

# Slapton Line Partnership Revised Strategy November 2023



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## **Preface**

The Slapton Line Partnership was formed in 2001 with the following purposes:

- To promote a co-ordinated policy for managing coastal change in and around Slapton Sands;
- To ensure that appropriate contingency plans and preparations are maintained for responding to erosion events;
- To promote a range of adaptation activities and projects in anticipation of future change;
- To ensure that suitable expertise, research and intelligence is available to inform decision making;
- To promote public awareness and community engagement in the coastal management and adaptation process;
- To assist the member organisations in meeting their statutory duties in the management of the area.

The Partnership comprises staff from:

- Devon County Council
- South Hams District Council
- Natural England
- Field Studies Council
- Wild Planet Trust
- The South Devon AONB Unit
- Environment Agency

Plus elected representatives from:

- Devon County Council
- South Hams District Council
- Slapton Parish Council
- Stokenham Parish Council
- Strete Parish Council

This document is the new coastal management strategy for the Slapton Line adopted by the Partnership on 3<sup>rd</sup> November 2023.

## **Executive Summary including Recommendations**

Over recent years a succession of significant and damaging storm events along the Slapton Line culminating in Storm Emma in March 2018 have appeared to accelerate coastal change beyond previously predicted, necessitating a reappraisal of the current management strategy.

As a result of the changes, the conclusion is that there is now minimal space available to retreat the road in a significant number of locations, which was the main approach to address coastal erosion in the previous strategy. Further engineering works to retreat the road would now be likely to have a short life and unlikely to attract funding. It would also potentially put the works required in direct conflict with the area's environmental designations.

This document therefore recommends that we are now entering a phase of life of the A379 road along Slapton Line where further retreat should not take place. Maintenance of coastal defences will still be required to maintain resilience of the road until a point when triggers (to be agreed) are met that require the road, or sections of the road, to be closed.

### **Summary of Recommendations:**

**A379 Road Retreat/Repair/Maintenance:** The road shall continue to be maintained as a highway and cleared of shingle and debris post storms. In the event of further significant damage, no further retreat of the A379 road shall be considered. This is likely to result in the closure of one or more sections and the eventual full closure of the road.

**Sea defences:** Maintenance of all existing sea defences along the Torcross frontage should continue. Consideration will be given to reviewing the SMP policy that extends the Hold The Line policy at Torcross to include the frontage in front of the existing car park to maintain community resilience. Any review would explore the opportunity for extending the HTL policy further East. However, the extent of any change would need to gain necessary consents and ensure no likely significant impact to the surrounding environment. In the short term, the rock armour section should be made as effective as possible.

**Traffic Planning:** Localised improvements should be undertaken at key points along inland routes including further passing points and works to address junction, surfacing and drainage issues to limit congestion and improve safety, but they will remain as minor roads which are predominantly single-track (already commenced in 2019). Consultations will be held with the local community about traffic flows at key pinch points.

**Car Parking:** Consideration will be given to developing a car park strategy for the area.

**Adaptation Plan:** This will be developed in consultation with the community, communicated & enacted.

**The Shoreline Management Plan.** Consideration should be given to updating the existing SMP Policies as part of an agreed strategy.

**Resources.** Suitable resources will need to be identified within the partnership to support the successful strategy delivery.

## 1. Introduction

On the 1<sup>st</sup> of March 2018 Storm Emma caused massive damage to 700m of the A379 Slapton Line road. In one event it removed more than the contingency space that had been allocated for retreat of the road (through pre-existing planning permission). In doing so it challenged the prevailing policy for the Line of managed retreat.

## 2. Purpose and Status of this Document

This document outlines the new policy for management of the Slapton Line and how it has been arrived at. It replaces the policy of managed retreat originally recommended in the Scott Wilson 2006 SCZM (Slapton Coastal Zone Management) Study, adopted by the Partnership and written into the national Shoreline Management Plan. The policy is the collective and consensus position of the organisations represented on the Partnership.

## 3. Development of the New Strategy

The strategy was developed as a result of the following activities:

- **Beach Management Plan (BMP):** The process of developing a new strategy effectively began in 2017 by commissioning engineering consultants CH2M Hill (now Jacobs) to develop a Beach Management Plan, providing an opportunity to reassess the current policy as well as creating a format which would facilitate future funding applications, which the current (SCZM) study did not enable.
- **University of Plymouth Input:** The University provided the 'Coastal Processes Baseline' section of the BMP as well as a Vulnerability Assessment made following Storm Emma and after the new retreated road section had been completed. The Vulnerability study was updated in 2023.
- **Community Engagement:** Consideration will be given to developing a new engagement strategy.
- An **Economics Study** was undertaken by Hardisty Jones in 2023. The purpose of this study was to identify the wider economic impact of the Slapton Line now and in the future, taking into account of the views of local stakeholders. This will better inform further discussions about investment in the maintenance of the road, and may be used to support future funding bids.

## 4. The Slapton Line Challenge

The A379 Slapton Line road represents an important link for the local community served by it; residents going about their daily activities, businesses relying on access and trade and the thousands of, mostly seasonal, visitors to this unique landscape.

The road site and situation make it challenging to manage. Situated above a highly mobile shingle barrier beach, it passes through a Site of Special Scientific Interest and a National Nature Reserve and within an Area of Outstanding Natural Beauty.

