
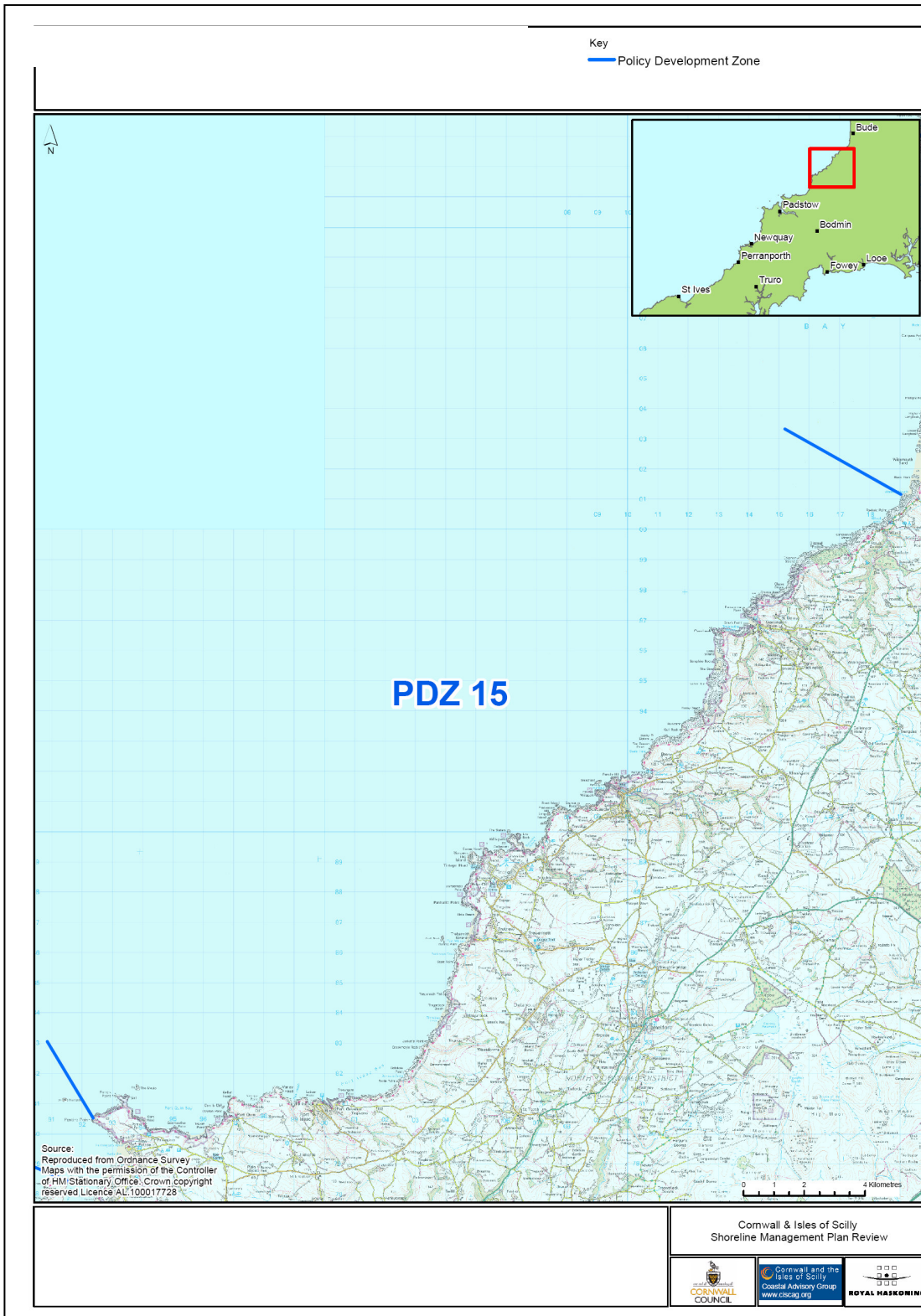





PDZ: 15	Pentire Point to Wanson Mouth	Management Area 37 Management Area 38
<p data-bbox="352 427 563 454">Trebarwith Strand</p> 		
<p data-bbox="293 1115 715 1142">Pentire Point to Wanson Mouth</p> <p data-bbox="287 1182 1485 1447">This section of coastline faces generally north to north-west and its exposed nature is reflected in the rugged cliffs, stormy seas, stunted and wind blown trees, and isolated settlements which have grown up clustered in the shelter of river valleys. . Pocket beaches are found occasionally along the cliffed coastline where steep valleys have formed allowing watercourses to reach the sea. Geographically it is one of the largest sections of coastline dealt with within this SMP, covering around 50km of exposed frontage but it is one of the most sparsely populated. Agriculture forms the bulk of the cliff top land use with small scale fishing fleets still operating from some of the sheltered natural harbours.</p>		



