

## Thorpeness Monthly Monitoring V2

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**Date & Time of Survey:** 09/29/2020 4:11 PM

**Time of Low Tide:** 16:30

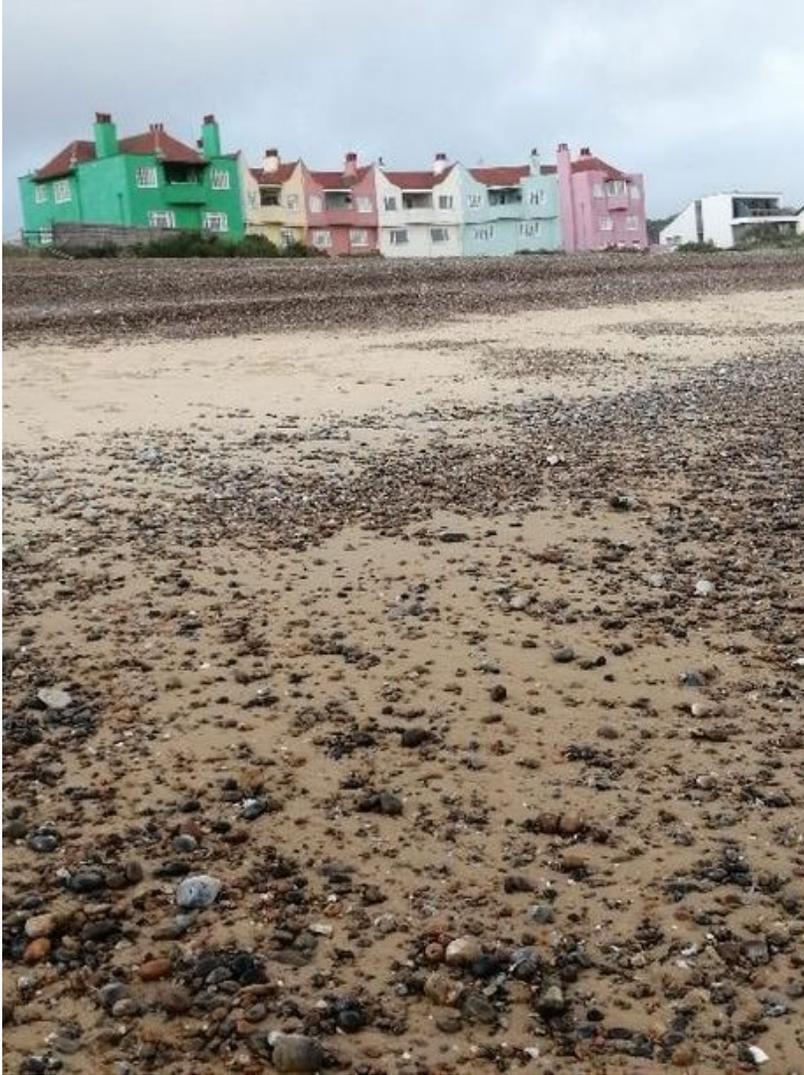
**Height of Low Tide (m ODN):** -1

**Current & antecedent conditions:** Recent stormy weather. NW Gusts ~50mph. Northerly, large swell waves. Tidal surge +1m. Currently F1 calm seas after days of sustained rain and wind. Some residual Swell but generally small waves from SE direction.

**Beach volume change Southern UNDEFENDED frontage:** No Change in volume but a change in distribution of sediment- flatter intertidal area but heaped up supra-tidal area.

