

fracture

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# Christchurch Bay



Climate change is an ever present issue that manifests in numerous ways. Some are more obvious, like the 2020 bush fires that ravaged Australia, easily attributed to climate change and ultimately hard to ignore. Yet others are not so noticeable, seemingly inconspicuous changes to perpetual processes, which can be contested to the point of uncertainty. Coastal erosion is one such process, naturally occurring yet aggravated by the sea level rise and increasing storm severity brought on by anthropogenic climate change.

Christchurch Bay is, in geological time scales, of fairly recent origin. It was formed in the mid to late Holocene, our previous epoch. As we acknowledge a new epoch, the Anthropocene, one in which humans are the dominant influence on climate and environment, it is clear to see the variable factors (economic, social, environmental and otherwise) which have shaped the ecology of the bay. Sea defences have played an intrinsic part, often positioned to protect an area of economic interest such as residential or commercial property. The defences then interrupt the natural processes of the bay and cause the neighbouring coastline to

erode at an accelerated rate.

The project 'Fractured' explores the human relationship with this particular coastal ecology, examining the ways we have intervened in and altered the landscape. It comments on anthropocentric attitudes of dominance over natural processes and environments, which see Christchurch Bay in its current precarious and piecemeal state.

'Fractured' engages with both geological and archival research, and experimental photographic techniques, to create a discourse around the management of our environment. The project enables an association between global climate change and local climate impacts, increasing understanding of our proximity to the issue.

The images focus on the landscape and the presence of the sea defences, assimilating their temporary, entropic forms to that of the Land Art movement of the 60s and 70s. The archival images and quotes add social and historical context, through the changing and often contentious views of local residents, experts and councils alike. In its entirety the project highlights

an outdated separation of human and nature, prevalent in a majority of western attitudes since the late 18th century.

Manipulation of the negatives, through the physical cutting out of the human elements from the frame, highlights their overwhelming presence in so-called natural coastal environments, and comments on the unsustainability of these often-detrimental interventions.

This publication follows the coastal journey of Christchurch Bay from west to east, beginning at Mudeford Quay and ending at Hurst Spit, exploring the ever changing landscape inbetween.



"The coastline which since the last ice age has receded from a line Hengistbury Head to the Needles to its present beach appears to be a victory for 'Oceanus' over Homo Sapiens: modern technology, one might hope, should be able to defeat or at least contain the blind forces of nature."

- "Coast erosion at Christchurch Bay" The Hampshire Directory, Vol 26, Page 48, 1986, Christchurch History Society

Mudford Quay marks the western end of Christchurch Bay. Historically a haven for smugglers, the area is now a haven for tourists; restaurants and cafe's, watersports, and premium beach huts make up this heavily developed area.



## Mudford Quay

Avon





**Friars Cliff**

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"Thousands of years ago the coastline ran from Freshwater down to the Dorset coast then a fault developed and by degrees the sea encroached and Christchurch Bay and the Solent were formed."

- Paper given by Dr. Croft Watts to MOSHRS 29 October 1951. General comments on receding coastline from 1785 to 1950 and detailed comments on erosion at Westover 1930-1950 and proposals for coast protection. (CC-BY-NC-ND) MOSHRS.



VIEW FROM FRIARS CLIFF

Natural Heathland of Friars Cliff. View looking west towards Hengistbury Head along the coast. No date. Attribution Non-Commercial CC BY-NC. Christchurch History Society



