



Overview

- Coastal risk and how this is managed in the UK
- Policy SMP and Hayling Island Flood and Erosion Risk Management Strategy
- West Beach – Structures
- Summary Actions



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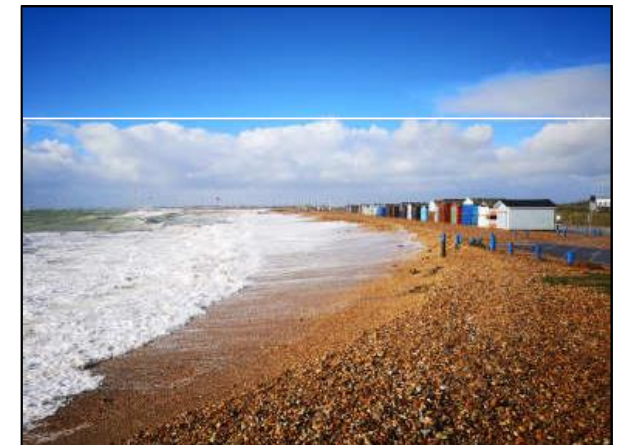
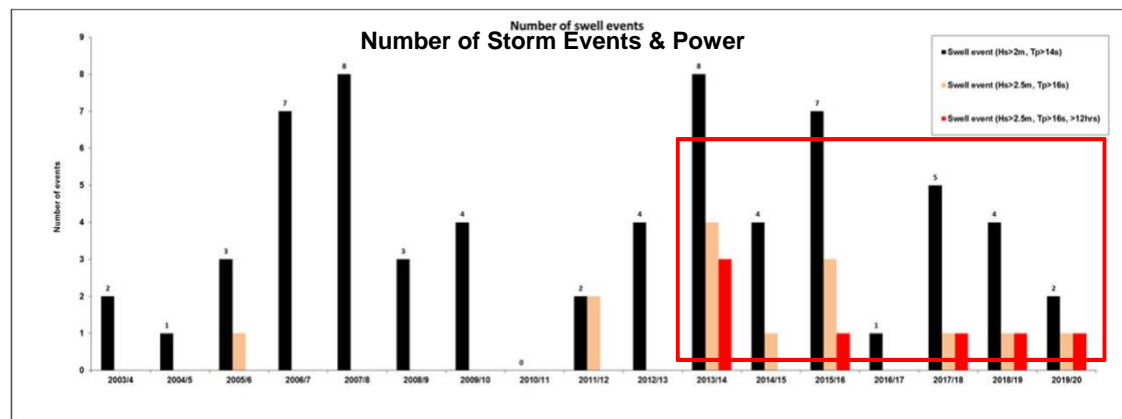
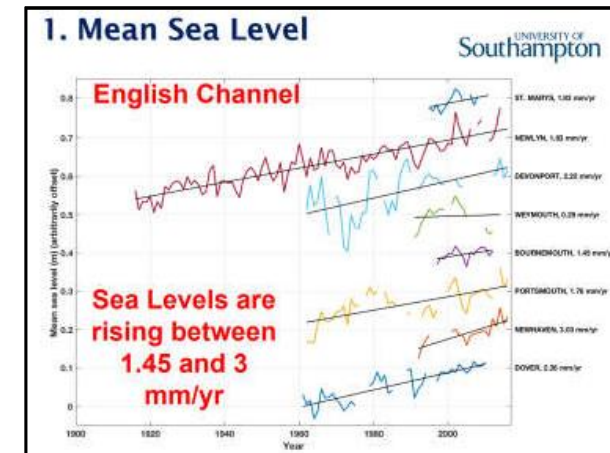
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These factors include:

- Rising sea levels, increased storminess and changing wave patterns will drive accelerated coastal change
- 1.8 million people at coastal flood and erosion risk
- With interventions approaching 3000 properties at risk from erosion over the next 50 years. Without intervention this could increase to 28,000 properties in 50 years
- IPCC (2018) projecting sea level rise of up to 0.77 m by 2100 for 1.5°C of global warming and 0.93 m for 2°C.
- 2013/14 stormiest winter on record. 2019 hottest day on record at 38.7 °C.
- Record-breaking wave heights during Storm Katie and Angus (28 March and 20 November 2016) resulting in defence failures, flooding and erosion across the central south coast of England.