The village of Torcross has sea defences that reduce the risk of flooding and damage to the properties on its sea front, but the road on its own does not qualify for flood funding. Consideration of the sensitive environmental features and designations also potentially limit the type of engineering structures used to provide sea defences.

Various coastal defences have been constructed over the past 100 years mostly adjacent to the properties on Torcross promenade and often in response to specific incidents. These defences have included a concrete seawall above sheet piling, sheet piling, rock revetment, block armour work and periodic beach recycling.

Major events in the recent history of the Slapton Line which required repairs and enhancements suggest an acceleration in the frequency of significant damage:

**1979** - Storms cause extensive damage to Torcross.

**1980** - Construction of a substantial return sea wall above sheet piling along the length of the Torcross Promenade in response to major storm damage.

**2001** - Easterly storm results in a section of road being washed away. The road is fully opened 12 months later with a 300m section of the road retreated 20m.

**2013/14** - South Westerly storms batter the sea defences at Torcross causing extensive damage to a number of homes and businesses. The winter storms over the two months were estimated by Plymouth University as being the “the most energetic in almost seven decades”<sup>1</sup>

**2015** - The shingle stripped away from the sea defences in 2014 had not returned and in fact had further diminished leaving a significant part of the sea wall’s lower area sheet piling exposed. Waves hitting the piling were causing vibrations to reverberate through properties at Torcross. It was decided to protect both this exposed section and the road by moving a small amount of shingle (25,000 m<sup>3</sup>) down from the north end of Slapton beach which provided a temporary improvement in the conditions.

**2016** - South Westerly storms caused part of an old concrete sea wall (over 100 years old) just north of Torcross to collapse which was repaired with sheet piling, completed in April. In addition the main sea wall started to rotate causing a crack to form in the promenade above it along its length.

**2017** - Repairs to the 2015-16 damage to the main sea wall at Torcross were completed by the Environment Agency. The new section of deeper sheet piling (going to twice the depth to reach bedrock at 12-13m) was installed in front of the existing Torcross sea wall.

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**2018** - In March 2018 the easterly Storm Emma (reckoned by Plymouth University to be a 1 in 50-year event) caused significant damage to the A379 necessitating the road to be retreated

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<sup>1</sup> <https://www.plymouth.ac.uk/news/winter-storms-the-most-energetic-to-hit-western-europe-since-1948-study-shows>



over a 700metre section (over twice the amount damaged in 2001). An emergency request was made by Devon County Council to the Department of Transport to release £2.5m of funding in order to facilitate the further retreat and associated resilience measures. This request was quickly granted and the works were able to benefit from proactive planning permission and environmental mitigation which has been previously carried out. The A379 was re-opened in October 2018.

## 5. Key Documents and Themes Informing this Strategy

### 5.1. Existing Strategy (Slapton Coastal Zone Management Study 2006)

In response to the storms of 2001, an extensive assessment of the coastal conditions and future management options commissioned by the Partnership was completed by Scott Wilson consultants in 2006<sup>2</sup>.

The report was very much predicated around the events of 2001, in which a 1 in 25-year event caused recession of 5m.

It concluded that: *“Long-term barrier retreat rates were estimated at 0.3m/year at the present day, increasing over time due to sea level rise”* and produced a series of maps showing areas at risk along the shingle bank within different time frames. The maps (Fig 11.51 e-f)<sup>3</sup> show recession expected in a further 1 in 25-year event causing 5m recession and predicted recession lines were shown at 20 and 50 years.

The main recommendations were that the road could continue to be maintained *for at least another 30 years* by a combination of:

- Proactive realignment of the road north of the junction of the A379 and the road to Slapton village (the Partnership agreed to reactive realignment throughout and implemented pre-emptive planning permission and Environmental Impact Assessments on these designated sections either side of the retreated section).
- Reactive realignment of the road at any other location
- Localised movement of shingle to provide temporary protection to short lengths of the road.
- The existing defences to the road at Torcross should remain, but not be enhanced. A number of further measures were advised including:
- The Slapton Line Partnership should periodically review the management policy.

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<sup>2</sup> <http://www.slaptonline.org/library/download.php?id=84&search=study&area=All&page=1>

<sup>3</sup> [http://www.slaptonline.org/download.php?id=92&type=DOWNLOAD\\_FILE](http://www.slaptonline.org/download.php?id=92&type=DOWNLOAD_FILE) (Fig 11.51 e-f)

- When it becomes apparent that maintaining the road link is no longer sustainable (either in part or in whole), then the road should be closed and the measures developed in the adaptation plan for road abandonment should be put into being.

The recommendations were incorporated into the Shoreline Management Plan (SMP).

## 5.2. Shoreline Management Plan (SMP2)

This is a strategic document which identifies short, medium and long term sustainable flood and erosion risk management policies over the next 100 years. This Non Statutory document, developed in partnership, is being 'refreshed' (not updated) in 2022/2023 to reflect guidance changes since 2010.