## Highcliffe

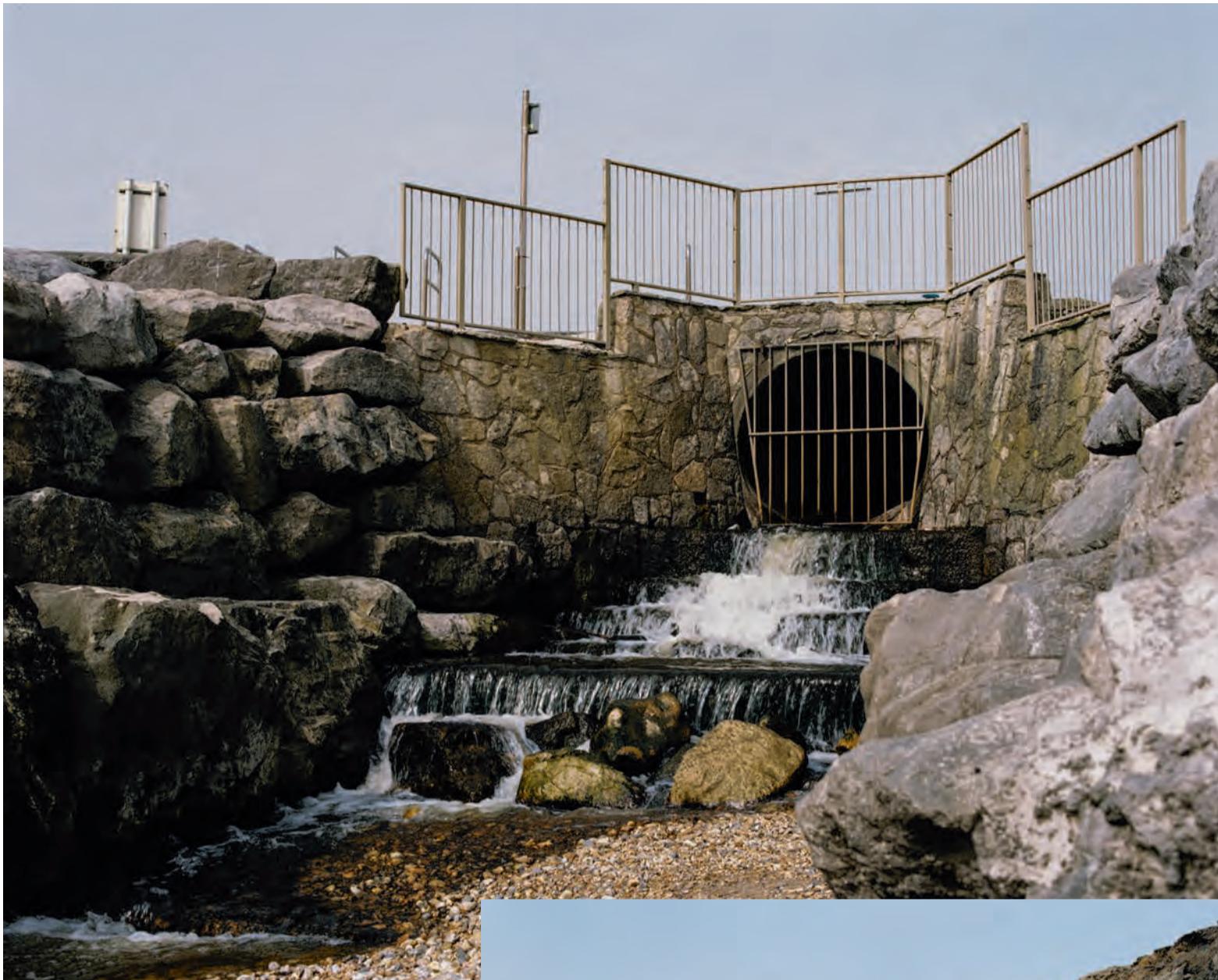
"The Cost of purchasing the cliffs was between eight and nine thousand pounds, and through serious erosion they are being destroyed. Huts cannot be kept down on the beach. There have been many ideas and schemes in the last seven or eight years, but nothing has proved of lasting use or purpose..."

- Alderman Percy Cawte, Town Council meeting, Feb 23 1935, Christchurch History Society

Highcliffe is an area of the bay which boasts both heavily defended and heavily eroding cliffs; to the west of the Chewton Bunny outfall towards Friars Cliff is a section of groyne revetments, wide artificial beach, and fairly stable cliff. In stark contrast to this is the eastern side of Chewton Bunny. The Naish Farm cliffs made up of Barton Clay, are continually slipping into the ocean and are how the western side of the chine might look if not for the interventions made to protect the area and the clifftop Highcliffe Castle. The groynes, positioned to protect the coast directly behind, block the flow of sediment easterly, and so weaken the adjacent cliffs, exacerbating the erosion process. This is known as terminal scour.

"Is it really worth while in the present condition of our finances to get an expert down to tell us what to do? We are sure that it will involve a very great outlay of money. This erosion is actually nothing new; it has been going on for half-a-century. Let us wait and see what the result of the sewerage will have. A great deal of the trouble has been due to the percolation of water through the land."

- Alderman Oakley, Town Council meeting, Feb 23 1935, Christchurch History Society



## **Chewton Bunny**

"The existing coastal protection work will have a controlling influence over the process of coastal erosion. At the same time these features bring clear human influence to the beach frontage. In this regard the area should be seen as sensitive to further engineering that may tip the balance between a natural or urbanised seafront."

