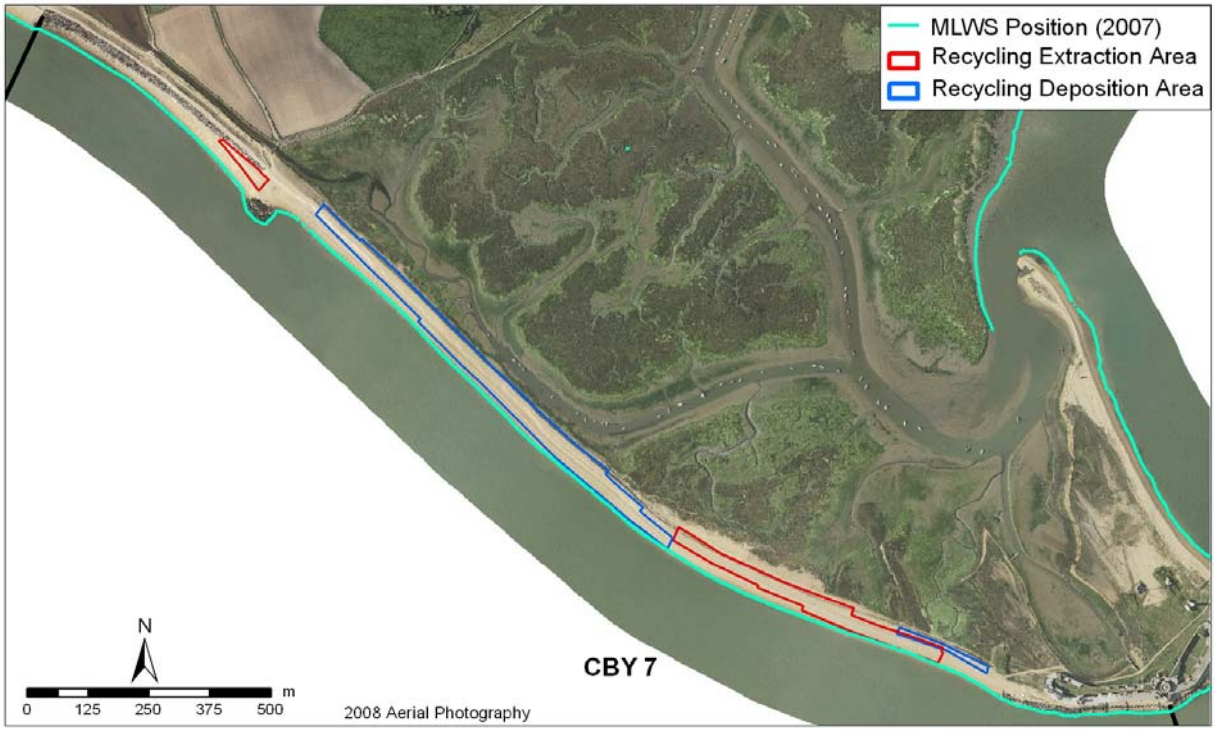
Policy Unit: 5f CBY7

Hurst Spit

Topographic Beach Profiles: 5f00067 – 5f00001



Summary

Hurst Spit is primarily constructed from sandy gravel although the base of the spit lies on saltmarsh, soft mud and clay, over which it has rolled back over the years, encroaching on Keyhaven saltmarsh. The spit has been declining in volume since at least the late 1940's when coastal defence works began in Christchurch Bay. In order to halt the erosion of the soft cliffs of Christchurch Bay, large scale coastal protection works have occurred along the beach frontage at Highcliffe and Barton. This impacted significantly on the overall easterly sediment transport pathway in Christchurch Bay. However, the primary supply of material to Hurst Spit was the Pleistocene gravel terraces along the cliffs at Milford-on-Sea. The supply of sediment from the cliffs at Milford was sufficient to keep the sediment budget in balance so that erosion from the spit was balanced by supply from the cliffs. During the 1960's a series of concrete sea defences were constructed and the rate of sediment supply was permanently interrupted, starving the spit of sediment and increasing the rate of erosion.

Since the supply of material to the spit was interrupted, it has been slowly declining in size and has proved vulnerable to erosion, crest cut back and breaching. Material is also continually removed from the distal end where strong currents and a rapidly shoaling seabed profile limit the extension of the spit eastwards. Much of the coarser material transported along the spit is lost offshore at Hurst Narrows but a small proportion is transported northeast around the distal end and is deposited on the active shingle recurve known as North Point.

Continued erosion and storm damage to the spit prompted New Forest District Council, the local Coast Protection Authority, to undertake a major in-house study and engineering scheme to rebuild the spit frontage in 1996. Material was sourced from the nearby offshore Shingles Bank as much of the material eroded from Hurst Spit is eventually deposited here. The recharge scheme combined

with planned maintenance from an existing maintenance programme doubled the previous volume of the spit and increased both the width and height of the crest. The beach recharge scheme has a 50 year scheme life, during which time it will be necessary to provide interim recharges and continued monitoring of the spit. Since the initial recharge scheme took place it has been necessary on several occasions to win material from certain areas of the spit (often the lee face) in order to top-up or repair sections of the spit which are particularly vulnerable following storm damage.

Recycling and beach maintenance works along Hurst Spit are operated in accordance with the Hurst Spit Beach Management Plan. Beach works are conducted should the level or width of the spit be compromised so that there is a risk of overtopping or breaching.

Survey Regime

Survey type	Frequency	Profile spacing/survey extent
Topographic baseline	Annual	41-60m to MLWS
Topographic interim profile	Spring and autumn	87-105m to MLWS
Bathymetry	Annual	50m profiles to 1km offshore
Ortho-photography	5 years	MLWN
Non-rectified aerial photography	Annual	MLWN
Lidar	Annual	MLWN
Habitat mapping	5 Years	MLWN

Summary of beach operations

Date	Operation	Quantity (m^3)	Location/Notes
2009			
09/03/09	Extraction	2,060	Material removed from vicinity of breakwater
12/03/09	Deposition	2,060	Material placed between 5f00042 and 5f00029
13/03/09	Extraction	1,123	Material extracted from between 5f00015 to 5f00022
17/03/09	Deposition	1,123	Material placed between 5f00042 and 5f00047
2008			
No recycling			
2007			
04/04/07	Deposition	6,398	Material won from tip of North Point (LYM1) and placed between 5f00032 and 5f00054
2006			
No recycling			
2005			
08/11/05	Extraction	840	Material removed from vicinity of breakwater
08/11/05	Extraction	6,804	Material won from crest and lee face of spit between 5f00015 and 5f00024
18/11/05	Deposition	7,644	Material placed on rear slope of spit between 5f00052 and 5f00037
2004			
17/12/04	Deposition	5,572	Material won from tip of North Point (LYM1) and placed between 5f00049 and 5f00012
2003			
14/01/03	Extraction	4,800	Material won from the top of the crest and rear slope between HU18A and HU16A
23/01/03	Deposition	4,800	Majority of material placed on rear slope. Several loads placed on front slope between HU8 and HU15

Full details of beach operations can be obtained from New Forest District Council