Draft FCERM strategy: A vision for nation ready for, and resilient to, flooding and coastal change today, tomorrow and to the year 2100

Ambitions	 Climate resilient places	 Today's growth and infrastructure resilient in tomorrow's climate	 A nation of climate champions
	Working with partners to explore and develop standards for flood and coastal resilience as well as a suite of tools that can be used to deliver resilience in places	Getting the right kind of development in the right places to deliver sustainable growth and infrastructure resilient to flooding and coastal change	Better preparing society through education and accessible digital information as well as being a world leader in flood and coastal resilience
Cross cutting themes	<p>Putting people and places at the heart of decision making</p> <p>Moving from the narrow concept of protection to the broader one of resilience</p> <p>Everyone has a role to play – widening the ownership of flooding and coastal change management</p> <p>Helping places plan and adapt to flooding and coastal change for a range of climate futures</p> <p>Ensuring flood and coastal erosion risk management protects and enhances the environment</p> <p>Better aligning strategic planning – improving resilience to both floods and droughts</p> <p>Ensuring we build back better and in better places</p>		



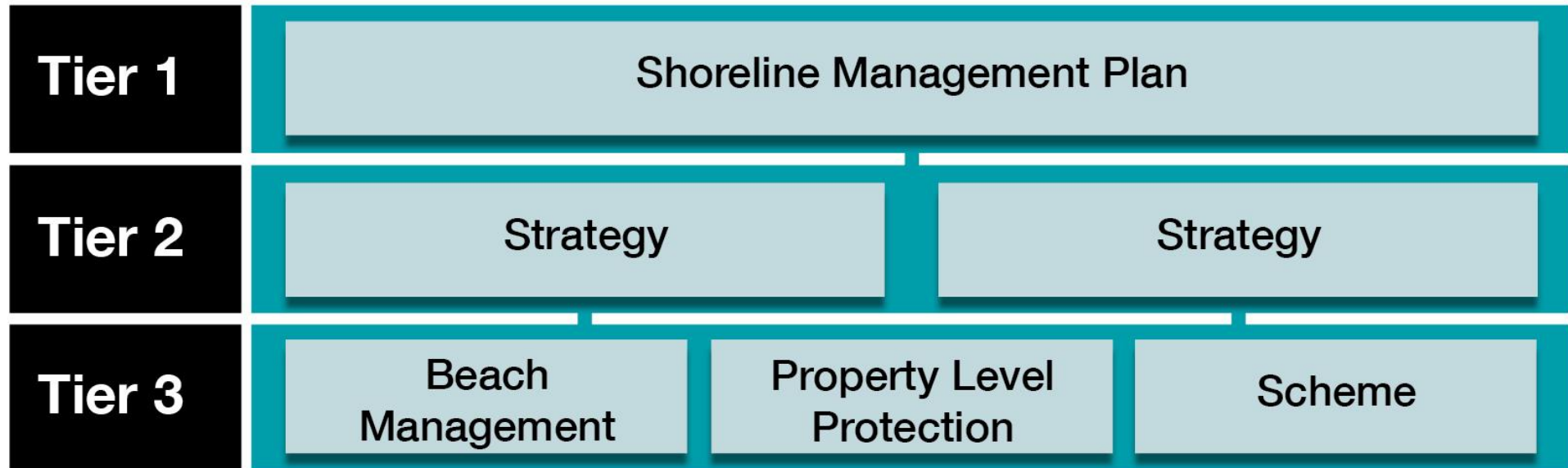
To manage flood and erosion risk, we need to be **Climate Resilient, Plan & Adapt** and become a **Better Prepared Society**