- Macgregor-Smith landscape architecture report, 2001

## **Naish Farm Cliffs**





**"To groyne part of the coastline would have the effect of temporarily giving partial protection to that stretch of the coast, at the expense of that lying to the east of it."**

- Lymington Times, 10th May 1958, MOSHRS



## Barton-on-Sea



Barton-on-Sea has been dealt with in a particularly experimental way over the years. There has been much activity at the western end; the Sea Road access is now closed due to massive mudslides, which have destroyed the path to the beach and are still intermittently active. A failed drainage system from the 60s is still partially visible, concrete tanks jut from the cliff, huge sheets of steel piling are visible, warped by the force of the movement of the landslide, and a temporary structure of plastic tubing attempts to drain some of the ground water out to sea. Again, a heavily touristic area, two clusters of shops and restaurants sit atop the cliff, growing ever closer to the disintegrating edge. There once existed a football pitch and bandstand, long lost to the sea, but now the beach is heavily protected

by groynes and is fairly stable. To the east however, as seen at Highcliffe, the cliffs are faring much worse. Becton Bunny, another chine like Chewton Bunny, is defended only by a failed gabion structure, wire baskets filled with large stones, and the recession here is some of the worst in the area. The lack of residential development atop the cliff is perhaps the reason that this area has been left to its own devices, but a privately owned golf course who are at the end of a ten-year redevelopment, have had to retreat their boundaries inland in order to allow for the continuation of the coastal path as the cliff edge gradually creeps in land. Continuing eastwards, Taddiford Gap lies between Barton and Milford, and is in as equally poor state. The sea pulls material from the toe of the cliff, removing support and so clay oozes

out of the cliff and huge chunks of the pleistocene gravel cliff top sink downwards. In many places, the coastal path disappears, like a bite has been taken out of it. Field boundaries are moved inland by farmers so that the path may do the same. Once the beach was accessible from this part of the clifftop, but with every visit here the landscape has shifted, regular erosion and landslides keep the cliff in a state of flux, completely untraversable. The groynes at Barton are partly responsible, blocking the flow of sediment to the cliffs so that nothing is replenished, only lost.



## Becton Bunny



## Taddiford Gap

"This makes one wonder if there was any connection between the building of the groyne and the disappearance of the beach, and how much study has gone into this aspect of defence works..."

I find the wording that permission for building the groynes was granted after the beach had built up rather interesting. One could infer that the construction of the groyne proved superfluous expenditure of money and time, which has subsequently caused more money and time to be spent."

- "Notes and News by Townsman"  
Advertiser & Times, Sat., May 31st,  
1969, MOSHRS



The cliffs, looking west. Beach huts; people on the beach and in the sea. Stamped on back copyright Barton Pictoral Ltd. 1920-1930. CC-BY-NC-ND. MOSHRS

"New Forest District Council is placing 5,500 tons of large rocks along the shoreline to the west of Westover Hall, Milford-on-Sea, where the sea has made further incursions. This beach is particularly vulnerable, as it is the shortest possible distance from the coast road to the sea."

- The Lymington Times, 19 April 1998, MOSHRS

## Hordle Cliffs



**"Whilst the problem appears to have been solved locally, it has been transferred further to the east as a result."**

- New Forest District Council, Coastal Report, Spring 1997. MOSHRS



Construction of experimental groyne at Hordle Cliff. One image of seven. September and October 2007. Milford Photographic Project 2000-2010. MOSHRS



## Milford-on-Sea

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High level aerial photograph. March 1954. Coastline Gorsecliff to Sturt Pond outlet. CC-BY-NC-ND. MOSHRS





