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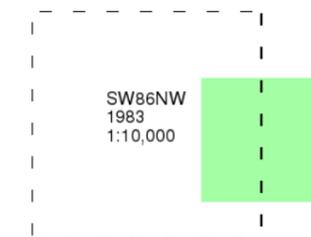
Ordnance Survey Plan

Published 1983

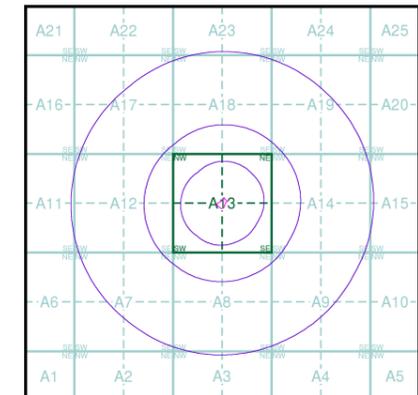
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

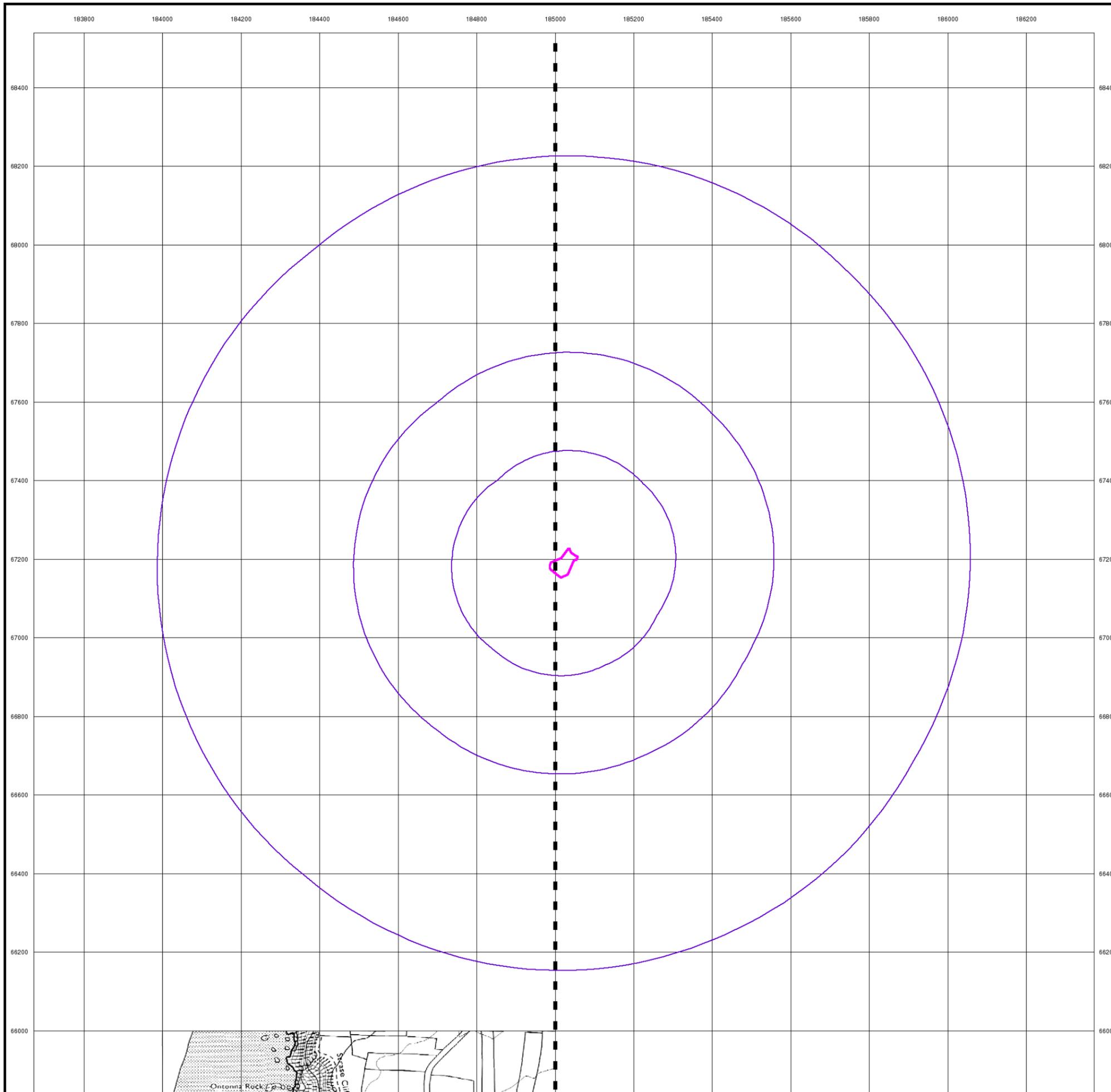
Order Number: 273490903_1_1
Customer Ref: 17682-GSWP
National Grid Reference: 185020, 67190
Slice: A
Site Area (Ha): 0.26
Search Buffer (m): 1000

Site Details

Site at, Mawgan Porth, Cornwall

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk





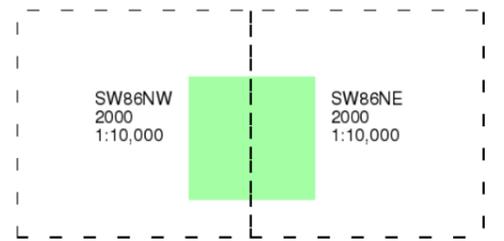
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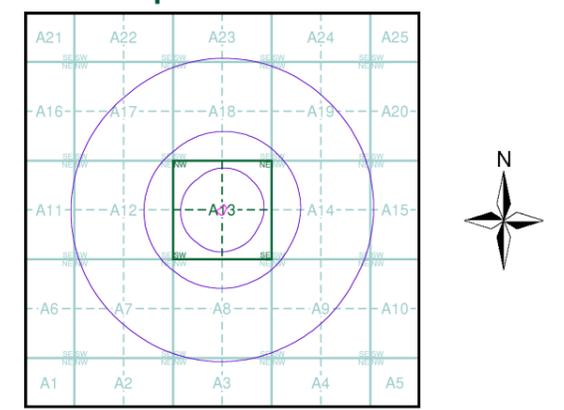
10k Raster Mapping
Published 2000
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