Key Points from the Shoreline Management Plan which is divided into three different epochs:

<b>Short Term (to 2025)</b>	<b>Medium Term (2025 to 2055)</b>	<b>Long Term (2055 to 2105)</b>
<p>The recommended short-term policy for the Slapton Sands frontage is <b>Managed Realignment</b> to allow the natural retreat of the shingle barrier but enable local beach management measures to be implemented where necessary to allow local realignment of the road. At Torcross the present-day policy is to <b>Hold the Line</b> to protect assets within the village through maintaining existing defences where this can be economically justified.</p>	<p>The recommended medium-term policy is to continue to manage the natural retreat of the shingle barrier through <b>Managed Realignment</b> along the Slapton Sands frontage. This will involve reactive realignment of the road along the barrier crest... During this period <b>it may become increasingly difficult to retain the shingle ridge in a condition where it can support the road</b> and it will become increasingly important that inland routes are upgraded as far as possible in readiness for when the current route of the A379 becomes unsustainable to maintain. This will occur as the unprotected sections of the road are eroded and can't be realigned any further. <b>When it becomes apparent that maintaining the road link is no longer sustainable (either in part or in whole) then the road should be closed.</b> This will have economic and social implications. Therefore adaptive measures will need to be in place to manage this process. At <b>Torcross</b> a <b>Hold the Line</b> policy would continue to be implemented through maintaining the existing defences for as long as it is technically possible. However to comply with the long term Plan it will be necessary to assess whether it is economically viable to replace defences along current alignments with much larger structures than present, or if not economically viable consider realigning the defences westwards to the landward side of Slapton Ley. <b>The area at Torcross Point would become increasingly vulnerable during this period</b> .....measures to realign the defence position ... will need to be considered towards the end of this period as the current alignment becomes increasingly difficult to sustain.</p>	<p>The long-term recommendation is to continue a policy of <b>Managed Realignment</b> along the whole of this coast. This will involve construction and maintenance of defences in a realigned, more sustainable position at Torcross (if not already undertaken in the medium term). It is not currently certain whether or not it will be economically viable to retain defences to the more seaward part of Torcross as defences would need to be much larger than at present as well as extending defences along the southernmost part of Slapton Ley. If it is not economically viable to provide defence to the seaward part of Torcross in this period then consideration will need to be given to abandoning the seaward part of Torcross and moving the defence line to be realigned to the western landward shore of Slapton Ley.</p>

## 5.3. Beach Management Plan (BMP)

Following increasing storm damage, in 2017 the Partnership commissioned a Beach Management Plan. This is a new prescriptive document format that has become a prerequisite to securing national flood funding. Much of the work from the Scott Wilson assessment was still

relevant, but new ideas, costings and funding possibilities had emerged in the meantime and were incorporated into the review.

The local community contributed suggestions - amongst ideas considered included offshore reefs and shingle recycling.

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The preferred solution recommended by the BMP assessment for the long-term management approach was similar to the previous conclusions:

- Management of the A379 addressed through (reactive) realignment.
- Maintenance of the existing seawall at Torcross
- Maintain, improve and upgrade (a difference to previous) the existing defences adjacent to the Torcross wall to prevent outflanking as sea level rise occurs.

The report identified that there could be up to a maximum £1.7 million of funding available through Defra's flood and coastal erosion risk management grant-in-aid, largely through the economic benefit of the road in supporting tourism.

Storm Emma arrived shortly after the BMP had been issued in draft form and before being formally signed off by the SLP. However, the work completed for the BMP meant that information was available to support requesting funds for repair to the damage.

#### **5.4. Environmental Considerations**

Slapton Line is a highly sensitive and protected area from an environmental perspective. The entire length of Slapton Line (including land to the south of Torcross and to the north of Strete Gate) forms part of the Slapton Ley Site of Special Scientific Interest, designated both for its wildlife and geomorphological significance<sup>4</sup>. The great majority of this area is also designated and managed as a National Nature Reserve by the Field Studies Council (FSC). The area supports a range of rare and threatened species, which benefit from national or international legal protection. The entire coastal strip around Slapton Line also forms part of the much broader South Devon Area of Outstanding Natural Beauty (AONB), which is a nationally protected landscape, of equivalent significance to a National Park.

Additional environmental interests are linked to the historic environment importance of the area, particularly that associated with its World War 2 military occupation. Beyond these, very careful consideration has to be given to water management in the vicinity of Slapton Ley to maintain water quality standards and prevent any increase in flood risk. All of these environmental features define the character of the area and underpin many aspects of the local economy, being inherent to its huge attraction as a tourist location. However, they also

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<sup>4</sup>SSSI – Site of Special Scientific Interest reasons for citation see :  
<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000479.pdf>

provide a range of legislative and policy constraints, which have a very significant bearing on the management strategies that may be agreed for the area.

On this basis, environmental considerations have been one of the key factors informing the original strategy for Slapton Line and the planned response to storm events. The realignments to the A379 have only been achieved as a result of a long-standing and costly investment in environmental measures, which not only had to protect existing interests, but demonstrate how these might actually be enhanced. For example, the 2018 realignment of the A379 was made possible by a pre-existing programme of advance ecological mitigation, which has been implemented by the FSC since 2007 based on funding provided by Devon County Council; in

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addition, agreement had to be reached on a major programme of new environmental mitigation and enhancement measures to be implemented over the next few years.