## The White House

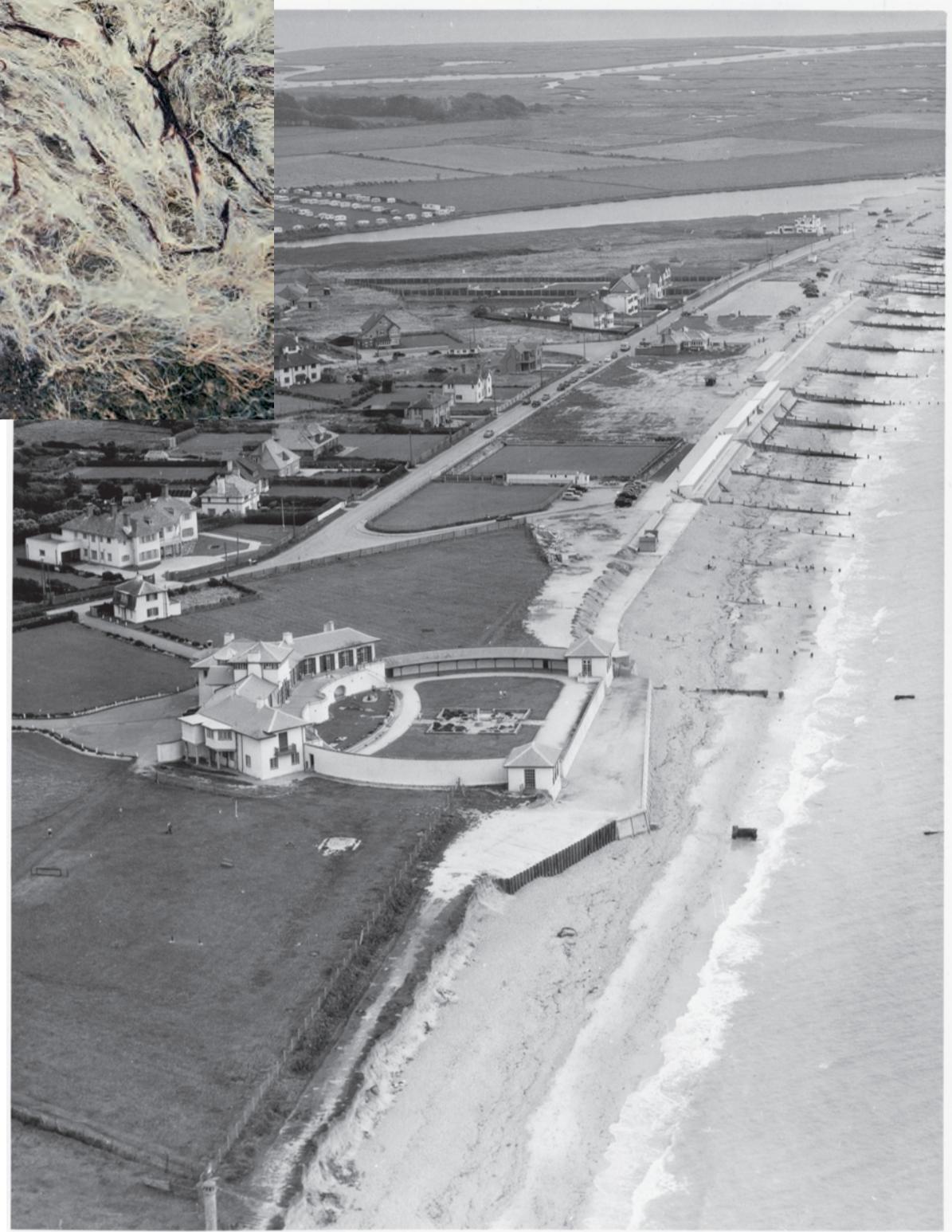
At one time a continuous shingle beach that linked seamlessly with Hurst Spit to the east, Milford-on-Sea is now a heavily developed seafront, at the mercy of westerly sea defences and winter storm damage. The beach huts here have been regularly demolished by winter storm waves and are now built in to the sea defences that protect the beach front café and carparks, one long concrete structure, a far cry from the quaint wooden huts of times past. The defences and experiments here have been numerous, groynes of both rock and timber, sea walls and vortifoils to name but a few. The shingle beach is incredibly small now, non-existent in front of the grade 2 listed White House. In autumn 2020, emergency coast protection works were carried out to save a 200m section of the 60s sea wall in front of the White House, which failed due to storm damage the previous winter. The works are now completed, with 12,00 tonnes of Norwegian Larvik rock placed on a geotextile fabric base, a design intended to dissipate wave action before it reaches the sea wall. But this is just the start, the first phase of two which has already cost £1.5million to complete, while the second phase awaits government funding before planning can begin.

The beach itself seems to be gathering more shingle in recent times, perhaps an indication that some normalcy is returning to this end of the bay, or more likely that erosion further west, at places like the Hordle cliffs, is worsening. There is a constant rebuilding and defending carried out at this end of the bay, whose south-westerly facing frontage is subject to the force of the Atlantic ocean, and which takes the brunt of the consequences of all sea defence works carried out to the west.

"Historically much coast protection work in the UK has been carried out in response to local erosion problems. In many instances the response has been to provide a solution at that site with little regard for the effects that the work might have further along the coast. Complex legislation, unnatural administrative boundaries and difficulties in funding of the work has often meant inadequate consideration has been given to the influence of the work at other sites."