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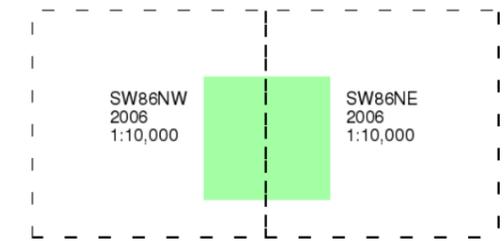
10k Raster Mapping

Published 2006

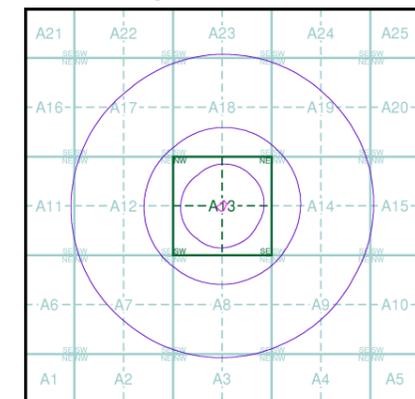
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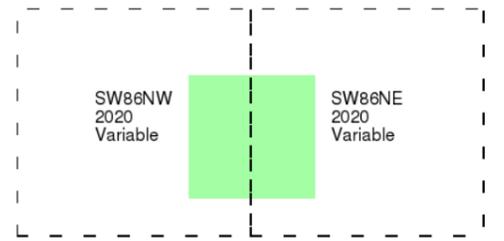
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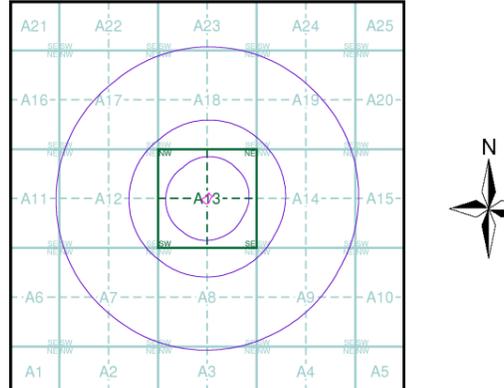
VectorMap Local
Published 2020
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details
 Order Number: 273490903_1_1
 Customer Ref: 17682-GSWP
 National Grid Reference: 185020, 67190
 Slice: A
 Site Area (Ha): 0.26
 Search Buffer (m): 1000

Site Details
 Site at, Mawgan Porth, Cornwall

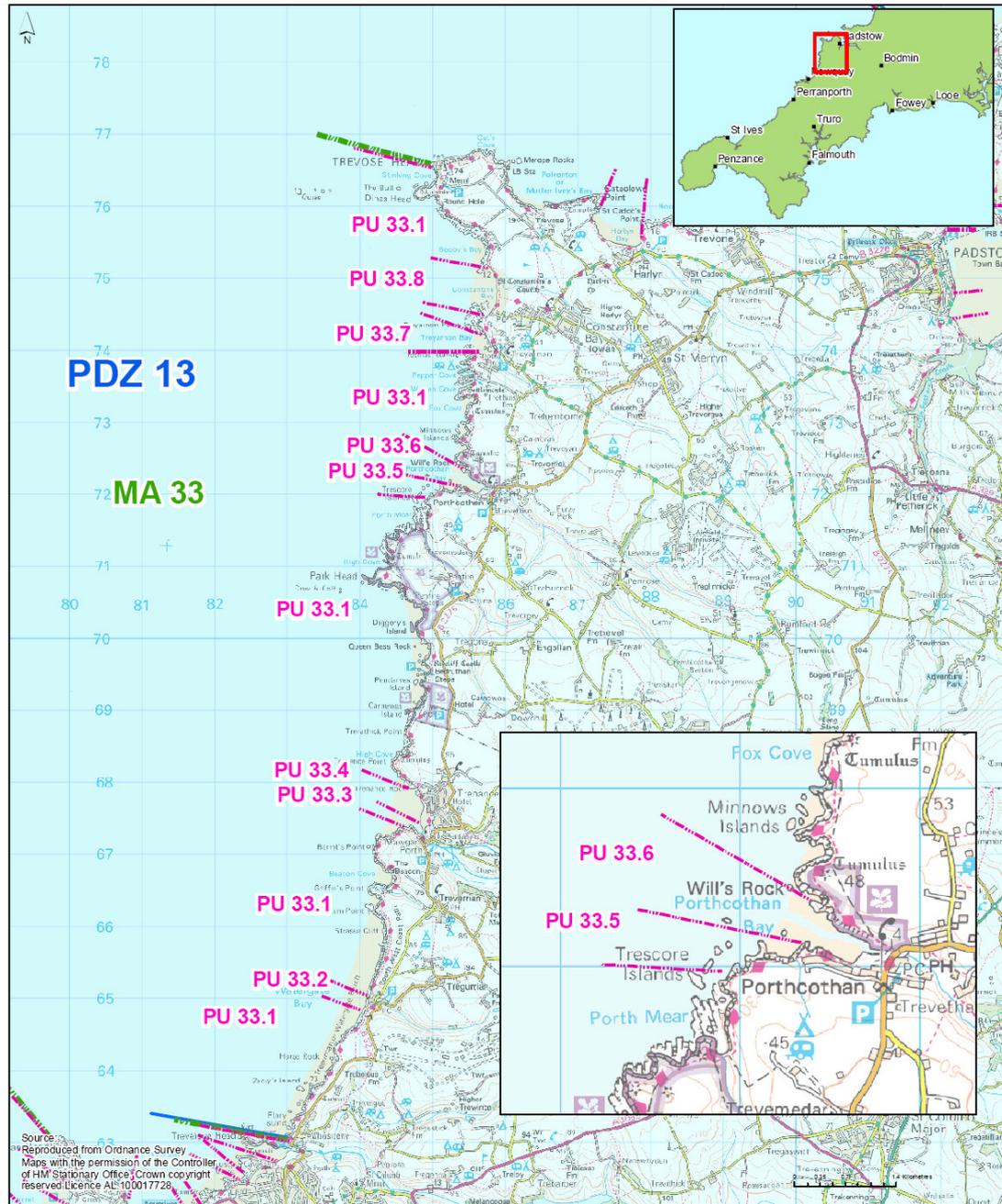
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Appendix D Relevant Extracts from SMP2

