

Channel Coast News

Issue 10 - February 2004

The newsletter for the Southeast Strategic Regional Coastal Monitoring Programme www.channelcoast.org

Regional News

South East Coastal Group

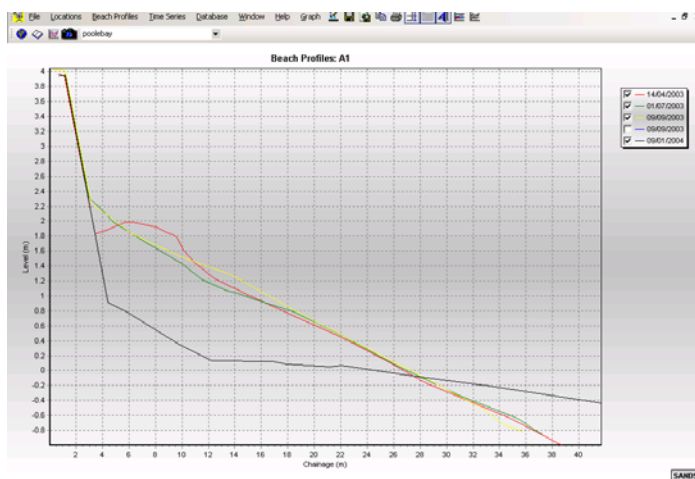
Review meetings with topographic survey Consultants took place during January. The purpose of the meetings was to review progress after the first phase of surveys and to discuss issues around the supply of data. These reviews proved beneficial to all parties.

South Downs Coastal Group

The Post-storm and Beach Management Plan contract has been awarded to Halcrow's, subject to formal signing. Discussions are ongoing with the EA regarding the BMP surveys being undertaken in conjunction with the ABMS flight in July/August, because the working windows are the same and there are potential improvements in accuracy and cost savings to be made. Once the final costs are known, a decision will be made as to the best way to undertake the BMP surveys.

SCOPAC

The stormy period in early January meant that the Post-storm survey season could finally get under way. This set of profiles from SANDS shows how the back of the beach was cut back at Bournemouth, following Severe Gale Force 9 winds, initially from the south, veering southwest on 8 January. The significant wave height measured by the Boscombe Directional WaveRider was ~ 5m.



Environment Agency (Southern Region)

Work has now started to raise the profile of the monitoring programme within the Environment Agency. We have held a meeting with one of the Kent Flood Defence Operations Team Leaders and attended the Kent and Sussex Data Management Groups. Other meetings have been arranged with the Hampshire Data Management Group and with the Sussex and

Hampshire Flood Defence Engineers. Discussions are ongoing with Kampsax and Worthing Borough Council to define the aerial photography programme for the South Downs Coastal Group.

Channel Coastal Observatory

There have been difficulties recently with the Directional WaveRider at Boscombe; although the data are recoverable, they are not available in real-time. EMU, RS Aqua and Datawell are attempting to resolve the problem. Real-time meteorological parameters from Lymington are now on the website; other locations will be added as soon as possible.

What's New?

Following the MapInfo training carried out by Arun DC last month, a similar day's training in ArcView/ArcGIS is being planned at the Coastal Channel Observatory for late March/early April. This is open to all Project Partners staff; names to your area representative.

The new version of SANDS has been received and is currently undergoing testing by Lead Authorities, prior to general release. Initial assessments are proving favourable.

Contacts

If you have any queries about the Strategic Regional Coastal Monitoring Programme, or would like a personal copy of this newsletter by email, please contact your area representative:

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DEFRA Research and Development

DEFRA has identified mixed beaches as an important area of research, since very little is understood about their behaviour, either as natural systems or when a predominantly shingle beach is replenished with material which almost always contains a mixture of sand and shingle. At several sites, it has been necessary to replenish with material with a finer mean grain size than the native beach (due to the scarcity of material) and there is very little knowledge about the effect of this material on the beach profile. Accordingly, two locations in Kent have been chosen by DEFRA as experimental field sites for investigations into the behaviour of a replenished mixed beach.

Tankerton, on the north coast of Kent is an example of a mixed beach which requires recharging to maintain the coastal defences. In 1998, 130,000m³ of shingle was placed along 2.3km of frontage. This material had an average D₅₀ of 8mm, compared to the native beach which was 15mm.



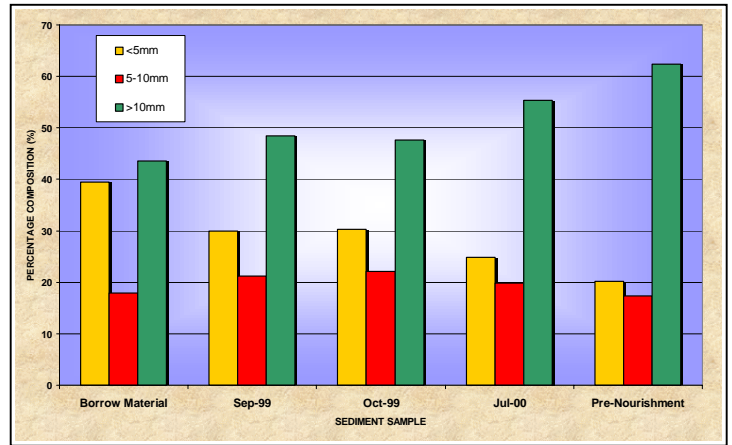
Whilst it was anticipated that initial losses from the beach would be high (20% over 5 years), there is no proven method of quantifying what the initial losses might be and over what time period they might occur. This introduces uncertainty into estimates of maintenance cost and the declared effective life of a scheme.

The new beach was reworked by the sea and exhibited the formation of cliffs and profile flattening. Particle size distribution analysis through the full depth of the beach demonstrated a loss of finer materials showing how the new beach was evolving with time towards the composition of the native beach (*see graph*).



*Cliffing
at West
Bay*

A further 50,000m³ of recharge is due to be placed in spring/summer of 2004, adjacent to the 1998 scheme.



On the south Kent coast, 380,000m³ of shingle is being used to recharge the beaches near Folkestone. The design D₅₀ of the beach is 15mm. The effective defence of frontage depends on beach recycling once the recharge has been placed.

As part of the Engineering theme of the DEFRA/EA R&D programme, the processes occurring as the new beaches evolve will be investigated. At Tankerton, this will involve monitoring the response of different beach compositions (contained within adjacent groyne bays) to wave and tidal forces. For example, one bay will act as a control, comprising material which has already been fully sorted. Other groyne bays will have different compositions, including beach recharge with a finer grading and a bay in which the existing beach has been placed over a finer as-dredged fill.

Along the Folkestone frontage, the investigations will focus on the effectiveness of the beach recycling operations. It will also be possible to compare the response of the new Folkestone beach to that at Tankerton where the wave climate is different.

Whilst this work will involve additional data collection, such as sediment sampling and beach permeability measurements, the use of data collected as part of the regional monitoring programme will be vital, including the beach plan/profiles, tidal and wave data. The regional programme will also be used to extend the effective monitoring period for the new beach beyond the original time frame of the project, which will add considerable value to initiative.

Other DEFRA/EA R&D should benefit in the longer term as good quality, consistent data sets become available. Those areas with longer records may be the most valuable initially as the regional programme aims to bring together existing Local Authority and EA data sets. In addition, results from these beach sites will complement the future research on "Influence of permeability on the performance of shingle and mixed beaches" and "Understanding barrier beaches", which has recently been announced as part of the Fluvial, Estuarine and Coastal Processes theme.