- New Forest District Council, Coastal Report, Spring 1997. MOSHRS

Aerial view of the seafront. The White House in the foreground. Hurst road, Sturt Pond in distance. Aero Pictoral Ltd. 1958. English Heritage Copyright. CC-BY-NC-ND. MOSHRS





Milford beach. One of four colour photographs of small excavator bogged-in on beach and surrounded by high tide. Large excavator preparing to recover it. 30 October 1996. CC-BY-NC-ND. MOSHRS

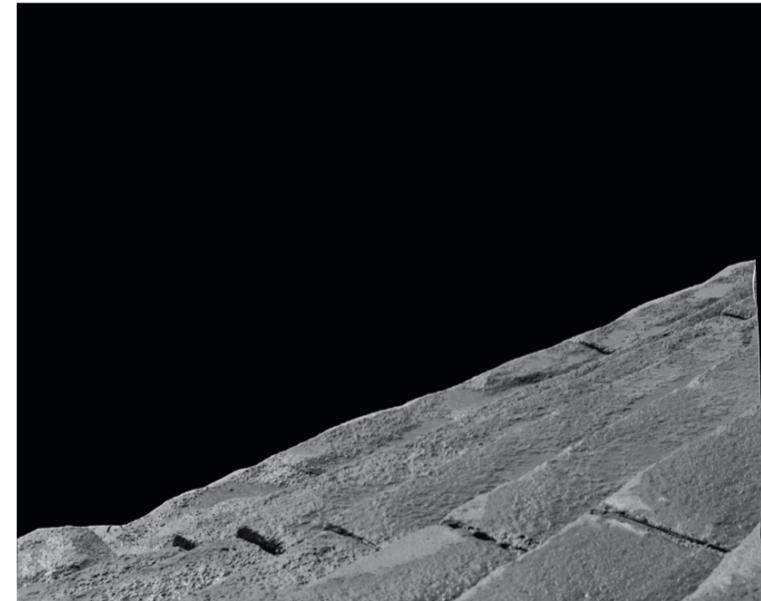
**"Many structures that were built twenty or thirty years ago would not now be considered as sensible solutions to the same problem"**

- New Forest District Council, Coastal Report, Spring 1997. MOSHRS





Experimental wave barrier. In position on Milford beach. Vortifoils. 1964. MOSHRS





Left: Repairs to Hurst Spit. One of two images. View along Hurst Spit towards New Lane Bridge showing emergency repairs. February 1962. MOSHRS

Right hand page: High level aerial photograph composite. Hurst Spit from Sturt Pond to Hurst Castle. July 1946, Crown Copyright, MOSHRS.

## Hurst Spit

"We say we have now reached a stage where further erosion, or further backward movement of the shingle bank would be dangerous to that part of the borough which lies immediately behind it."

- Town Clerk, Mr. A. L. Slater, as quoted in the Lymington Times, 13 February 1954



At the eastern end of Christchurch Bay lies Hurst Spit, a shingle spit home to Hurst Castle, built by Henry VIII in the 1540s. At one time an entirely natural coastal feature fed by Pleistocene gravel from the cliffs further west, it is now largely artificial. Regular maintenance and quarried gravel are now required to ensure the survival of the spit, as the defence works across the bay have cut off the supply that once supported it. The history of the spit has been very much dependant on the development of the bay, both residential and defence works, and on the storms which batter

it with increasing severity as each year goes by. Behind the spit lie Keyhaven and the Lymington salt marshes, a delicate ecosystem that supports diverse wildlife and which relies on the spit for protection from large waves. The future of the spit is uncertain; over the years it has been breached frequently, on one occasion in 1989 it was nearly damaged beyond repair. With an inevitable increase in sea level rise, storm severity and continual sea defence works throughout the bay, the spit is now dependant on human intervention, to which it also owes its potential downfall.

"The only way that Hurst Spit could survive as a natural feature now would be by demolition of the sea walls, rock revetments and groynes at Milford, exposing the old cliffs once again. This would of course mean that much residential property would be lost and frequent flooding of Milford would occur, due to blockage of the Danes stream, which provides drainage to the area. Clearly this is not an option that could seriously be considered."

- New Forest District Council, Coastal Report, Spring 1997. MOSHRS



**With thanks to the Milford-on-Sea Historical Record Society and  
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Geological and sea defence research sourced via  
[wessexcoastgeology.soton.ac.uk](http://wessexcoastgeology.soton.ac.uk)**