with the coastline of Newquay Bay benefitting from a little more shelter due to the presence of Towan Head.

The annual 10% exceedance wave height is 2.5m – 3m, with a 1 in 50 year extreme

offshore wave height of 20m. Recent wavebuoy recordings over the previous 4 years (at Perranporth) have demonstrated that significant wave heights frequently exceed 5m during the winter months and wave periods of 15 seconds and higher are not uncommon.

Tidal Flow

Tidal currents are generally weak, although they do increase in velocity around the headlands where they may have some local influence on sediment re-distribution. Mean spring tidal range is 6.4m

PROCESSES

Control Features:

The headlands of Pentire Point West, Pentire Point East and Towan Head exert strong physical control over this stretch of the SMP coastline. They are formed primarily of Devonian slates with some intrusions of harder rock. The headlands and cliffs generally descend directly into deep water.

Existing Defences:

Some rock armour defences are present at the southern end of Fistral Beach. Although there are no formal sea defences at north Fistral other than dune stabilisation measures (gabions and fencing), the presence of the Fistral Surfing Centre building and a surfaced car park (both constructed in 2003) means that this end of Fistral beach has become disconnected from the dune system behind it.

Defence structures are also located in discrete lengths throughout Newquay Bay, specifically at Towan Beach (including the harbour structures), Great Western Beach, Lusty Glaze, and Porth.

Processes:

It is most likely that there is little net transport of sediment alongshore in either direction. Most transport is wave driven, and is either onshore or offshore in response to changes in the wave climate.

The shoreline is swash aligned due to the almost shore-parallel approach of the waves. Therefore most sediment transport is cross-shore up and down the beach profile in response to storms and seasonal variation in the wave climate.

Futurecoast (2002) suggests that there is no sediment exchange between the beaches and that they are all self-contained sediment cells. However the headlands within this unit are less prominent than many on the north Cornish coast and there is potential for some limited sediment exchange to be occurring between the bays, in the form of littoral drift around the headlands, especially at times of MLWS and during storms.

There are possible links between the Gannel, Crantock and Fistral Beach under storm conditions from the west. The beaches and their sand accumulations also display significant sensitivity to periodic shifts in dominant wind direction.

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 dunes at Fistral are almost entirely fixed and immobile due to the presence of a golf course. Only a small strip of dunes running directly behind the beach retains their natural mobility.

Cliff recession and erosion rates within this unit are historically low due to the resistant nature of the headlands and geology. However active erosion is occurring along the Newquay-Whipsiderry-Watergate cliff line and this will continue and rate of recession may increase as sea levels rise and increased wave energies act upon the toe of the cliffs.

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
West Pentire	0	0	22.3	55.9	Dunes
Fistral beach	0	0	18.6	46.6	Dunes
Newquay	0	0	0	30	Wall, 100 year SoP
Porth Island	0	2	0	3.6	

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.

SMP1		
MU	LOCATION	POLICY
7A-3	Perranporth to Fistral	Do nothing
7A-3	Fistral	Hold the existing defence line
7A-3	Fistral to Newquay Harbour	Do nothing
7A-3	Newquay and Porth	Hold the existing defence line
7A-3	Porth Island	Do nothing

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								
<i>Location</i>	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)
	2	4	0	0	12	178	14	182
	Total for PDZ							

ASSESSMENT OF POTENTIAL FLOOD RISK

Epoch	Flood risk tidal 2025		Flood risk tidal 2055		Flood risk tidal 2105		Total	
No Active Intervention								
<i>Location</i>	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)
	19	290	23	181	24	59	24	530

PDZ 12: Newquay (Pentire Point West to Trevelgue Head)

Management Area Statements

MA31 – Fistral Bay and Crantock

Covering previous SMP1 management units:

7A-3	Perranporth to Fistral
7A-3	Fistral
7A-3	Fistral to Newquay Harbour

MA32 – Newquay Bay

Covering previous SMP1 management units:

7A-3	Fistral to Newquay Harbour
7A-3	Newquay and Porth
7A-3	Porth Island

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