General Description	
Built Environment	
<p>The character of the area is one of wild and unspoilt coastline with isolated communities existing within a framework of cliff top agriculture, small scale fishing operations and low key tourism at discrete locations such as Port Isaac and Boscastle. Port Isaac, Tintagel and Boscastle represent the key settlements in terms of population and visitor numbers but of these only Port Isaac has a significant part of the settlement in close proximity to mean high water. Three much smaller settlements exist at Port Quin, Port Gaverne and Crackington Haven (pictured right) and these all have a limited number of properties close to the waters edge. There are local roads running along the coastline between the settlements, in some cases directly adjacent to the shoreline and often in vulnerable locations.</p>	 <p style="text-align: center;">Crackington Haven</p>
Heritage	
<p>The historic environment is of key importance with Tintagel Castle located on the immediate frontage being one of English Heritage's primary historical assets. There are historic and listed buildings in all of the settlements with a number lying within flood and erosion risk zones, particularly at Port Isaac but also Port Quin and Port Gaverne. Port Quin's historic frontage is owned and maintained entirely by the National Trust. Features associated with historic quarrying activity add to our understanding of mans interaction with the coastline in this area. There are also numerous Bronze Age barrows and Iron Age cliff castles including the Rumps. The Port Isaac and Boscastle settlements have designated Conservation Areas.</p>	 <p style="text-align: center;">Boscastle</p>
Environment and Nature Conservation	
<p>A number of designations exist to identify the national importance of the coastline in terms of its geological, ecological and archaeological interests. Of particular importance are the Tintagel-Marsland-Clovelly Coast SAC, Cornwall AONB designation, the Pentire Point to Widemouth Heritage Coast designation and designations for the Pentire Peninsula SSSI, Tintagel Cliffs SSSI and Boscastle to Widemouth SSSI.</p>	 <p style="text-align: center;">Cliffs at Crackington Haven</p>

Recreation and Amenity

Tourism and recreation interests are very much linked to the natural and unspoilt value of the coastline and the character of traditional fishing villages such as Port Isaac and Boscastle. Walking access along the entire frontage is possible using the SW coast path, with access to the shore only where beaches have formed.



SW Coastal Footpath

Key Values and Drivers

The key value of this area is the wild and unspoilt nature of the coastline which supports important ecological features, a number of historical assets and small communities who rely on agriculture, tourism and fishing for community identity and income.

- The unspoilt and isolated ruggedness of the coastline
- The small coastal fishing communities
- Tourism and recreation.
- The historically significant feature of Tintagel Castle.

PDZ Management Intent

The overarching management principle is therefore to allow the natural evolution of the coast, which should retain the tourism and amenity values of the area, recognising the need to support the adaptation and resilience of the coastal settlements, whilst aiming to maintain their overall character.

The National Heritage Coast objectives are felt to appropriately define the key values and management principles:

- Conserve, protect and enhance the natural beauty of the coasts, their marine flora and fauna, and their heritage features.
- Facilitate and enhance their enjoyment, understanding and appreciation by the public.
- Maintain and improve the health of inshore waters affecting Heritage Coasts and their beaches through appropriate environmental management measures.
- Take account of the needs of agriculture, forestry and fishing, and of the economic and social needs of the small communities on these coasts

To the north and east of Pentire Point, the shoreline characteristics change somewhat. This frontage is dominated by lengths of open sea cliff and rocky shore platform. The cliffs are formed of low-grade metamorphic Devonian strata between Pentire Point and Boscastle, while to the north there are interbedded sandstones and slates of Carboniferous age. These formations create the extensive hard-rock cliffs.

TIDE AND WATER LEVELS (mODN)

Extremes(mODN)									

This stretch of coast is mostly north-west facing and therefore exposed to extremes in North Atlantic wave height and energy. The annual 10% exceedance wave height is 2.5m – 3m (Futurecoast, 2002), with a 1 in 50 year extreme offshore wave height of 20m.

The initial section of coast in this unit which accommodates the small coastal communities of Port Quin, Port Isaac and Port Gaverne, is north facing and benefits from limited shelter provided by Trevoze Head.

Wavebuoy recordings (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. These values can be taken as representative for the whole of the north coast of Cornwall.

