PAPER B

Purpose : For Discussion

Committee : **SCOPAC**

Date : **MAY 2011**

Title : **RESEARCH PROGRAMME**

REPORT OF THE CHAIRPERSON OF THE SCOPAC RESEARCH SUB-GROUP

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1 CURRENT RESEARCH PROGRAMMES

1.1 ACCESS' (ADAPTING TO CLIMATE CHANGE ALONG ENGLAND'S SOUTHERN SHORELINES').

The ACCESS project is investigating methods associated with effectively quantifying 'Assets at risk along the SCOPAC coastline'. There is a need for more refined assessments to be made of methodologies currently being used in Shoreline Management Plans and Flood and Coastal Erosion Risk Management Strategies to ascertain coastal erosion risk and identify and value the assets at risk, looking ahead over the next one hundred years. The greater the erosion risk to property, the more likely the frontage will obtain the benefit-cost ratio required to achieve a Hold The Line policy, thereby potentially attracting funding for future works. Still, if methods are under or indeed over-predicting erosion then there could be significant implications for future policy setting and central government funding distribution.

The ACCESS project is primarily interested in the process of erosion rather than flooding and in particular barrier beaches and spits, fringing barriers, sand dunes and saltmarshes prone to breaching, erosion or erosion followed by flooding, given that these geomorphological features and associated hazards have not been investigated in as much detail on a national basis. With a focus on sites under threat from instability, erosion and erosion followed by flooding, case studies for each geomorphology type were selected from the list of hotspots, ensuring a variety of examples were taken from across the SCOPAC region. These include the following identified in Figure 1:

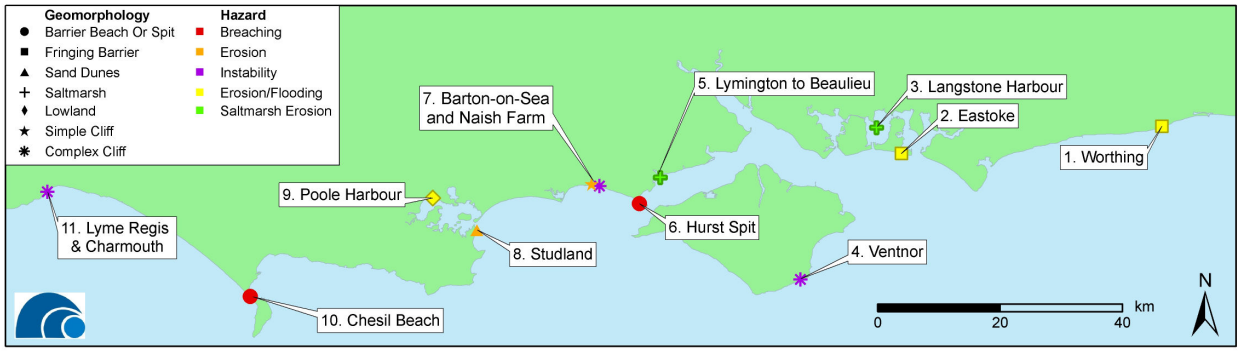

Figure 1: Case study map

Each case study details historical and predicted future geomorphological evolution, coastal monitoring, coastal management, adaptation of the shoreline and lessons learnt. The case studies were reviewed by the Southern Coastal Group officers in January and February 2011 and are now finalised. A critique of Shoreline Management Plan erosion methods and national methods of erosion prediction was also undertaken for a selection of sites, as was the data used for assessing assets at risk and the monetary values applied to the assets at risk.

The ACCESS project team are planning to have the document printed by the Summer of 2011 and hold a launch event at the National Oceanography Centre involving Councillors, planners, and consultants late Summer 2011.

Recommendation: For information.

1.2 SEDIMENT TRACER STUDIES EAST SOLENT

The study is being carried out to supplement the South West Hayling Island Beach Management Study. There is uncertainty in the understanding of the flow of coarse beach material around Gunner Point & Fort Cumberland as the coast changes from swash to drift aligned. A better understanding is required of the direction of transport for 'pulses' of material which move gradually around the coastline. On the Portsmouth side of the channel there is uncertainty over the present location of a drift divide adjacent to Fort Cumberland, and whether transport still occurs past the outfall constructed across the active beach. The study aims to identify the rate and direction of coarse sediment transport using the tracer pebbles.

Clive Moon reports…..