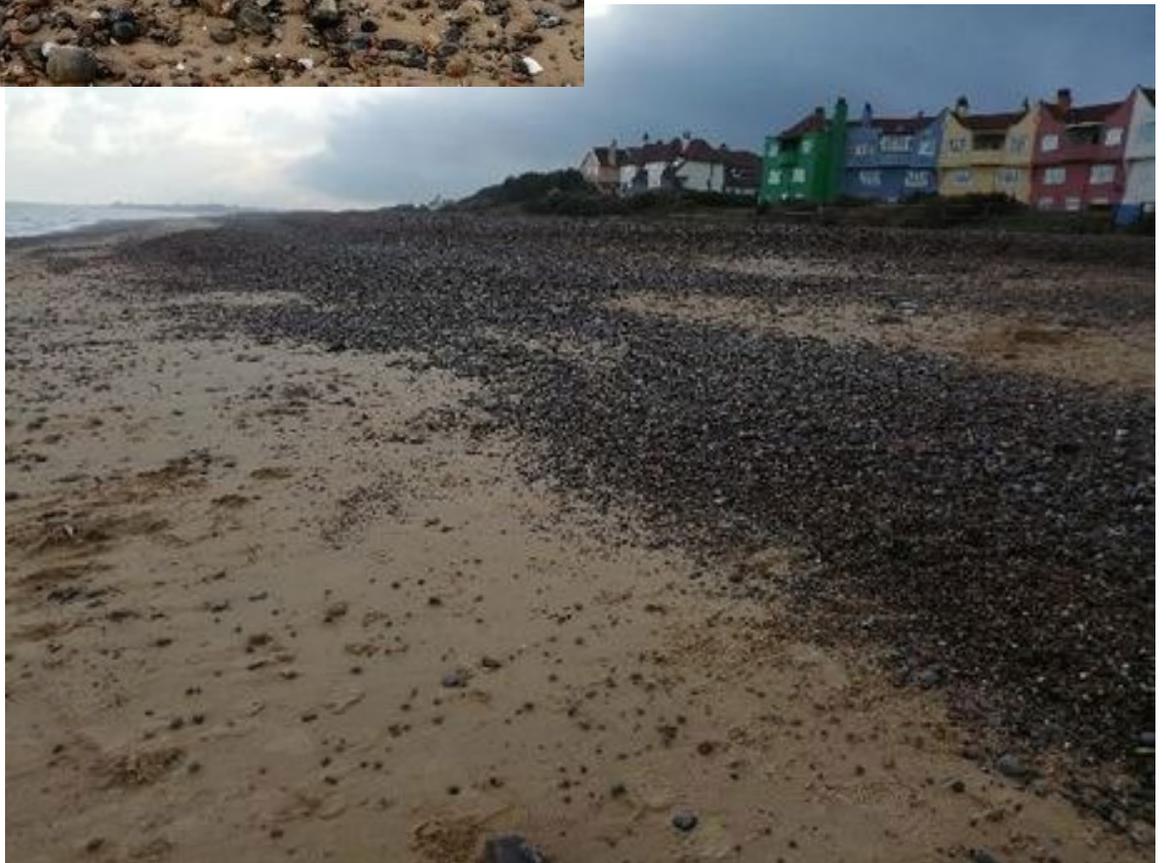
**Images of the southern UNDEFENDED frontage:**





