

Sand trapping by brushwood fences on a beach-foredune contact: the primacy of the local sediment budget

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Summary. Experiments were conducted at two field sites in the Dover Strait and the southern North Sea in order to evaluate the efficiency of brushwood fences in trapping sand and promoting foredune building. The results show contrasting patterns between the Dover Strait site where brushwood fences were rapidly washed away by storms, and the North Sea site where the fences were associated with significant accretion. Analysis of accretion trends and ensuing morphological patterns show that sand trapping formed a ramp at the beach-dune contact that further promoted foredune growth. These patterns show, however, that accretion at this site was primarily dependent on a favourable sand supply context in conjunction with the right storm and wind combinations. The study shows that the location of brushwood fences is an important factor in the duration of this inexpensive dune fence design but that trapping efficiency is subordinate to the availability of sand and sand-transporting winds. Under conditions of a strong deficit in sand supply from the beach, as in the Dover Strait site, fences are of no use as far as fostering dune accretion is concerned.