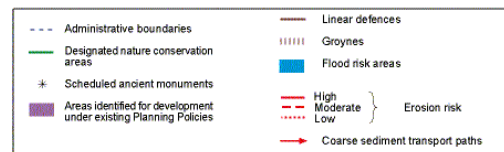
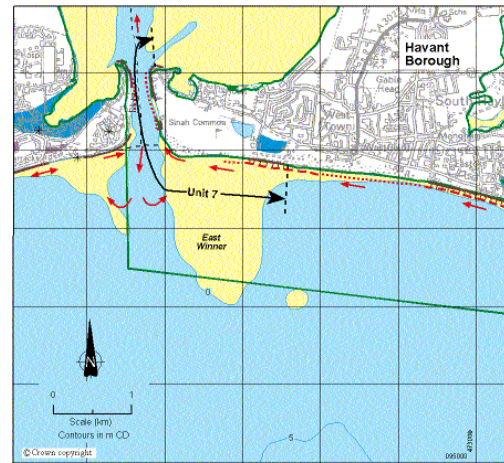


- Both have permissive powers to carry out works to protect against coastal flooding and erosion - **not a legal obligation.**
- Will only act where there is a wide public benefit and where there is a clear economic benefit and/or an appropriate engineering solution that is achievable.

- **Private landowners are responsible for flood and erosion protection on their own land.**
- Must act within statutory planning regulations and other applicable legislation.

**Private
Landowners**





Management Unit 7 - Inn on the Beach to Langstone Harbour, Haying Island

Preferred option

The area is generally undeveloped and is subject to natural changes in the shoreline. There is no existing need for land reclamation to justify the high costs of advancing the line. Existing developments at Langstone Ferry should be protected at their present position. Other developments and recreation facilities should be moved to a more sustainable location in the short to medium term. The natural shoreline around Gunner Point should be allowed to evolve with minimal interference. Therefore the preferred option is **do nothing**, along most of the Unit, with a limited frontage of **hold the line** by continued maintenance at Langstone Ferry and a **retreat** as necessary along the entrance channel and to the west of the Inn on the Beach.

Suggested management operations

- Short-medium term*
 - Maintain the Langstone Ferry frontage
 - Realign tee and part of fairway on golf course away from shoreline to remove requirement for defences between Ferry and Sailing Club.
 - Re-site recreation facilities west of Inn on the Beach and remove defences as they become ineffective.
- Medium term*
 - Re-site Inn on the Beach to a sustainable position if it becomes threatened by erosion. Review boundary with Unit 6 and management operation if Inn is removed.

Preliminary economic assessment

Losses due to "do-nothing"

- Property and facilities at Ferry, Inn on the Beach, loss of golf course land and other recreation facilities £2M

Cost of "hold the line"

- Maintenance of defences at Langstone Ferry £0.2M
- Construction of new defences and maintenance of existing line around remaining shore £6M

Unit 7: Generally do-nothing, but hold the line around Langstone Ferry.

- hold the line
- do nothing

SMP adopted by HBC (Full Council), superseding 1997 SMP and approved by the Environment Agency in 2010.



Sets the management policy for Flood and Coastal Erosion Risk Management over the next 100 years. But does not assign funding or how to do so.