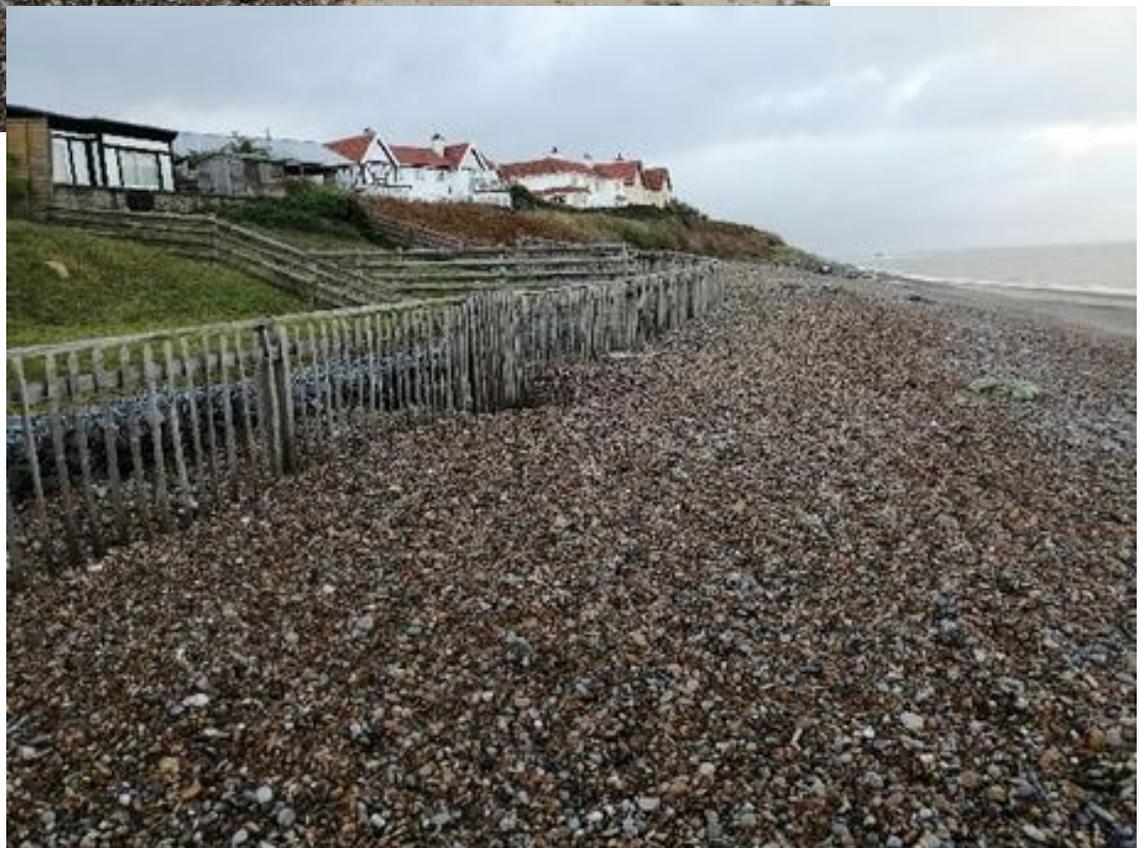
**Geomorphological change over southern UNDEFENDED frontage:**

Three distinct berms, laterally continuous along shore (Dunwich to Aldeburgh). Landward storm berm max 1.5m South of Headlands. Steep wide foreshore. Fine shingle on landward berm shows extent of wave run up. More material added to supra tidal beach in front of Headlands. Large cobbles on lower foreshore indicates high energy and sediment transport capacity. No lowering of beach levels, improvement if anything.



**Beach volume change Northern DEFENDED frontage:** Moderately Lower intertidal beach over phase 1 geobag area, but significant lowering over Phase 2 intertidal area. Sediment accretion on upper, supra-tidal beach in both cases.

**Images of the northern DEFENDED frontage:** see gravel accumulation in upper beach





**Geomorphological change over northern DEFENDED frontage:** Gravel has been pushed landward towards the gardens of the North End Avenue properties – see photo of gravel mound above. Gravel berm face has steepened in the bay before south of gabions. The beach here has been attempting to roll back for some time, but with nowhere to go. There is no room for the beach to develop a protective storm berm over the northern defended frontage (in front of the gabions) due to severe coastal squeeze. Even at low tide there is no dry beach between sea and defences.

The narrowing / lowering of foreshore in front of defences is marked by engineering stake exposure at base of gabions. Dangerously low beach levels here- potential risk of gabions being undermined if it continues to lower. After the destructive conditions of the weekend there has been deposition of finer material pushed landward under yesterday's longer-period constructive swell waves. However, in no way does this replace the large cobbles that have been removed from the gabion baskets over the weekend. See photos of gabions.

**Gabion condition:** no change to 'Fair' condition at south end of gabion wall but 'Very Poor' at north end; severe defects resulting in complete performance failure.

**Images of the gabions:**







### **Comments on gabions:**

Dramatic change since last inspection, as noted by community. Risk of gabions becoming undermined if beach level continues falling. Most geobags have been displaced below them – but still provide some degree of protection with

regards to absorbing wave energy. No severe risk to public of sharps or spikes due to the power of waves which has further crumpled the mesh landward. Wooden stumps pose a trip hazard,

but this area is closed to public. We have trimmed these wooden stakes to beach level recently, but they have reappeared due to further beach lowering. Any further R&M work to 'tidy' the site may be futile, as more stormy weather approaches.