Tidal Flow

Mean spring tidal range along this stretch of coastline is around 6.80m (at Tintagel). Residual tidal currents have little impact on sediment transport or long term patterns of erosion and accretion.

PROCESSES

Control Features:

The principle control on the coastline is the hard geology which controls the recession rates. Locally there is shelter provide to the north-eastern sides of headlands such as at Tintagel Head and Cambeak (Crackington Haven).

Existing Defences:

Coastal defence structures (mainly in the form of harbour walls and quays) are present at Port Quin, Port Isaac, Port Gaverne and Boscastle. Crackington Haven and Trebarwith Strand have small-scale defences located at the rear of their respective beaches.

None of these defences are influential on wider-scale coastal processes, they just perform a local coast protection or flood defence role at their respective locations.

Processes:
<p>The small bays and coves with sandy accumulations are self-contained sediment cells and there is very little wide-scale interaction along this coastline.</p> <p>Dominant transport of sand is wave-driven and is primarily onshore/offshore (Futurecoast, 2002) though significant offshore accumulations of sediment are sparse.</p> <p>New sediments are derived from offshore calcium carbonate sources (marine organisms) and from limited erosion of the local cliffs.</p>
<p><i>Unconstrained Scenario:</i></p> <p>This scenario considers how the coast would evolve in the absence of defences.</p> <p>Historically change along this section has been limited to very gradual erosion of the cliff line and shore platform (< 3m in the past 100 years).</p> <p>Future tendencies for the behaviour of this coastline are likely to reflect these historical, very gradual rates of change. Therefore, although this coastline is actively eroding, this erosion will continue to occur at a very gradual pace and therefore very little change would be expected across this unit over the next 100 years. As a whole, this coastline will display resilience toward climate change.</p> <p>The pocket beaches at Port Quin, Port Isaac, Port Gaverne, Boscastle and Crackington Haven are likely to maintain their overall form, with both local cliffs and marine carbonate sources maintaining a supply of sand. However where there is constraint placed upon the upper beach by either defence or geology, there may be some risk of coastal squeeze within the next 100 years due to rising sea levels. Adjacent cliffs will continue to experience slow erosion. Backing low-lying areas are likely to experience some flooding under storm conditions.</p>

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
Port Isaac	0	0	9.3	23.3	
Tintagel Head	0	2	0	3.6	
Benny Cliff	3	6	3.4	10.4	
Crackington	-	-	5.6	14	

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
7B-2	Pentire Point to Portquin	Do nothing in order to maintain geological / biological importance
7B-2	Portquin	Hold the line to protect assets and maintain character and historic value
7B-2	Port Quin to Port Isaac	Do nothing in order to protect geomorphological features
7B-2	Port Isaac & Port Gaverne	Hold the line along existing defences
7B-2	Port Gaverne to Tintagel	Do nothing – no built assets at risk, allow continuation of natural processes (maintain splash wall at Trebarwith)
7B-2	Tintagel	Do nothing – no built assets at risk, allow continuation of natural processes
7B-2	Tintagel to Boscastle	Do nothing – no built assets at risk, allow continuation of natural processes
7B-2	Boscastle	Hold the existing defence line
7B-2	Boscastle to Crackington Haven	Do nothing in order to maintain geological / biological importance – monitor cliff fall frequency
7B-2	Crackington Haven	Hold the existing defence line (no intervention for cliffs)
7B-2	Crackington Haven to Widemouth Bay	Do nothing in order to maintain geological / biological importance – monitor cliff fall frequency

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	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)	
Location									
PDZ15	0	0	28	1,059	41	563	69	1622	
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	Number of properties	Present Value x £1000	Number of properties	Present Value x £1000	Number of properties	Present Value x £1000	Number of properties	Averaged PVD (£x1000)
Location								
PDZ15	0	0	0	0	2	1	2	1

PDZ 15: Pentire Point to Wanson Mouth Management Area Statements

MA37 – Pentire Point to Boscastle

Covering previous SMP1 management units:

7B-2	Pentire Point to Portquin
7B-2	Portquin
7B-2	Port Quin to Port Isaac
7B-2	Port Isaac & Port Gaverne
7B-2	Port Gaverne to Tintagel
7B-2	Tintagel
7B-2	Tintagel to Boscastle

MA38 – Boscastle to Wanson Mouth

Covering previous SMP1 management units:

7B-2	Boscastle
7B-2	Boscastle to Crackington Haven
7B-2	Crackington Haven
7B-2	Crackington Haven to Widemouth Bay