SMP Policy: South Hayling (5aHI05)
Hold the Line (Natural evolution at Gunner Point)

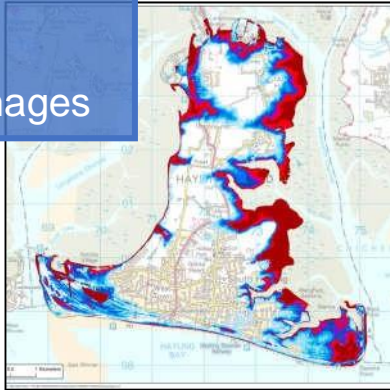
- West Beach sits between Inn on the Beach in the east, and the Hayling Golf Club in the west.
- The 1997 SMP Policy for Gunner Point was ‘**Do Nothing**’.
- The 2010 SMP2 Policy for this frontage is to ‘Hold the Line, with **natural evolution at Gunner Point**’.
- A policy decision was taken in 2008, by Havant Borough Council: “*once the coastal defences reach the end of their serviceable life or become a health and safety risk, the **structures should be removed and the beach allowed to evolve naturally.***”
- **Inn on the Beach – to be relocated when vulnerable** (landowner responsibility)



Present day - 957
properties at flood risk.

2120 - 2,490 properties a
flood risk, 531 at risk from
erosion.

£1 billion flood damages



For Hayling Island the Strategy will:

- ✓ Will outline a programme of investment to ensure that people living on the island continue to receive a good standard of protection
- ✓ Will incorporate adaptation strategies, as defence improvements will not be possible in all locations
- ✓ Will be holistic, yet flexible for both people and nature
- ✓ Will respond to future changes, support sustainable development of the island and take into account predicted sea level rise and climate change
- ✓ Will make a partnership approach central, between Havant Borough Council, Environment Agency, Natural England, Landowners, businesses and local communities, making sure local needs and priorities are at its core





For West Beach the Strategy will.....

- ✓ Explore the consequences of implementing the preferred policy from the 2010 SMP (challenge if necessary); to propose the most sustainable way forward balancing the needs of people and the environment.
- ✓ Define current and future coastal flooding and erosion risks incorporating recent ESCP work and the latest waves and extreme water level predictions (& their combined effects with future sea levels)
- ✓ Identify preferred technically, economically and environmentally sound and sustainable strategic options, taking into account predicted sea level rise and climate change
- ✓ Identify a preferred sustainable management approach for the short term and longer terms
- ✓ Identify opportunities linked to partner initiatives such as regeneration, tourism and recreation and other funding sources to supplement future FCERM schemes.
- ✓ Involve stakeholders throughout development of the strategy making sure local needs and priorities are at its core.