The key challenge in developing a future strategy for Slapton Line is the significantly reduced scope to balance these environmental constraints with the desire to maintain the road. In many of the most vulnerable sections of Slapton Line, particularly those in the vicinity of the Slapton junction (Sands Road), there is no longer any available space for further 'inland' realignment of the road, and this would result in unacceptable conflict with wildlife interests and potential incursion beyond the peak water level around the margin of Slapton Ley, contrary to planning policy. Even in areas which may offer potential scope for further, limited, realignment of the A379, particularly in the area immediately north of Torcross, this would result in a direct and damaging conflict with amenity and economic interests by reducing the size of the Torcross car park, which is so important to the village.

On this basis, the following considerations have been identified to inform the recommendations on future strategy over the shorter and longer term.

Short and Medium -Term	Approaches set out in the current 'A379 Contingency Plan' <sup>5</sup> relating to the management of the A379 in the event of future storm events (e.g. temporary road closures, with follow-up clearance of shingle and other debris) should enable ongoing use and maintenance of the road without significant environmental harm, provided that there is no damage to its structural integrity and safe use.
	Further works may be possible to existing sea defences, including the recently repaired sea wall to the north of the slipway at Torcross, plus the rock revetment beyond this, to maintain their current condition without significantly and adversely affecting environmental interests, provided that these are not reinforced or extended (which would directly conflict with the natural geomorphological functioning of the shingle ridge, upon which the SSSI designation is based).

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<sup>5</sup>Devon County Council Document

	There is very limited scope of any further planned or reactive realignment of the A379 without an unacceptable level of impact upon the Slapton Ley SSSI/NNR. In addition, there is likely to be a direct conflict with flood risk policy and amenity considerations (including those linked to the AONB).
	Importantly, erosion linked to future storm events is highly likely to reduce the extent of pioneer shingle communities on the seaward side of the A379, resulting in harm to one of the key features of the SSSI, with the presence of the road inhibiting a natural process of adaption on its landward side, so causing increased and incremental harm to it.

Long-Term	Ongoing incremental erosion (as above) will harm the SSSI and, increasingly, put it into conflict with the ongoing presence and maintenance of the road.
	The conflict between environmental interests and any possible case for future realignment of the road will increase over time.
	Catastrophic breaching of the shingle ridge, with resulting tidal flows into/out of Slapton Ley will cause sudden and profound changes to its ecology. However, as a natural process, this constitutes the expected evolution of SSSI and is acceptable to Natural England and the FSC.

### 5.5. Amenity Considerations

The Slapton Line has enormous amenity value to both its residents and to the thousands of visitors each year including walkers, anglers, families on the beach, visitors to the pubs and restaurants, students visiting the Field Centre and people commemorating the WWII history. A concern around loss of the road is that this would impede access to the Line and that this would damage the businesses which depend on tourism.

The value of tourism was also used as part of the assessment of economic value of the Slapton Line for estimating the amount of funding that might be available for beach management (as used in the BMP report). Based on 2014 data the road is estimated to deliver approximately 288,000 adult visitors per annum with an annual estimated visitor spend worth £9.28 million per year.



As part of an earlier project<sup>6</sup> which envisaged longer-term adaptation beyond the life of the road, consideration was given to looking at the strengths of the area and making more of it – focussing on how visitors could be encouraged to spend more time in the area rather than just passing through. As a result, materials were created to enhance interest in the area including

interpretation panels, walks information, a digital trail and web-based information provided under the 'Explore Start Bay' brand which was developed by the South Devon AONB.<sup>7</sup>

As it becomes increasingly difficult to travel through the area, access and parking should be enhanced where possible to safeguard its amenity and economic value.

### **5.6. Vulnerability Assessment**

Following Storm Emma, it was evident that, in many locations where the road had not been structurally damaged, the shingle beachhead had retreated much closer to the road. As a result,

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an assessment was commissioned to both quantify this level of retreat and to assess the likely consequence of further damage following a similar storm event<sup>8</sup>.

In 2023 a new Vulnerability Assessment was commissioned which built upon previous assessments of the A379 Slapton Line Road. This provided an up to date assessment of the vulnerability of the road to beach erosion during storms.

This work indicates that the majority of the line northward of the existing defences has a more resilient buffer between the road and the upper beach. However, the frontage at greatest risk from storm erosion is the section immediately fronting the tank car park at Torcross extending approximately 450m northward. This vulnerable frontage has some form of existing defences along it, including retaining wall, retaining wall capped with rock armour or loose rock armour on the beach.

Ongoing and planned maintenance of these defences is still required to maintain the resilience of the road until a point when triggers (to be agreed) are met that require the road, or sections of road, to be closed.

Any consideration to extending or improving the resilience of these defences will have to be agreed to ensure no likely significant impact to environmental features.

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<sup>6</sup> Supported by DEFRA – Making Space for Water.

<sup>7</sup> <http://www.southdevonaonb.org.uk/explore/start-bay/>

Also Sustainable Tourism Strategy: [http://www.slaptonline.org/download.php?id=121&type=DOWNLOAD\\_FILE](http://www.slaptonline.org/download.php?id=121&type=DOWNLOAD_FILE)

<sup>8</sup> CMAR document needs posting online.