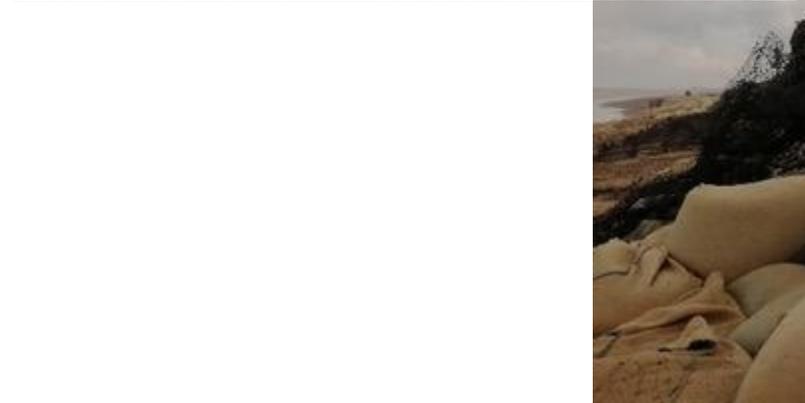
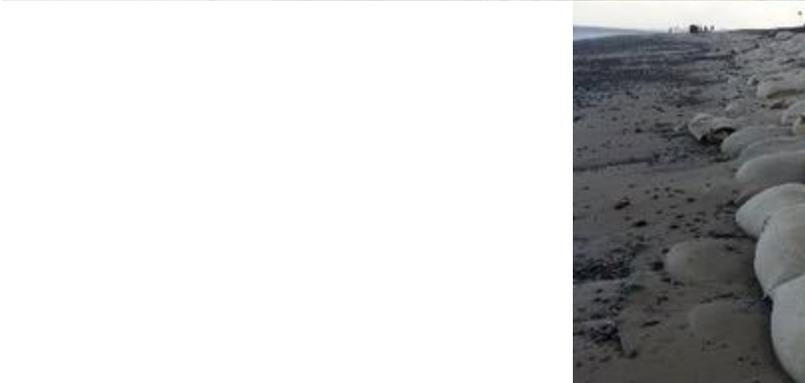
### **Comments on Geobags:**

**Phase 1 Geobag (south of gabions) condition:** Exposure and displacement increase since last inspection, but they remain mostly covered over the southern 'North end Ave' portion. Condition of buried bags is assumed Fair; condition of exposed bags is Poor due to defects that reduce performance of asset. A present they are holding their position and trapping gravel in the supra-tidal zone.

**Phase 2 Geobag (north and seaward of gabions) condition:** Poor, very poor and missing. Increase in defense exposure and displacement from structure. Not necessarily more straggling textile in water though.

### **Images of Geobags:**





**Comments on signage:** Where signs are present the condition is good i.e. without defects that will not reduce overall performance of asset. Terminal defense signs destroyed. 'No access' and NCOROB sign at northern termination of defences has been completely destroyed. Discuss replacement of this to warn people of route closure.

Concrete base of newly re-positioned sign mid-beach is now exposed but still perfectly upright.

SCC laminated footpath diversion sign at North end of diversion needs removing. See photo below.



**Cliff erosion north of defended frontage:** Large cliff falls and sediment still actively falling from unstable cliffs. Erosion is progressing toward Red house Deck – failure below it has already occurred.





**Comments on erosion north of defence termination:** Considerable change. Defences washed out. Mass movement below red house deck. Large amount of rock fall adjacent to it in that corner. Gullying indicates rainfall washing material down cliff face. Berms appear again where beach widens.

**Beach-volume change north of defence termination:**

No Change in volume, perhaps even an increase – perceived by levels around concrete pill box remains on beach. Significant amount of sediment at base of cliff to add to beach budget due to mass movement along cliffed frontage- see photos. Large nearshore sediment deposition around Ness perceptible by shallow, discolored water & breaking waves.

**Inspection Follow-up:** Share form and discuss within ESC team. Suggest Red House's deck removed ASAP due to failure of 'cliff' beneath and adjacent to it- see photo below. Survey 123 form improvements to include comments on Ness and better partition of Phase 1 frontage and Phase 2 frontage which are behaving differently, south of terminal defense.

