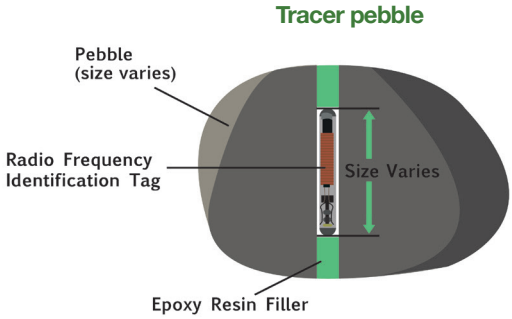
Hayling Island 2011 - 2012 Study

A Tracer Pebble study was undertaken by Coastal Partners between 2011 and 2012 to help further understand sediment transport pathways along the 7 km stretch of open coastline of Hayling Island between Gunner Point in the west and Eastoke in the east. The results from the study were used to inform the update of the 2004 SCOPAC Sediment Transport Study along the frontage.

In January 2011, 250 tracer pebbles were deployed across 3 different sites around Gunner Point (Figure 1), with a further 1,000 tracer pebbles deployed across 10 different deployment sites at Eastoke in March 2011. (Figure 2). The tracer pebbles used were native to the site and had a unique Radio Frequency Identification (RFID) tag sealed inside.



The RFID tag broadcasts a unique ID number assigned to the pebble, which is detected using specialised Global Positioning System (GPS) equipment to track the pebble's precise location at a point in time. This is a novel technique developed in-house at Coastal Partners.

Figure 1 - Deployment and pebble movement at Gunner Point

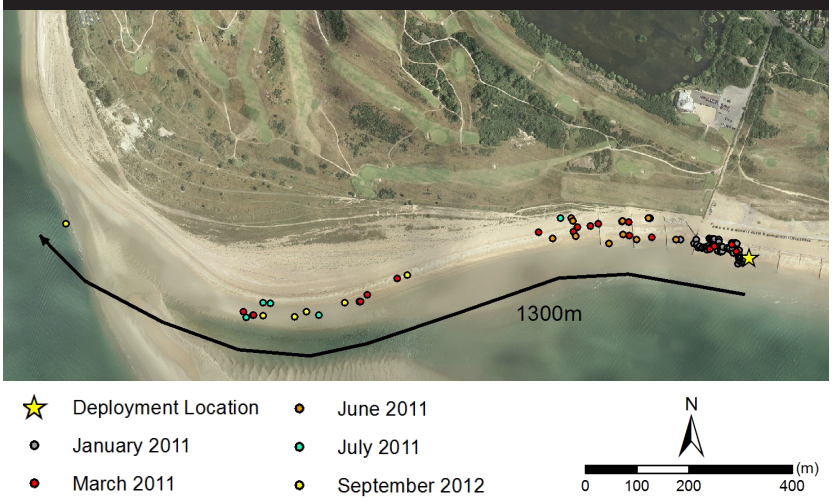
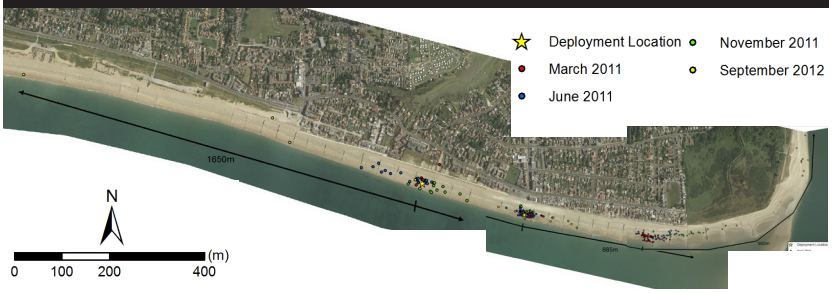
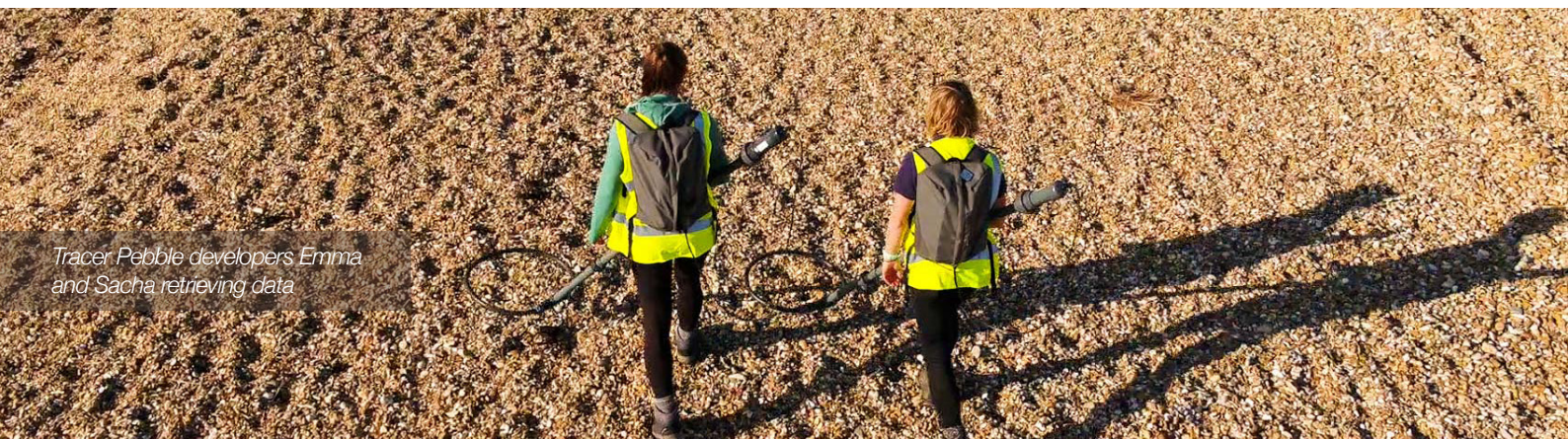


Figure 2 - Deployment and pebble movement at Eastoke



Up to five retrieval surveys were carried out over the following two year period to track the location of the pebbles using GPS (Global Positioning System). Results from the study were used to provide estimates of sediment transport rates and directions along the frontage. Importantly, these results indicated that there was no longer a transient drift divide at Gunner Point. The results at Gunner Point revealed strong westerly transport towards Langstone Harbour entrance. These findings fed into the SCOPAC Sediment Transport Study (2012) which can be viewed at: www.scopac.org.uk/sts/

The study was successful in showing the presence of a littoral drift divide along the Eastoke frontage, near the junction of Southwood Road and Creek Road. East of this location the tracer pebbles tended to move eastwards towards Chichester Harbour entrance, while tracer pebbles deployed west of this location were generally found to move westwards towards the open beach.



Tracer Pebble developers Emma and Sacha retrieving data