A total of 2,300 tracer pebbles have now been deployed around the Hayling and Portsea Island open coast as part of an ongoing study to confirm the long-term sediment pathways in the East Solent. The deployment locations include the nourished beach at Eastoke, either side of the Langstone Entrance Channel and the Southsea frontage (Figure 2).

Figure 2: Hayling Island and Langstone Harbour entrance

The highest detection rate was recorded after 3 days with 94% of a single batch detected. An initial trial deployment at Eastoke of 300 tracers yielded an average detection rate of 72% over a two week period, with >95% of all the tags detected at least once. After 5 months deployed in the beach this batch of tracers spread out over 3 kilometres of the Hayling coastline, confirming the westward direction of transport along the Hayling open beach. The detection rate for this batch of tracers dropped to 17% after 5 months. A sweep of the entire study area yielded an average detection rate of 36%. Ongoing quarterly surveys are planned for the next year, with recovery of the tracers planned for the end of the study to assess attrition rates over this period. Detailed studies of the movement of material onshore from ebb-tidal shoals adjacent to the Eastoke nourished frontage are also planned for the next year, along with trials of artificial tracers designed to represent smaller sized gravel particles.

The Havant, Portsmouth & Gosport Coastal Partnership have been providing advice and guidance to Cllr Roland O'Brien who is leading the Selsey West Beach Shingle Tracer Study Project. West Beach Selsey Residents' Group has been awarded just under £5000 from the DEFRA Coastal Change Pathfinder small grants fund to do the community-based shingle tracer study.

Recommendation: For information

1.3 WEBSITES

The SCG and SCOPAC websites are now completed and fully up to date. The Southern Coastal Group proposes that the CCO will continue to manage the websites and that Sarah Austin of Vivid Websites will continue to maintain the websites for the 2011/2012 financial year, at a cost of £3,000 including VAT.

Recommendation: For information

1.4 UPDATE OF SCOPAC SEDIMENT TRANSPORT DATABASE AND SEDIMENT TRANSPORT STUDY

The SCOPAC Sediment Transport Database was last updated in 2002 and underpins the Sediment Transport Study which was last updated in 2004. The Sediment Transport Study was widely used at SMP2 level for the coastal processes literature review and baseline scenario assessments. It was suggested at the recent SCOPAC Research Sub-group meeting that it would be timely to update both the Bibliographic Database and the Sediment Transport Study with Regional Monitoring data and new publications, to feed into ongoing Strategy Studies and the next round of SMPs.

The Sediment Transport Study would be a much larger undertaking than the Bibliographic Database. In terms of funding SCOPAC could potentially find the budget to update the Database but more substantial funds from the SMP action plan would be required to update the Sediment Transport Study.

The Chairperson of Research has been actioned with exploring different funding scenarios.

It was recommended at the Southern Coastal Group that the original authors be involved in any updates where necessary.

Recommendation: For discussion

2 NEW RESEARCH

The following programme of work was extracted from the Southern Coastal Group Business Plan (2009) as a reminder of the priorities for research approved by SCOPAC at its meeting on 15th February 2008, Item 28 (ii), following completion of the 'Research Review'. Completion of these projects will be dependent on future funding availability.

- Adapting to Coastal Change Along England's Southern Shorelines (ACCESS): *Channel Coast Observatory £26,000, Halcrow £20,500, Coastal and Geotechnical Services £14,000, Management/Printing £5,725.* **2008/09-2009/10-2010/2011-2011/2012** . Near completion.

- Extreme wave conditions study: Professor A Bradbury *£10,000* (**2008/09**), *£8,000* (**2009/10**). Completed – awaiting short summary.

- Maintenance of coastal structures Phase 1 Timber groynes – Professor A Bradbury/CCO *£2,500* (**2010/11**) *and £15,500* (**2011/2012**). Workshop undertaken to start project.

- Contributions to minor studies: *£1,500 Sediment Tracer Study* (**2010/2011**) Ongoing. *£4,000 unallocated for 2011/2012.* Budget delegated to Southern Coastal Group.

- Evolution of coastal sediment sinks: Southampton University/CCO - *£25,000 (***2011/12***)*. Scheduled to start this financial year.

- Validation of new Met office wave data: CCO/Southampton University £15,000 (**2010/11**), £10,000 (**2011/12**).

- Climate change local scenarios study: External consultants £35,000 (**2011/12**), £35,000 (**2012/13**).

- Saltmarsh evolution study: CCO - £15,000 (**2012/13**), £10,000 (**2013/14**).

- Design guidance for mixed beaches - £30,000 (**2013/14**), £30,000 (**2014/15**).

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