**HISTORICAL CHANGES IN THE
COAST AT GUNNER POINT AND
WEST BEACH**



1946 © mosaic created from RAF
photography supplied by National
Monuments Record

Inn on the Beach



1984 © Hampshire County
Council

Inn on the Beach



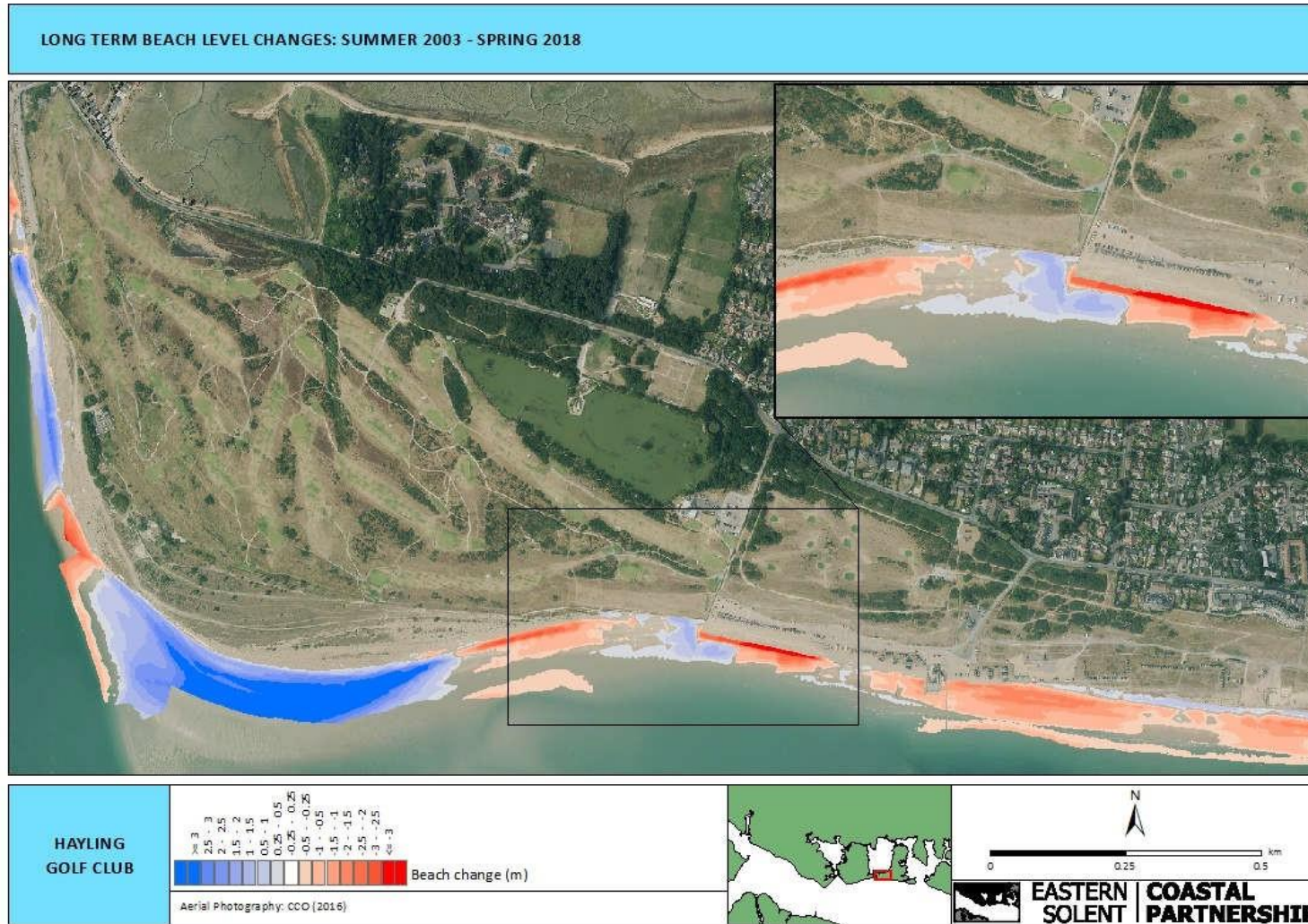
2002 © Channel Coastal Observatory

Inn on the Beach



2013 © Channel Coastal Observatory

Inn on the Beach



- Regular beach level monitoring by HBC highlights areas of erosion (red) and areas of accretion (blue). Confirming the dynamic nature of the coast around Gunner Point.



Beach Crest Position 2017 - 2020



Beach crest is assumed to be 4.3 mOD - - - Section of defence removed July 2020

- September 2020 — February 2020 — November 2018
- August 2020 — January 2020 — April 2018
- July 2020 — January 2019 — April 2017