Location reference: Trelvege Head to Stepper Point
Management Area reference: MA33
Policy Development Zone: PDZ13

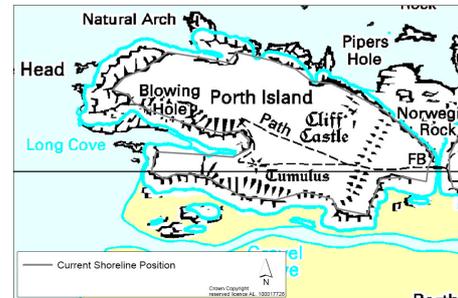
Policy Development Zone 13 - Trelvege Head to Stepper Point
 Management Area 33 - Trelvege Head to Trevoze Head

Key
 Policy Development Zone
 Management Areas
 Policy Units



DISCUSSION AND DETAILED POLICY DEVELOPMENT

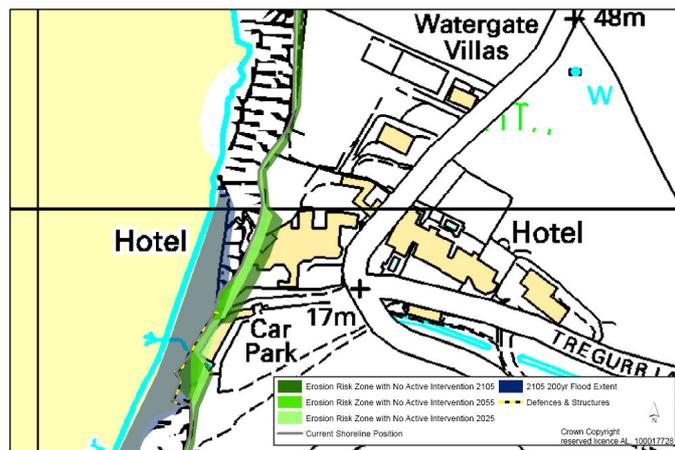
Along the undefended cliffs and covers a no active intervention policy should meet the high level SMP objectives and support AONB and heritage coast designations. There are two notable features along the undefended coast covered under this policy unit, namely Trevelgue Cliff Castle at Trevelgue Head and Bedruthan Steps, just north of Mawgan Porth. Trevelgue Cliff Castle is an important pre-historic settlement site (see inset map, right) and there have been some erosion concerns for this feature prior to the SMP review. The erosion mapping does not indicate that extensive risk from erosion is anticipated for the feature, but that does not discount the fact that isolated, discrete cliff falls may affect the site in the future, as they are a feature of this section of cliffed coastline. Bedruthan Steps are a geological feature of the coastline (although Redcliff Cliff Castle is also present at the site). The Steps are



a popular visitor attraction throughout the year (owned and managed by the National Trust). Although erosion risk per se is low, there are likely to be impacts on the foreshore Steps features, due to rising sea levels causing greater depth and wave height closer to the base of the cliffs. Although these natural risks are identified for both features, no active intervention is still considered the suitable policy choice through all three epochs.

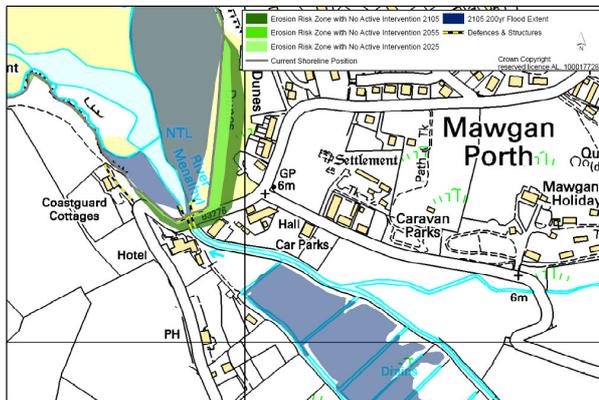
There is a possibility of some cliff recession adjacent to Hotel and Car Park at **Watergate Bay**. Although the geology is generally hard and resistant along this stretch of coastline, there are relatively frequent examples of cliff falls at discrete locations throughout the Bay from Trevelgue Head, Whipsiderry Beach, Watergate Beach and through to Beryl's Point. Very limited assets are thought to be at risk (see inset map right) but the no active intervention approach should not preclude the privately funded maintenance of the short section of defences (recently upgraded/improved) which are present adjacent to the access point onto Watergate Beach. The importance of these to the local economy is recognised. Studies (Haskoning, 2009) have concluded that they would not be detrimental to the wider beach and cliff processes given their relative insignificant length within the

There is a possibility of some cliff recession adjacent to Hotel and Car Park at **Watergate Bay**. Although the geology is generally



overall extensive Watergate Bay frontage. Flood inundation is not an issue at Watergate due to the steeply rising topography.

At **Mawgan Porth**, erosion and flooding risk place significant future pressure on the



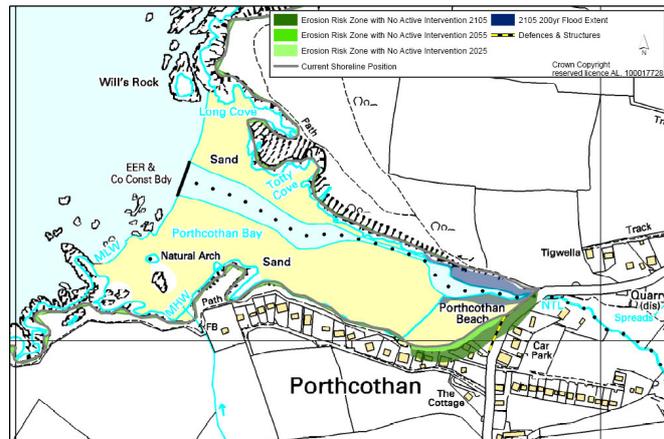
frontage and as such drive the preferred plan and policy. Erosion extent by 2105 could be as much as 35-40 metres and flood extents will increase up to the normal tidal limit of the River Menalhyl which discharges onto Mawgan Porth beach (see inset map, left). Assets at the rear of the beach are presently already subject to high flood risk due to wave overtopping action and this will only increase into the future. The B3276 road is a local through route, but it