## 5.7. Evidence for Acceleration of Change

The 2006 SCZM Scott Wilson report said: “*the Managed Realignment option would allow the road to be maintained for at least another 30 years*”. It anticipated that 500m should be proactively realigned, (presumably) as being sufficient to see out this 30-year period. However, just 13 years into this period, 700m has now had to be realigned. Over the past 4 years, works have also included repairing older sea defences, shingle recycling and upgrading alternative roads with a total cost of around £2m (as well as a significant upgrade of the Torcross sea wall costing approx. £3m). It would appear from the spate of recent significant storms – three major events in the past five years, that erosion has accelerated and that the damage is outrunning the predictions of the original report.

According to Dr Christopher Stokes, lead investigator for the University of Plymouth Coastal Marine Applied Research (CMAR) unit: “the retreat observed to date clearly indicates that sudden and extreme localised erosion can occur along the barrier, and it is fair to say that this is occurring more frequently than originally anticipated. With rising sea level, the barrier will retreat at least at a similar rate into the future, *and most likely at an accelerated rate.*”<sup>9</sup>

Though climate change causing sea-level rise is part of the cause, the main trigger could in fact be one we have seen before in Start Bay. In their BMP Coastal Processes appendix, the CMAR unit referred to the wave climate within Start Bay as ‘*clearly bi-directional, with a dominant component from the south/southwest, and a secondary component from the east*’. Many residents will recognise the effect of this: southerlies take shingle away northwards, easterlies bring it back.

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Data covering a 55-year period analysed by CMAR show that the southerlies have increased slightly whilst the easterlies have diminished in frequency (fig 12 in Scott et al 2016)<sup>10</sup> (also shown in Appendix A Poster No 2- *What is the evidence for this accelerated change?*). This has led to more shingle being moved northwards, denuding beaches, and making the exposed beachhead and the road more prone to damage. This is what happened in 2001: *Because the storm coincided with a period when the beach was at a historically narrow state, its effect on infrastructure (road, car park) was greater than previous events* (Scott Wilson 2006 SCZM report).

CMAR (Wiggins et al<sup>11</sup>) controversially propose that this effect ‘*significantly exacerbated, if not caused*’, the demise of the iconic village of Hallsands as it is inferred that the period 1900 to 1930 was an extended phase of prevailing south-westerly winter waves that would have resulted in the significant transport of gravel from the southern part of Start Bay to the northern part. Fluctuations in the prevailing wave direction and resulting littoral drift in Start

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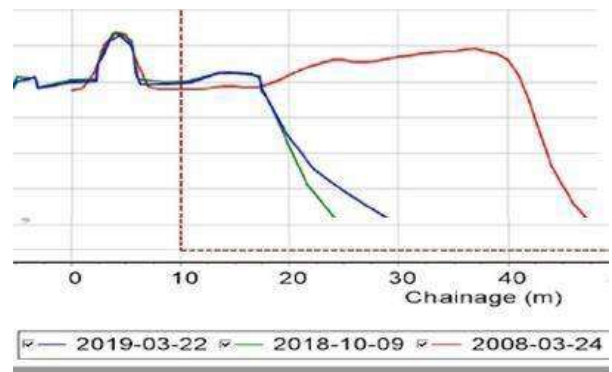
<sup>9</sup> This effect is not just at Slapton - according to Professor Gerd Masselink : “what we’ve seen right across South West England is unprecedented damage and change – from huge amounts of sand being stripped from beaches to rapid erosion of cliffs”

<sup>10</sup> The extreme 2013/2014 winter storms: Beach recovery along the southwest coast of England: <https://www.sciencedirect.com/science/article/pii/S0025322716302766>

<sup>11</sup> <https://www.researchgate.net/publication/319422722> The role of multi-decadal climate variability in controlling coastal dynamics re-interpretation of the 'Lost Village of Hallsands'

Bay are a consequence of behaviour of the Atlantic weather system known as the North Atlantic Oscillation (NAO) – long term fluctuations in the difference of atmospheric pressure between the Icelandic Low and the Azores High weather systems. It is a key factor in driving coastal change at Slapton.

Another consideration is that the monitoring from Plymouth University and the Coastal Observatory carried out over more than ten years has identified a series of hotspots of greater than average change (as a result of the beach ‘rotation’). These hotspots coincide with the location of both of the road retreats carried out so far. So, for example at location 6b01278A (see figure showing the beachhead recession profile to right) the recession rate in the 10 years shown at this hot spot is **at least 20m** with little recovery post Storm Emma.



#### Summary of the Key Points:

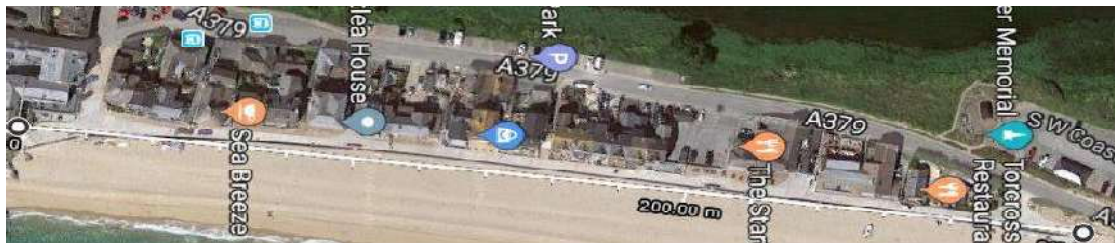
- The evidence suggests that in a significant number of locations there is little or no space left to continue the policy of retreating the road. In any case, indications are that we are at a point of being in conflict with environmental designations through retreat into the protected space or creating legacy structures.
  - This situation has happened more quickly than had been predicted in previous assessments and reasons for this are discussed above.
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- We now need to start planning for the longer-term future which includes looking at the sea defences as an entity and planning for the longer-term future of Torcross, especially its northern margin.
  - Amenity and traffic considerations mean that we need to plan future access to the area and car parking facilities.