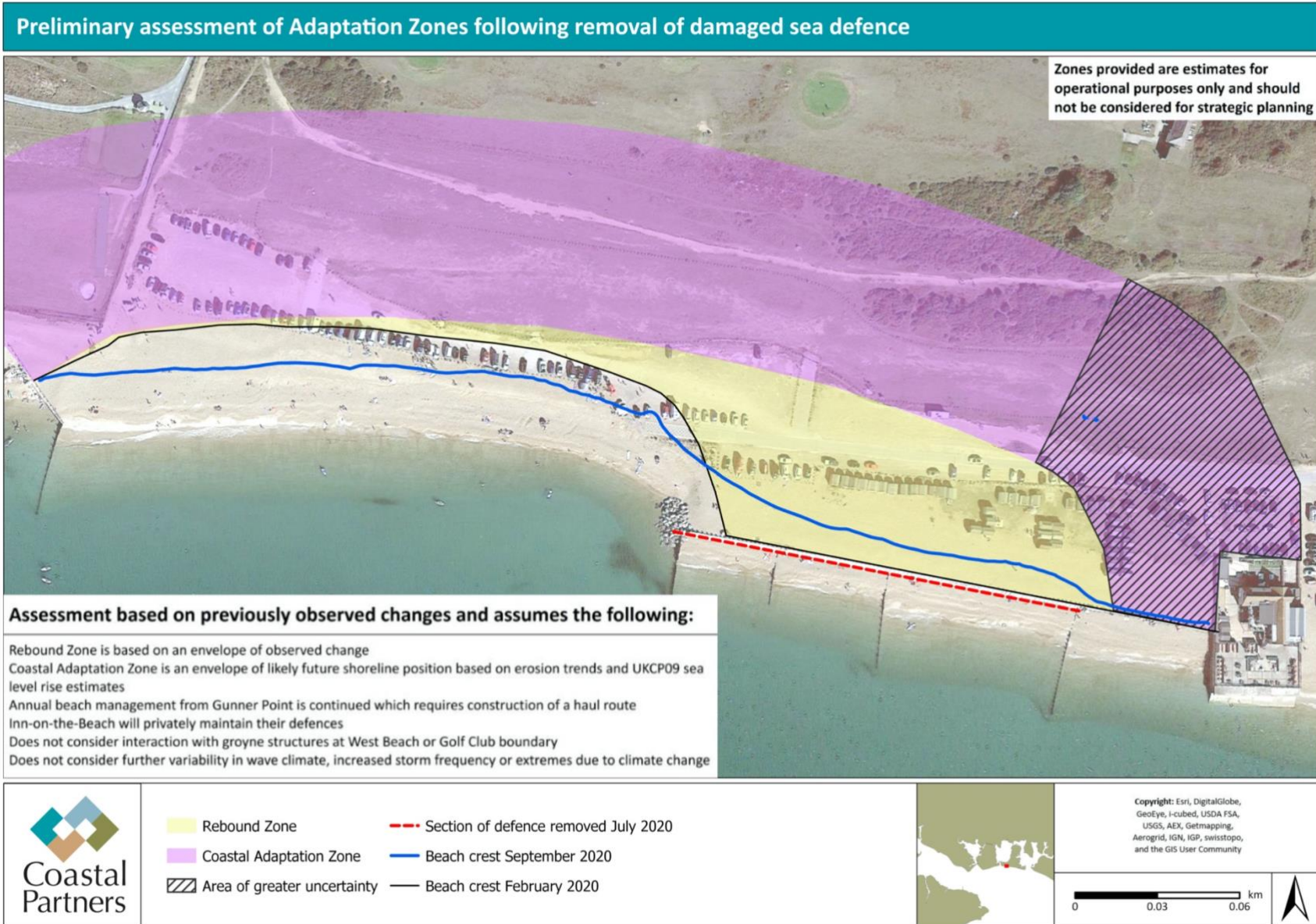
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0 0.03 0.06 km





Anticipated following the removal of the failing sea defence (with beach management)





Potential natural position of our coastline, if there were no sea defences or beach management works here.



Photography: February 2019 (ESCP)



Constructed: 1976
Original design life: 20 – 30 years
Form: Timber sloping breastwork,
sheet pile toe, timber groynes
Construction costs: £670,000
Maintenance costs: £490,000
TOTAL COSTS: £1.16 M
(ALL COSTS CORRECTED TO 2007 VALUES)