also is vulnerable. Given the present days risks, it is prudent that the preferred plan looks to initiate a managed realignment approach from epoch 1 onwards. The coastal changes will therefore be significant to this community, requiring re-routing of the B3276, and possible relocation of the commercial hub of the community. As such Land Use Planners should consider identifying this as a Coastal Change Management Area. This approach would assist in managing future erosion and flood risks to the dune frontage as well (see inset map, above). Around 150m of defence would need to be assessed for realignment as part of an overall management strategy. In the long term (beyond 50 years), managed realignment would be expected to give way to no active intervention as a sustainable shoreline position is established, without the requirement for any engineered defences.

The majority of the Mawgan Porth frontage (around 275m) is fronted by dunes (these are marked as 'defences' within the mapping). There are a number of properties lying around 75-100m to the rear of the dune front. As indicated above, up to 40m of erosion may be experienced by 2105. The preferred plan is that the shoreline should be allowed to respond naturally to sea level rise and adjust its form and profile accordingly, through a no active intervention policy. As with other locations along the north coast, the magnitude of roll back and the extent to which the shoreline responds by changing position will relate to the actual sea level rise experienced and the amount of new sediments which are available to the beach, primarily from offshore sources (mostly marine shell). Naturally mobile and dynamic dunes will provide the most cost effective robust defence against future flood and erosion risks along this section of the Mawgan Porth frontage.

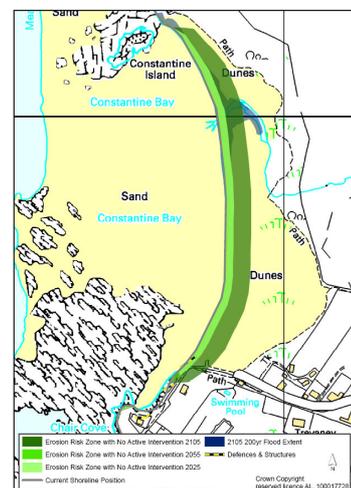
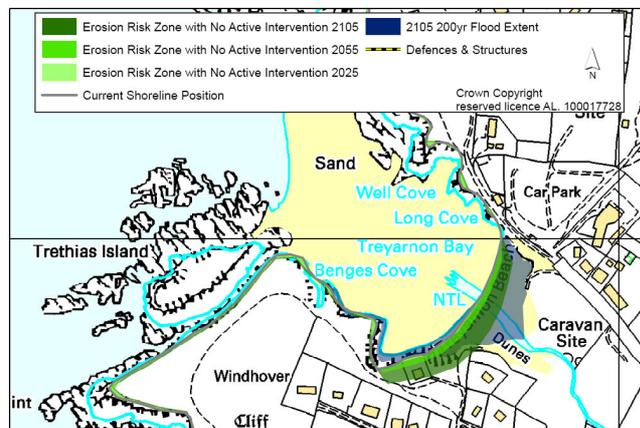
The managed realignment policy employed along the road section at Mawgan Porth will assist in not constraining any part of this frontage and in minimizing coastal squeeze impacts. Where the dune area rolls back significantly there may be impacts on properties immediately behind. The extent of this will depend on the position of the hard geology and the actual relict cliff line – the dunes here are climbing dunes and the actual position of the hard rock underneath will dictate the amount of recession which is experienced along this part of the frontage. Depending on the results of monitoring along the frontage and improved knowledge on the cliff line position a managed realignment approach could be introduced to assist with enhancing the dune area on the basis of meeting Government outcome measures relating to UK BAP habitat (coastal sand dunes).

At **Porthcothan** there are isolated properties and a section of the B3276 road at risk from erosion in the long term (see inset map, right). Two policy units cover the Porthcothan frontage to deliver the preferred plan. Along the cliff section and south-western section of the dunes, there is felt to be little justification for any protection measures. No active intervention is the preferred policy. Hold the line is not justified and there is no scope (or requirement) for managed realignment.



A non-interventional approach is considered best to manage the dune and beach area at Porthcothan and to allow the shoreline to respond naturally to sea level rise and adjust its form and profile accordingly. It is considered justifiable however to hold the line along a short section of defences (around 120m) which front the B3276 road adjacent to the rear of the beach. This may be satisfactory over all epochs but possible realignment routes for the road appear feasible and may prove more sustainable in the long term.

At **Treyarnon** the risks from erosion are limited to the possible loss of one property during epoch 3 (see inset map, right). Flood risks are low. A no active intervention approach is therefore felt to be suitable as it allows natural coastal processes to prevail without compromising the use of the area for recreational pursuits and general amenity, nor does it put any assets at great risk. The possible loss of one property in the longer term provides no justification for a managed realignment approach or for hold the line to be adopted. Some roll back of the upper beach may be expected – this will assist in mitigating coastal squeeze due to sea level rise.



The primary concern at **Constantine Bay** (Booby's Bay is covered under the undefended coast policy unit 33.1) would be to avoid any intervention or constraint of natural processes in order to maintain a healthy dune system (designated as a SSSI) and to prevent coastal squeeze. The preferred plan would implement this through a no active intervention policy. This would not preclude local, privately funded maintenance of the existing defences adjacent to the southern end of

Constantine Beach, however as sea level rises and places more pressure on this area, attempts to extend the defended area in either direction should be avoided.

The preferred plan is that the shoreline should be allowed to respond naturally to sea level rise and adjust its form and profile accordingly, through a no active intervention policy. The erosion mapping has indicated that up to 50m of recession could occur along the entire dune frontage by 2105 (see inset map, above). As with other locations along the north coast, the magnitude of roll back and the extent to which the shoreline responds by changing position will relate to the actual sea level rise experienced and the amount of new sediments which are available to the beach, primarily from offshore sources (mostly marine shell). Recent studies (Haskoning 2007) have concluded that in the previous 30 to 40 years there has been some slight advance of the dune system, rather than recession, although some evidence of erosion can be seen in more recent years particularly adjacent to the beach access point (see inset photos, below).