## 6. Strategy Proposals for the Infrastructure of Slapton Line

It seems sensible to sub-divide the Line into sections according to the different conditions there.

### 6.1. Section 1 - Torcross to End of 2019 Seawall Improvements



- a. **Torcross : Limpet Rocks to Torcross Slipway:** Approx. 200m long (above), this section is designated **Hold the Line** in the SMP2 plan with the road and properties inboard of the Environment Agency-maintained sea wall inherently protected.



- b. **Torcross Slipway to End of 2019 Seawall Improvements:** Extending from the Torcross Slipway for approximately 150m. All the seaward 50m sections are rated as highly vulnerable but have maintained and recently repaired sea defences in place. This section adjoins the designated 'Hold the Line' section and in the short-term provides protection to the car park which outflanks the main sea wall section which is an essential ingredient to the economic health of Torcross.

**Recommendation:** Both of these sub-sections need to be considered together as an entity in their role in protecting Torcross and its assets. In the short-to-medium term, the sea defences need to be maintained. In the longer term, as expanded in the SMP, due consideration needs to be given to designing and providing a protective buffer for the northern edge of Torcross as the beachhead retreats further and in the long-term ultimately if the shingle barrier breaches. Consideration will be given to improving defences along this section, which includes reviewing SMP policy where required, to improve resilience to the community of Torcross.

## 6.2. Section 2 - End of 2019 seawall improvements to Sands Road Junction



- a. **End of 2019 Seawall Improvements to end of rock armour:** Extending approximately 800m this section is rated as highly vulnerable with primary protection being provided by existing rock armour, although this is in varied form and condition.



- b. **End of rock armour to Sands Road Junction:** Extending for approximately 1160 m between the end of the rock armour through to Sands Rd.

**Recommendation:** Maintenance of these defences is still required to maintain the resilience of the road until a point when triggers (to be agreed) are met that require the road, or sections of road, to be closed. Any consideration to extending or improving the resilience of these defences will have to be agreed to ensure no likely significant impact to environmental features.

## 6.2. Section 3 - Sands Road Junction to Strete Gate



The 2023 vulnerability work indicates that the majority of the line northward of the existing defences has a more resilient buffer between the road and the upper beach.

**Our recommendation** is that the new strategy should seek to continue to promote maintenance operations between Sands Rd and Strete Gate, to enable ongoing vehicular movement, but no further retreat should be carried out. Any significant damage to the road will result in this section being permanently abandoned.

## 7. Road Scenarios

Devon County Council is committed to maintaining the A379 whilst it is technically feasible, environmentally acceptable and cost effective to do so. However, we are now entering a situation where significant damage to the road is becoming increasingly likely. As erosion continues, there is the possibility of one or more sections of the road failing. This strategy cannot predict a clear timetable or sequence of events, however, the following table illustrates the possible scenarios which may develop, with the potential consequences (it is assumed defences within Section 1 will be consistently maintained to prevent failure here):

	EVENT		CONSEQUENCES			
	Section 2 Torcross Defences to Sands Lane	Section 3 Sands Lane to Strete Gate	for A379 between Torcross and Strete Gate	for Slapton	for Strete Gate approach	for Torcross approach
1	Road still open	Damage to road - not repairable road section closed	Navigable up to Sands Lane from the South and through Slapton	Increase of traffic through Slapton likely	Need to control approach to Strete Gate - parking on road and car park access	Additional car parking needed at Torcross
2	Damage to road - not repairable road section closed	Road still open	Navigable to Sands Lane from the North and through Slapton	Increase of traffic through Slapton likely	Need to control approach to Strete Gate - parking on road and car park access	Additional car parking needed at Torcross
3	Damage to road - not repairable road section closed	Damage to road - not repairable road section closed	Closed for traffic passing in any direction, Strete, Slapton, Torcross	Traffic through Slapton considerably reduced - should memorial car park be closed even if still functional	Need to control approach to Strete Gate - parking on road and car park access	Additional car parking needed at Torcross

Steps now being taken to improve resilience within this framework:

- **Improving the inland route:** Funds from the recent Storm Emma repairs have also gone into localised improvements to the minor road network which runs parallel with the A379. It must be recognised that this road system will never be equal to or substitute for the A379, but some localised improvements in terms of additional passing places, drainage and surfacing works and changes to signage are being made. The advisory one-way route and associated signage have been put aside on the recommendation of the local community.
- **Consultations have commenced with the local community about traffic flows,** most notably in Slapton, based on the recent experience of the road closure following Storm Emma.

- **Plans for staged closure of the road** in the event of severe and irreparable storm damage.
- **Car Park planning.**

## **8. Adaptation**

The A379 Slapton Line road represents an important link for the local community served by it; residents going about their daily activities, businesses relying on access and trade and thousands of visitors annually.

Adaptation, the process of making changes to mitigate the impact of the road closure will need to remain a common theme for inclusion within any future strategy and should build upon previous work that has been undertaken.