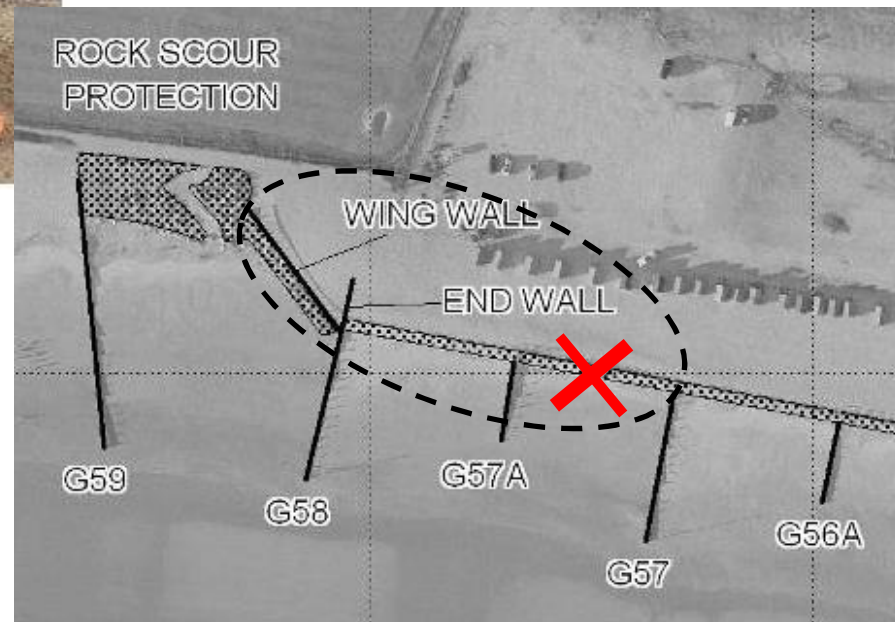
West Beach overall cost per metre per year:	£82.85
Eastoke Beach Management cost per metre per year:	£75.00

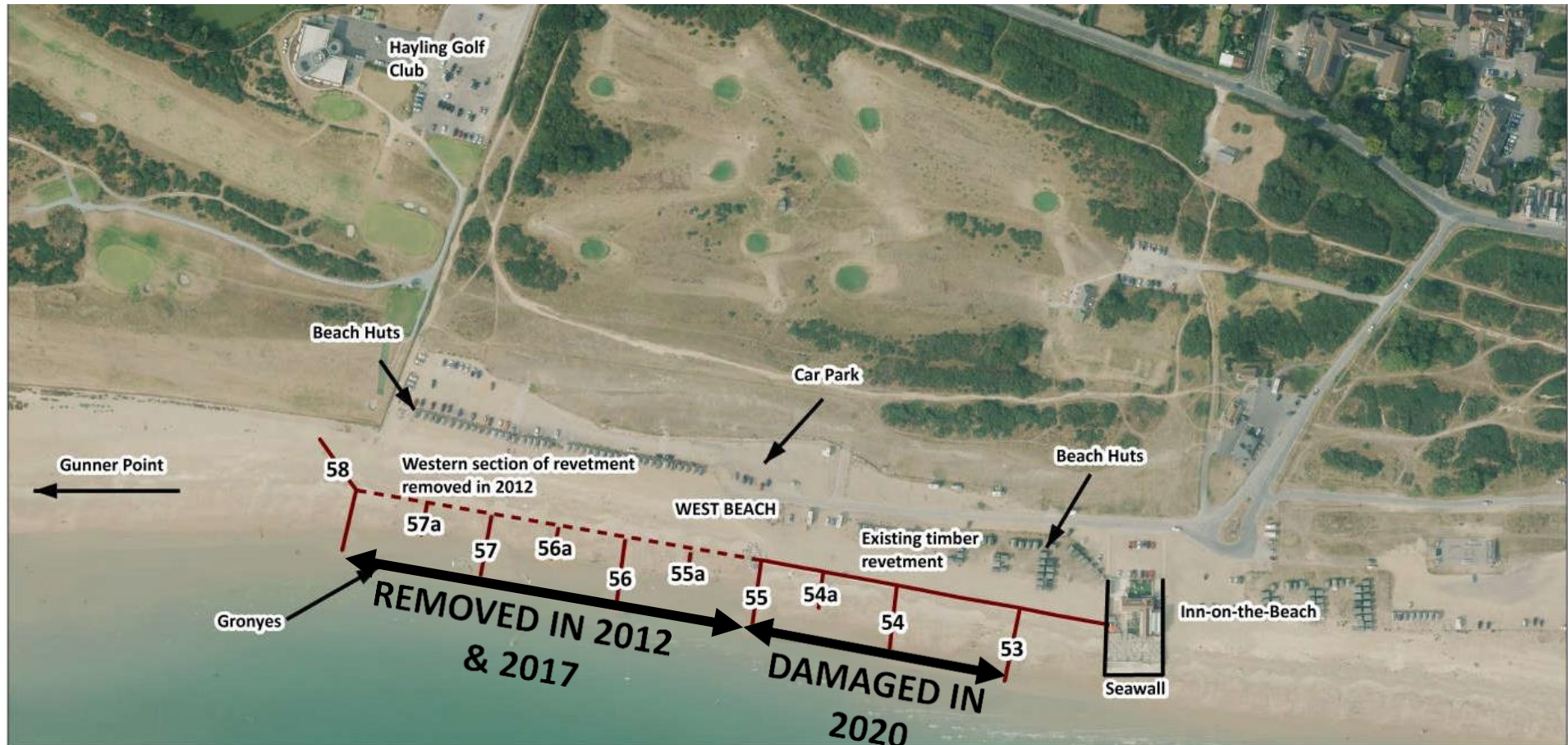
None of the previous works have benefitted from DEFRA / EA grant funding.
This situation is not expected to change.