Naturally mobile and dynamic dunes will provide the most cost effective robust defence against future flood and erosion risks along this section of the frontage. Even where erosion achieves the upper limits possible by 2105, no property assets will be at risk. The significant importance of Constantine beach as a tourist amenity and local community asset would be supported under the preferred plan. Importantly, retaining natural processes will support its recreational use as a high quality surf beach.

Hold the line and managed realignment policies are both considered unsuitable or unnecessary for this policy unit (33.4).

The economic assessment for Management Area 33 provides a below unity benefit / cost ratio of 0.52 (refer to Economics Appraisal Summary Table below and Appendix H). This indicates the requirement to look to more economically sustainable approaches to manage the coastline in this area and generally supports a move away from holding the line in Mawgan Porth and at Porthcothan. If road losses were included however, in addition to property, the B/C ratio would improve, this should be acknowledged.

SUMMARY OF PREFERRED PLAN RECOMMENDATIONS AND JUSTIFICATION PLAN:

Location reference: Trevelgue Head to Trevoze Head	
Management Area reference: MA33	
Policy Development Zone: PDZ13	
PREFERRED POLICY TO IMPLEMENT PLAN:	
From present day (0-20 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay. NAI at Mawgan Porth dunes. HTL along Mawgan Port Road and Portcothan beach (north)
Medium term (20-50 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay. NAI at Mawgan Porth dunes. HTL along Mawgan Port Road and Portcothan beach (north)
Long term (50 -100 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay. NAI at Mawgan Porth dunes. HTL/MR along Mawgan Port Road and Portcothan beach (north)

SUMMARY OF SPECIFIC POLICIES

Policy Unit		SMP1 Policy	SMP2 Policy Plan			Comment
		50 yrs	2025	2055	2105	
33.1	Undefended cliffs	Do nothing	NAI	NAI	NAI	Will meet high level objectives and satisfy AONB and heritage coast criteria
33.2	Watergate Bay	Not previously considered individually in SMP1	NAI	NAI	NAI	NAI approach should not preclude the privately funded maintenance of the short section of recently improved defences
33.3	Mawgan Porth – road section	Hold the line	MR	MR	NAI	Pressure on this frontage dictates that a MR approach is required to address the risks to the road and rear-of-beach development.
33.4	Mawgan Porth - dunes	Hold the line	NAI	NAI	NAI	Dunes should be allowed to respond naturally to sea level rise and continue to provide natural defence.
33.5	Porthcothan cliff	Do nothing	NAI	NAI	NAI	No economic or environmental justification for defending cliff toe.
33.6	Porthcothan beach	Hold the line	NAI/(with localised HTL)	NAI/(with localised HTL)	NAI/(with localised HTL)	A non-interventional approach is best to manage dune area but it would be acceptable to HTL along short section of road adjacent to the rear of the beach.

33.7	Treyarnon	Do nothing	NAI	NAI	NAI	Very little in way of property / assets at risk.
33.8	Constantine Bay	Hold the line	NAI	NAI	NAI	Prevent any constraint of natural processes to maintain healthy dune system and prevent coastal squeeze. NAI would not preclude local, privately funded maintenance of defences adjacent to the southern end of Constantine Beach.
Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention MR – Managed Realignment						

ENVIRONMENTAL ASSESSMENT

Strategic Environmental Assessment (SEA):

Between Trevelgue Head and Trevoze Head, the long-term policy is for NAI along the undefended cliffs and estuary banks which will benefit both the geological and biodiversity interests including Trevoze Head & Constantine Bay SSSI, Bedruthan Steps & Park Head SSSI, Trevoze Head heritage coast and Whipsiderry Beach RIG site. However under this policy the following historic sites may be impacted upon in response to erosion and disturbance of the sites and their settings including: Trevelgue Promontory Camp And Two Barrows (SM); and Later Prehistoric Cliff Castle With Hut Circles On Griffin'S Point (SM).

At Porth Island and Watergate Bay, the NAI policy may result in potential loss of community assets or reduced footprint through erosion, however the second long-term policy of HTL for this policy unit will continue to maintain current standards of defence.

Habitat Regulations Assessment (HRA):

HTL is proposed in Epochs 1 and 2 followed by HTL/MR at Mawgan Porth (road section), with selected areas suitable for HTL at Porthcothan Beach for all Epochs, whilst HTL is proposed in the first Epoch followed by MR at Harlyn, and finally MR is proposed in the first two Epochs at Trevone Beach. These policy locations are at least 17km from the nearest Natura 2000 Site boundaries; 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)	0.0	0.0	92.3	92.3
	Preferred Plan Damages (£k PV)	0.0	0.0	55.4	55.4
	Benefits of preferred plan (£k PV)	0.0	0.0	36.9	36.9
	Costs of Implementing plan £k PV	47	24	0	72
Benefit/Cost ratio of preferred plan					0.52

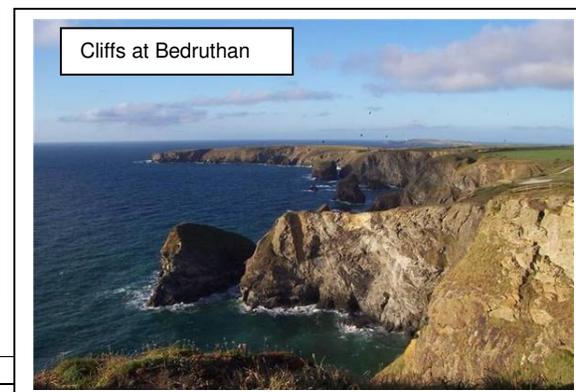
Notes

Below unity B/C ratio likely to be significantly improved if road losses also included

Location reference:	Trevelgue Head to Trevoze Head
Management Area reference:	MA33
Policy Development Zone:	PDZ13

PREFERRED POLICY TO IMPLEMENT PLAN:

From present day (0-20 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay.
Medium term (20-50 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay.
Long term (50 -100 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay.