The following is a first draft of possible measures and includes suggestions from the recent community engagement events.

### **i. Set up Adaptation Project**

- a. Develop funding plans and terms of reference.
- b. Create working group with representation from local businesses, residents and Parish Councils, reporting to the Partnership.

### **ii. Consultation and Communications Programme**

- a. Work to consult and inform about possible future scenarios and adaptation needed in terms of planning for the future (building on Community Information events). Communications need to be consistent and positive. On previous occasions the 'road is closing' is seen as a negative message with respect to tourism.
- b. Revise website and content.

### **iii. Mitigation – Community and Transport Related:**

- a. Progress back road enhancements as discussed above – establish shortlist of priorities to work to over the next few years.
- b. Consultations with emergency services.
- c. Establish communications with SatNav Mapping services.
- d. Communication to better inform residents as well as visitors about which routes to use and how best to access the area.
- e. Reduce car use through encouraging car-sharing – e.g. creation of Slapton Car Share club – supported by Carshare Devon.
- f. Encourage deliveries to hubs (e.g. Slapton Community Shop)
- g. Revision of signage for temporary and permanent closure.
- h. Local traffic/resident surveys in order to propose additional measures to improve congestion. As tried in Slapton village.

- i. Documenting plans for bus routes responses in the different scenarios.
- j. Improved car parking – see below .
- k. Reopen discussions with social service providers such as schools and doctor’s surgeries regarding catchment areas and transport access.

**iv. Mitigation – Business Transition**

- a. Work with specific business to get a transition plan for them in place to deal with perceived implications of road closure (hopefully will ally fears, reveal opportunities but also deal with any practical issues such as supply routes and access).
- b. Transition Business Rate relief – see if possible to establish ‘class action’.

**v. A new Sustainable Tourism vision for the area**

Develop a vision for a new future for the area (See previous Sustainable Tourism Strategy)<sup>12</sup>.

Working with a group of businesses including FSC as one of the largest businesses in the area, but also managers of the Nature Reserve and environmental education providers. Possible new branding as per Jurassic Coast perhaps developing the ‘Living with a Changing Coast’ or Geopark, Geomorphology Park. Building on existing AONB interpretation work (timeline of coastal change)

**Supporting infrastructure to include:**

**a. Creation of Recreational Access-for-all Path**

Previous work suggests that Torcross is a popular destination for people with mobility issues owing to the flat accessible walkways. The ultimate loss of the complete highway spec road presents an opportunity to provide recreational access to the area with a high-grade path from the remnants of the road. Additional considerations include:

- i. How to best link where damage has occurred between relict road and where erosion has interrupted this.
- ii. When further damage occurs a strategy for removing displaced road structure and interfacing with the beachhead.

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<sup>12</sup>As developed previously which may have some useful ideas to pick up  
<http://www.slaptonline.org/library/download.php?id=121&search=tourism%20strategy&area=All&page=1>

## **b. Footpaths**

Judging by the public response to the use of the road during the recent road closure much more can be made of the footpath on the shingle ridge. There is also potential to re-examine the potential for a round-the-Ley path revisiting idea but looking for a route likely to be acceptable to landowners and meeting environmental constraints.

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## **c. Revamped car parking**

- i. Memorial Car Park** – Some pre-planning for response at the various stages of further erosion.
- ii. Slapton Village Car Parking** – Review needed here to assess how to respond to car park between Slapton and the coast but also car parking within Slapton.
- iii. Strete Gate** – extend existing parking (subject to landowners and environmental designation permissions).
- iv. Torcross Car Parking** - What possibilities are there for additional car parking space in Torcross including possible links to for example car parking at businesses such as Stokeley Farm.

## **9. Implementation of Strategy**

The Partnership will:

- Use the new adopted strategy to inform the national Shoreline Management Strategy
- Implement the Adaptation Plan, identify funding to take forward and further develop. It is currently envisaged that the Partnership will employ a project officer to pursue the various measures.
- Devon County Council will continue to maintain the A379 road as a highway including shingle clearance and debris post storms.
- The Environment Agency will continue to maintain the defences at Torcross.

## Appendix A: Poster Presentations from Community Engagement Sessions

# Preparing for the Future - The Journey Continues

## Introduction

The following challenges mean that we are now in a position where any further retreat of the A379 road across Slapton Line cannot easily take place:

- A series of significant storms over recent years have appeared to accelerate coastal change quicker than previously predicted.
- There is now minimal space to retreat the road in many locations which up to now has been the main way of coping with erosion.
- Sea level rise predictions and increased storms will only continue to increase the vulnerability of the A379 to damage.
- Further funding is unlikely to be secured for further road retreat.
- Further retreat would put engineering works in conflict with the area's environmental designations.
- These challenges have led to the need for a rethink of the current management approach.

It is now time for the local communities to become involved in identifying what positive steps can still be taken to ensure the best future for the area.

For these reasons the Slapton Line Partnership is changing the policy from retreating the road to **no further retreat**.

This presentation is intended to address the following points

1. Change is happening faster than predicted
2. What is the evidence for this accelerated change?
3. There is no space left to retreat the road
4. What has been done so far?
5. What will happen next and what can we do?