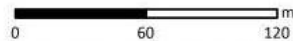




- Remove damaged sections of defences
- Remove unsafe beach access points

- Remove sections posing Health & Safety risk to public
- Relocate vulnerable beach huts





West Beach	 Structures		 
	Aerial Photography: CCO (2016)		

<u>Considerations</u>	1: Rock Revetment (3-6t armour)	2: Timber Breastwork & Groynes
Cost: Material + Plant + Prelims (low - high)	£3M-£5M	£2M-£3M
Design Life (years)	50-75	20-25
Consents	Marine License, NE and planning permission	Marine License, NE and planning permission
Construction Risk	Medium, rock delivery by barge.	High, unknown ground.
Programme (inc. consents)	2 years	1-2 years
Standard of protection against flood & erosion risk	High. 1 in 200 SOP.	Moderate + high maintenance
Example photograph		
Key assumptions: <ul style="list-style-type: none"> • Option 1 and 2: Rock and Timber = 300m in length (existing timber breastwork removed). • Both options will stop public access to the beach • Assuming Inn on the Beach remains. • No National EA Grant in Aid financial contributions. 		



HBC Policy:

- Once the coastal defences reach the end of their serviceable life or become a health and safety risk, the structures should be removed and the beach allowed to evolve naturally.
- HBC Policy is aligned with the SMP since 1997.
- The Hayling Strategy will review the Policy and take account of future climate change.

Beach Erosion:

- Erosion has occurred at a greater rate than predicted in 2017 affecting car parking and beach huts. Monitoring of storms and beach response is ongoing.
- The beach has remained more stable at the western end at the Hayling Golf Course.
- Beach material could not be recycled from Gunner Point in 2019, therefore a haul route was not established along West Beach. This was not considered in the 2017 predictions.

Timber Revetment Structures:

- Constructed in 1976. Maintained by HBC but now past its design life. Partial collapse in 2012. HBC Policy – “while functional and not of a Health and Safety concern they will remain. They are routinely inspected for damage”.
- Plans are being developed to remove the next 2/3 of the revetment which is now in a very poor condition (excluding the beach groynes) prior to collapse.



- Complex coastal processes which have been disrupted by development on the coast.
- Defence repairs are not viable and would be prone to further damage as the coast is seeking to realign itself back to its pre-development (natural) position.
- New defences would require significant funding, with no access to Government Funding.