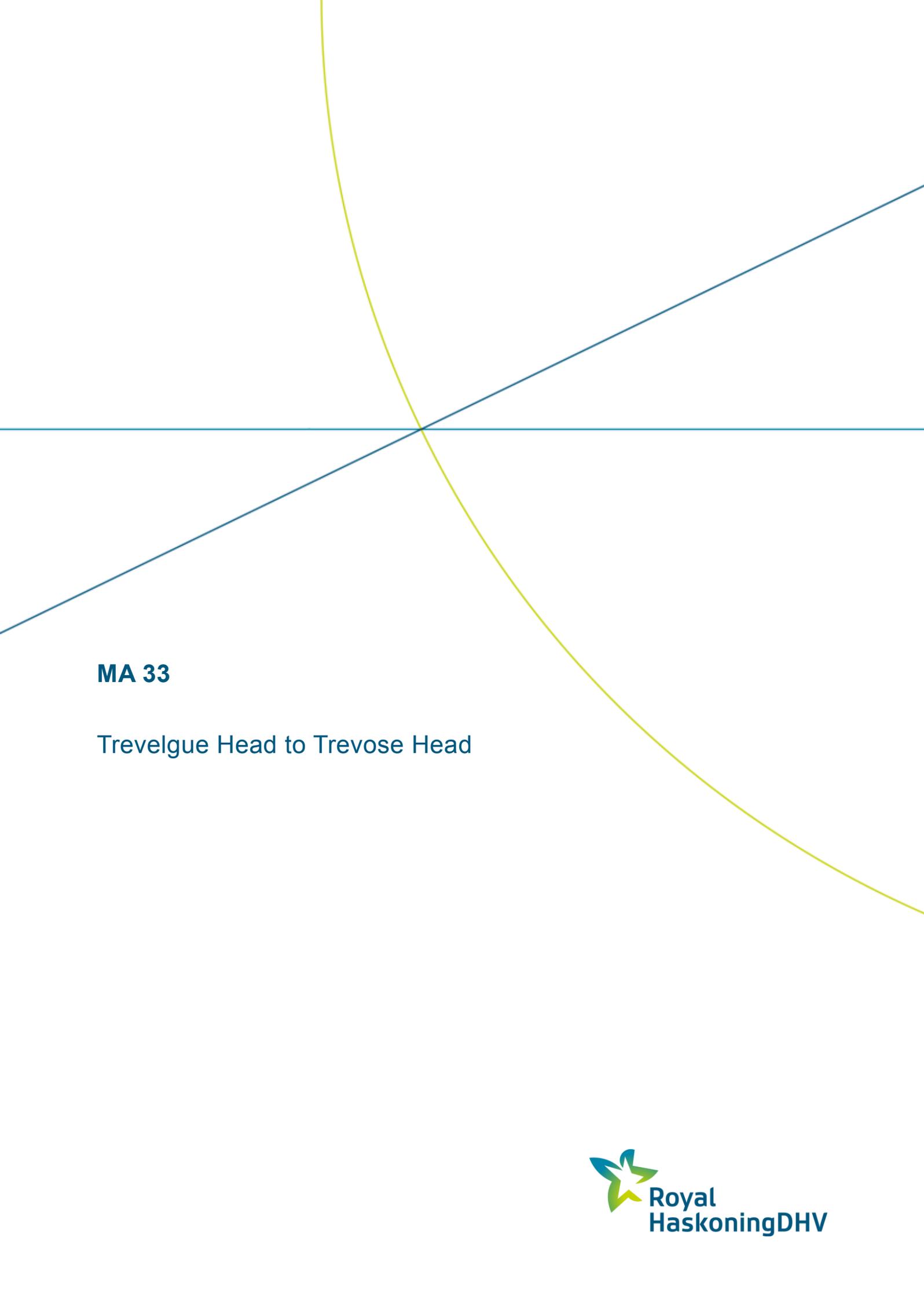
SUMMARY OF SPECIFIC POLICIES

Policy Unit		SMP1 Policy	SMP2 Policy Plan			Comment
		50 yrs	2025	2055	2105	
33.1	Undefended cliffs	Do nothing	NAI	NAI	NAI	Will meet high level objectives and satisfy AONB and heritage coast criteria
33.2	Watergate Bay	Not previously considered individually in SMP1	NAI	NAI	NAI	Probability of some cliff recession adjacent to Hotel and Car Park. Limited assets at risk but the NAI approach should not preclude the privately funded maintenance of the short section of recently improved defences which are present adjacent to the access point onto Watergate Beach, as the importance of these to the local economy is recognised and studies have concluded that they would not be detrimental to the overall beach and cliff processes.
33.3	Mawgan Porth – road section	Hold the line	MR	MR	NAI	Pressure on this frontage dictates that a MR approach is required to address the risks to the road and rear-of-beach development. The longer term aim would be to return the frontage to one which is entirely non-interventional (linked directly to PU33.4).
33.4	Mawgan Porth - dunes	Hold the line	NAI	NAI	NAI	Dunes should be allowed to respond naturally to sea level rise and continue to provide natural defence.
33.5	Porthcothan cliff	Do nothing	NAI	NAI	NAI	No economic or environmental justification for defending cliff toe.
33.6	Porthcothan beach	Hold the line	NAI/(with localised HTL)	NAI/(with localised HTL)	NAI/(with localised HTL)	A non-interventional approach is best to manage dune area but it would be acceptable to HTL along short section of road adjacent to the rear of the beach.
33.7	Treyarnon	Do nothing	NAI	NAI	NAI	Very little in way of property / assets at risk.
33.8	Constantine Bay	Hold the line	NAI	NAI	NAI	Prevent any constraint of natural processes to maintain healthy dune system and prevent coastal squeeze. NAI would not preclude local, privately funded maintenance of defences adjacent to the southern end of Constantine Beach.

Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention
MR – Managed Realignment

PREDICTED IMPLICATIONS OF THE PREFERRED PLAN

Policy Unit		Theme				
		Property & Land Use	Nature Conservation	Landscape	Historic Environment	Amenity & Recreational Use
33.1	Undefended cliffs	Few implications for property or land use due to low erosion rates and sparse habitation.	Preferred plan and NAI approach will support high level SMP objectives for nature conservation.	Landscape values will be supported by the preferred plan and will meet objectives of the Cornwall AONB covering the northern part of the frontage.	No implications.	Recreation and amenity use would not be impacted.
33.2	Watergate Bay	No significant implications for property.	Preferred plan and NAI approach will support high level SMP objectives for nature conservation.	Landscape values will be supported by the preferred plan.	No implications.	Recreation and amenity use would not be impacted.
33.3	Mawgan Porth – road section	Important through route maintained.	Shoreline would continue to be modified by defences and natural processes constrained.	Landscape would continue to be modified by defences.	No implications.	Recreation and amenity use would not be impacted.
33.4	Mawgan Porth - dunes	No significant implications for property.	Shoreline allowed to respond naturally to sea level rise, benefitting intertidal habitat.	Landscape values will be supported by the preferred plan and landscape quality allowed to develop without constraints. .	No implications.	Recreation and amenity use would not be impacted.
33.5	Porthcothan cliff	Possible loss of 2 or 3 properties in medium to longer term.	Shoreline allowed to respond naturally to sea level rise, benefitting intertidal habitat.	Landscape values will be supported by the preferred plan and landscape quality allowed to develop without constraints. .	No implications.	Recreation and amenity use would not be impacted.
33.6	Porthcothan beach	Short section of road defended and retained.	Some minor modification due to defences. Slight constraint on natural processes.	Landscape generally supported but would continue to be modified by defences.	No implications.	Recreation and amenity use would not be impacted.
33.7	Treyarnon	Possible loss of 1 property in long term.	Preferred plan and NAI approach will support high level SMP objectives for nature conservation. Shoreline allowed to respond naturally to sea level rise, benefitting intertidal habitat.	Landscape values will be supported by the preferred plan and landscape quality allowed to develop without constraints.	No implications.	Recreation and amenity use would not be impacted.
33.8	Constantine Bay	Unlikely to be significant implications for property (minor private defences likely to remain in place).	Preferred plan and NAI approach will support high level SMP objectives for nature conservation. Shoreline allowed to respond naturally to sea level rise, benefitting intertidal habitat.	Landscape values will be supported by the preferred plan and landscape quality allowed to develop without constraints.	No implications.	Recreation and amenity use would not be impacted.



MA 33

Trevelgue Head to Trevoise Head

Location Reference:	Trevelgue Head to Trevoze Head
Management Area Reference:	MA33
Policy Development Zone:	PDZ13



DELIVERY OF THE PLAN
SUMMARY OF SPECIFIC POLICIES

Policy Unit		SMP1 Policy	SMP2 Policy Plan			Comment
		50 yrs.	2025	2055	2105	
33.1	Undefended cliffs	Do nothing	NAI	NAI	NAI	Will meet high level objectives and satisfy AONB and heritage coast criteria
33.2	Watergate Bay	Not previously considered individually in SMP1	NAI	NAI	NAI	NAI approach should not preclude the privately funded maintenance of the short section of recently improved defences
33.3	Mawgan Porth – road section	Hold the line	MR	MR	NAI	Pressure on this frontage dictates that a MR approach is required to address the risks to the road and rear-of-beach development.
33.4	Mawgan Porth - dunes	Hold the line	NAI	NAI	NAI	Dunes should be allowed to respond naturally to sea level rise and continue to provide natural defence.
33.5	Porthcothan cliff	Do nothing	NAI	NAI	NAI	No economic or environmental justification for defending cliff toe.
33.6	Porthcothan beach	Hold the line	NAI/(with localised HTL)	NAI/(with localised HTL)	NAI/(with localised HTL)	A non-interventional approach is best to manage dune area but it would be acceptable to HTL along short section of road adjacent to the rear of the beach.
33.7	Treyarnon	Do nothing	NAI	NAI	NAI	Very little in way of property / assets at risk.
33.8	Constantine Bay	Hold the line	NAI	NAI	NAI	Prevent any constraint of natural processes to maintain healthy dune system and prevent coastal squeeze. NAI would not preclude local, privately funded maintenance of defences adjacent to the southern end of Constantine Beach.

Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention
MR – Managed Realignment

PREFERRED POLICY TO IMPLEMENT PLAN:

From present day (0-20 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay. NAI at Mawgan Porth dunes. HTL along Mawgan Porth Road and Porthcothan beach (north).
Medium term (20-50 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay. NAI at Mawgan Porth dunes. HTL along Mawgan Porth Road and Porthcothan beach (north).
Long term (50 -100 years)	NAI along undefended cliffs. NAI at Porthcothan (with allowance to HTL along short road section). NAI at Treyarnon. NAI at Constantine Bay. NAI at Mawgan Porth dunes. HTL/MR along Mawgan Porth Road and Porthcothan beach (north).

SUMMARY OF ISSUES AND PROGRESS

INTENT OF THE CHANGE:

The coastline faces mostly north-west for the length of this unit and is therefore very exposed to the dominant Atlantic westerly wave climate and weather systems. The headlands of Trevelgue Head, Beryl's Point, Trenance Point, Park Head and Trevoise head act as control features, with rocky cliff and sandy beaches present in between. This area is sparsely populated, with agricultural grassland dominating the cliff tops with grazing often seen. There are coastal communities at Watergate Bay, Mawgan Porth, Porthcothan, Treyarnon and Constantine. There are some notable heritage features and environmental designations in place including Trevoise Head Heritage Coast, Cornwall AONB, Trevoise Head & Constantine Bay SSSI, Bedruthan Steps & Park Head SSSI, Trevoise Head heritage coast and Whipsiderry Beach RIG site and a number of historic sites.

The overarching management principle is therefore to allow the natural evolution of the coast while recognising the need to support the adaptation and resilience of the coastal settlements. Continuing to support the recreational and amenity value of the coast is an important part of this intent, but it cannot dictate the long-term shoreline position where a more sustainable long-term realignment is desirable.