We want you to hear your concerns and suggestions



## What is the Slapton Line Partnership?

The SLP was formed in 2001 to respond to the first road closure caused by coastal erosion. Members include Devon County and South Hams District Councils, Environment Agency, Natural England, Field Studies Council. The local community is represented by Councillors from Devon County Council and South Hams District Council.

The purposes of the Slapton Line Partnership are to:

1. Promote a co-ordinated policy for managing coastal change in and around Slapton Sands;
2. Ensure that appropriate contingency plans and preparations are maintained
3. To promote a range of adaptation activities and projects in anticipation of future change;
4. To promote public awareness and community engagement in the coastal



# Preparing for the Future - The Journey Continues

## 1. Change is happening faster than predicted



A major study commission by the Slapton Line Partnership was published in 2006 and suggested that:

- Further retreat would allow the road to be maintained for at least another 30 years
- 500m should be realigned to see out this 30-year period

13 years into this period, 700m of road has already been realigned

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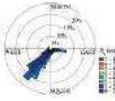
# Preparing for the Future - The Journey Continues

## 2. What is the evidence for this accelerated change?

### Wind Direction

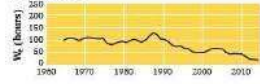
Beach levels are influenced by the predominant wind direction. Along the Slapton Line, Westerlies tend to move shingle North whereas Easterlies move shingle South.

Westerly storms tend to cause erosion to the Southern and Central portions, whereas Easterlies bring shingle back.

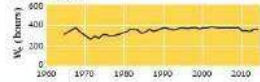


Data collected over the last 50 years has shown that Easterlies have become less frequent whereas Westerlies are now more frequent.

### Easterlies



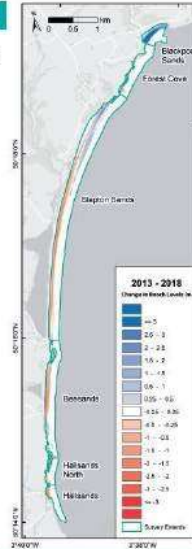
### Westerlies



### Beach Levels

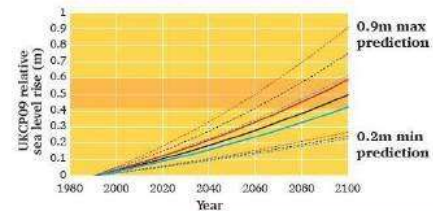
This diagram shows how the beach levels have changed across the line over the last 5 years.

Red areas show a loss of shingle.  
Blue areas show a gain of shingle.



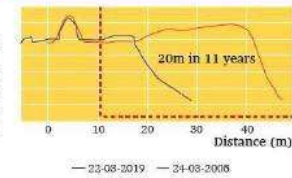
### Sea Level Rise

Sea level rise is predicted to increase from 3.5mm per year to 11.5mm per year as we progress through the century.



### Beach Profiles

As water levels continue to rise this will increase the impact of storms on the beach and the vulnerability of the A379 to damage. In the middle of the beach the levels have receded by 20m in just the last 11 years.



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# Preparing for the Future - The Journey Continues

## 3. There is no space left to retreat the road



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# Preparing for the Future - The Journey Continues

## 4. What has been done so far?

Following increasing storm damage, the Partnership commissioned a Beach Management Plan in 2017. This is an important document for being able to apply for national funding through the Environment Agency.

Storm Emma arrived shortly after the Beach Management Plan was completed, however its recommendations have been used to support various pieces of work.

<b>1 Seawall Improvements</b>	<ul style="list-style-type: none"> <li>2017: New section of deeper sheet piling installed in front of existing wall</li> <li>2016 - 2018: Two sections of wall located to the north of the slipway replaced</li> </ul>	<p>£2,400,000</p> <p>£460,000</p>
<b>2 Rock revetment repairs to help protect the road</b>	<ul style="list-style-type: none"> <li>2019: Minor repair work undertaken to existing rock armour to form continuous defence</li> </ul>	£10,000
<b>3 Reactive Realignment</b>	<ul style="list-style-type: none"> <li>2006 - 2018: Advance planning for retreat</li> <li>2006 - 2018: Management of environmentally sensitive areas in preparation of retreat</li> <li>2018: Realignment of a 700m section of the A379 following Storm Emma.</li> </ul>	£1,300,000 approx
<b>4 Adaptation</b>	<ul style="list-style-type: none"> <li>2019: Schedule of work undertaken to improve inland routes, comprising of surfacing and passing point improvements</li> <li>Future preparation work to continue</li> </ul>	£620,000 in progress



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# Preparing for the Future - The Journey Continues

## 5. What happens next and what can we do?

**?**  
Tourist and business opportunities

**P** Stretton Gate

Explore parking opportunities **P**

Alternative use of the line

Plan future bus-routes

Additional signage

Safe guarding existing sea defences

Reduce car use through e.g. Devon CarShare

Further consultation on local pinch-points

Torcross **P**

### What happens next?

The recommendation of the Slapton Line Partnership is to change its road policy from retreat to no further retreat.

Following another major storm the A379 may need to be closed. At this point no further retreat of the road is likely to be considered. This is likely to result in the closure of one or more sections and the eventual full closure of the road.

### What can we do?

To successfully prepare for the future we need input from the local community around what positive initiatives could be taken which address a future without the road.

A number of adaptation suggestions are shown below.

We want to hear your suggestions.

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