A policy of No Active Intervention for the undefended sections of coast (PU 33.1), Porthcothan Cliff (PU33.5) and Treyarnon (PU33.7) will continue the present approach to managing these areas and best meet the objectives of the AONB and heritage coast designations. At Watergate Bay (33.3) the intent is also to promote NAI in terms of public investment; however it is recognised that there are existing privately owned assets in place here and this approach does not preclude the privately funded maintenance of this shot section of defence where it does not impact on wider coastal processes.

At Mawgan Porth road section (PU33.3) and Mawgan Porth dunes (PU33.4) the management intent is to work with natural processes, allowing space for natural roll back and dune development to achieve a more sustainable shoreline position to manage flood and coastal erosion risk with this community. Increasing erosion and flood risk pressures are expected over the lifetime of the SMP2, with up to 40m of erosion predicted by 2105, increased flood risk from rising sea levels and the River Menalhyl and present risk of wave action increasing under a no active intervention scenario. Assets affected are the local through route and the commercial hub of the community. A managed realignment approach for the road section will allow the natural process of roll back to be managed in a way which avoids coastal squeeze and recognises the local importance of the road and commercial assets by considering options that manage the flood and coastal risks. The management intent for the dune section is no active intervention (a move away from HtL in SMP1), which will promote a mobile and dynamic dune system as the most cost effective robust defence against future flood and erosion risks along this section of the Mawgan Porth frontage. Monitoring and understanding the rate of sea level rise, the amount of new sediments and the position of hard rock underneath the dunes will be key in determining the approach at Mawgan Porth, which in combination (road section and dunes) is intended to provide a robust shoreline position over the long term which in time will need minimal intervention.

At Porthcothan beach (PU33.6) a combination of NAI with localised HtL is the intent, moving away from the SMP1 policy of blanket HtL, to work with natural processes to manage the dune area, but recognising the potential need to hold the short section of road to the rear of the beach. A non-interventional approach is considered best to manage the dune and beach area at Porthcothan and to allow the shoreline to respond naturally to sea level rise and adjust its form and profile accordingly. While the SMP2 intent of NAI at Porthcothan Cliff (PU33.5) is consistent with SMP1, it is recognised that a number of properties are at risk of erosion under SMP2 erosion predictions and therefore flood and coastal management at Porthcothan should be considered on a whole community (cliff and beach) basis.

At Constantine Bay, a move away from the SMP1 HtL approach to NAI is the intent, to prevent constraint of the extensive dune system (SSSI) responding naturally to sea level rise. However substantial defences exist to the south of the beach, quite disconnected to the dune system and therefore the NAI intent does not preclude the private funding of maintenance of these defences, however does not allow for their expansion.

Moving to these approaches to management in the short term needs careful review in discussion with the local communities and other stakeholders. In the immediate term CCMA's should be established for these areas of coastal change.

The overall intent of the approach as described above is to help manage the long term risks in a sustainable manner which is more flexible than a fixed hold the line policy and should be achieved in discussion with the local community. The essential aim is to create and sustain width within the system maintaining and restoring natural ability of these areas to respond to sea level rise.

IMPLICATIONS:

Mawgan Porth; beach access points, commercial properties, local road, privately owned car park, Royal National Lifeboat Institution beach lifeguard service and coastal footpath, existing defences and river channel/training walls need to be considered within the managed realignment approach.

Porthcothan; a small number of properties (Cliff), local road (HtL) and dune system including beach access points and Royal National Lifeboat Institution beach lifeguard service should to be considered within the no active intervention approach.

Constantine Bay; no assets at risk from NAI approach, however some community engagement is likely required in relation to the future management of defences at the southern end of the bay, securing beach access which does not compromise dune dynamics and understanding the Royal National Lifeboat Institutions beach lifeguarding service.

PROGRESS REVIEW

On-going monitoring of sea level rise and coastal change is essential in helping to assess the timeframe for adaptation and the development of the approach. However, there is sufficient evidence at present to allow discussion of the future need for change.

There is, therefore, a need to start discussion and to raise the general awareness and need for co-operation between all stakeholders as to the implications of the preferred management approach, which is proposed to have commenced by 2025. Critical to this will be engagement with the local communities. In addition there is a need to agree how to respond to short term defence requirements/ storm response to avoid sacrificial investment and manage community expectations.

It is strongly recommended that Mawgan Porth and Porthcothan are defined as CCMA's in order to prevent any additional development / inappropriate change of use while the approach to management is developed.

ACTIONS:

No.	Type	Owner	Action	Partners	Programme
33/MON1/PCO	Monitoring	PCO	Ensure that adequate baseline information is in place to allow on-going long term monitoring of erosion and beach behaviour and sea level rise in relation to coastal flood risk.	CCc, EA	2016 On going
33/Rst1/CCc (Mawgan Porth road PU33.3, Mawgan Porth dunes PU33.4)	Risk assessment	EA	Develop understanding of current and future flood risks associated with wave action at Mawgan Porth	CCc	2017
33/INV1/CCc	Awareness	CCc	Organise initial public meeting to discuss and raise awareness of issues posed by on-going pressures on the frontage	CCp, community, Tourist Board, EA, NE, Landowner(s), HE, RNLI	2017
33/POL1/CCp	Policy	CCp	Developing on 33/INV1/CCc, consult, agree and define management area as a CCMA.	CCc, CCh, Community, Tourist Board, EA, NE, Landowner(s), HE, RNLI	2017
33/Rst2/CCc	Risk assessment	CCc	Undertake a more detailed assessment of the risk management issues and explore potential options for longer term management, drawing on initial identification of issues from 33/INV1/CCc. Identify any immediate risks.	CCp, community, CCh, EA, NE, Landowner(s), HE, RNLI	2018
33/INV2/CCp	Local management planning	CCp	Develop an adaptive master plan for the area and the communities to allow and encourage adaptation.	CCc, CCh, EA, Community, NE, Tourist Board, EA, Landowner(s), HE, RNLI	2020 onwards
33/Rst2/CCc	Coastal management strategy	CCc	Develop, based on 33/INV2/CCp, a programme of potential coastal management practices for the areas.	CCp, CCh, EA, Community, Tourist Board, , NE, EA, Landowner(s), HE, RNLI	2020 onwards