

SEFTON COAST  
PARTNERSHIP

For further  
information about  
the Sefton Coast  
partnership and  
the Research  
Network please  
visit:

[www.seftoncoast.org.uk](http://www.seftoncoast.org.uk)

Or email:

[research@seftoncoast.org.uk](mailto:research@seftoncoast.org.uk)

# Research Network Newsletter

## June 2007

### Welcome to the second Sefton Coast Research Newsletter.

The purpose of this newsletter is to keep practitioners and researchers informed of research developments and opportunities, to help disseminate results and to provide an easy means of communication between them.

### Potential research projects— advertised on webpage.

There have been several enquiries from students to undertake projects on the coast based on the proposals detailed on the website, with a number being undertaken. If you have any ideas that you would like to put forward please complete one of the forms that can be found on the website, [http://  
www.seftoncoast.org.uk/  
research\\_ideas.html](http://www.seftoncoast.org.uk/research_ideas.html)

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### Call for members

If you would like to or if there is anyone you think may be interested in joining the Research Network please direct them to the Research section on the Sefton Coast Partnership website [www.seftoncoast.org.uk](http://www.seftoncoast.org.uk) or contact [research@seftoncoast.org.uk](mailto:research@seftoncoast.org.uk) for further details

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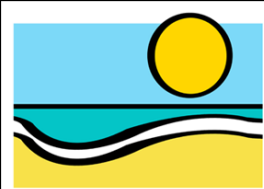
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For further  
information about  
the 2008 Sefton  
Coast Partnership  
Conference:

[www.seftoncoast.org.uk](http://www.seftoncoast.org.uk)

Or email:

[conference2008@seftoncoast.org.uk](mailto:conference2008@seftoncoast.org.uk)

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### Sefton Coast Partnership Conference September 2008 – invitation to submit abstracts

The Sefton Coast Partnership will be holding a conference in September 2008 to celebrate 30 years of the Sefton Coast Partnership and to formally document the progress in understanding that has been made since the Sands Dunes of the Sefton Coast conference held in 1991.

It will cover all of the Sefton Coast and will focus on those areas which were previously not covered, inadequately covered or where there have been substantial advances.

#### Purpose:

- To celebrate 30 years of partnership on the Sefton Coast.
- To update the Sand Dunes of the Sefton Coast and extend the coverage to include all of the Sefton Coast.
- To publicise the updating of the Sefton Coast Database
- To raise the profile of the Sefton Coast
- To document examples of good practice on the Sefton Coast
- To compliment the Liverpool City of Culture year.

There will be three key themes:

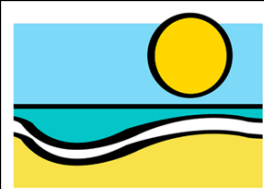
- Geomorphology
- People
- Flora and Fauna

With three cross-cutting themes:

- Management
- Climate Change
- Communication

There will be some papers that set the scene for the cross-cutting issues (for example 30 years of partnership working) but it is anticipated that the rest will sit within the key themes and where appropriate make reference to the cross-cutting themes. Some of the key areas that might be considered are:

- Soils / nutrient sinks
- Hydrology / Hydrochemistry
- Research needs
- Tools – eg GIS
- Sand Dunes
- Beaches
- Saltmarsh
- Offshore
- Golf courses
- Landscape
- People's perceptions, land use, recreation pressures, education, access



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It would also be useful if authors of the Sand Dunes of the Sefton Coast could take this opportunity to produce any corrections or minor updates and we will see if we can get that put on line.

Whilst the idea is to produce a publication in time for the conference it will be different to the Sand Dunes of the Sefton Coast in that it will not just contain academic papers. We would like to invite practitioners and researchers on the coast to also submit abstracts for short non-academic articles detailing their experiences ranging from managing grazing projects to policing the beach. Papers that bring together a range of authors within a particular discipline or on a particular topic will be encouraged.

There will be plenty of opportunities for people to help, we would anticipate having theme leaders, external reviewers and general helpers. The research task group will also be meeting in September to discuss the abstracts that have been submitted, format and organisation of the conference.

Abstracts invited      May 2007  
Abstracts returned    July 2007  
Invite papers          Sept 2007  
(following research meeting)

Receive Papers    Jan 2008  
Finalise papers    May 2008  
Conference          Sept 2008

This programme would allow for the proceedings to be published in time for the conference which is not only nice for delegates but saves on postage. The cost to attend has not yet been determined but will be kept to a minimum (circa £50).

Please submit your abstracts to  
[conference2008@seftoncoast.org.uk](mailto:conference2008@seftoncoast.org.uk)

Further information, when available, will be made available on the Sefton Coast Partnership Website  
[www.seftoncoast.org.uk](http://www.seftoncoast.org.uk), and you will be kept up to date through the research network.

Please forward this newsletter to anyone you feel would like to be involved to the conference.



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### **Sefton Coast Research Network meeting**

Planning is underway for the second Sefton Coast Research Network meeting. This meeting will be held in September 2007 and will build on last years meeting and look towards the 2008 Sefton Coast Conference.

The meeting will again give researchers and practitioners an opportunity to disseminate information on works or projects they have been involved with. If you would like to present at the meeting please contact [research@seftoncoast.org.uk](mailto:research@seftoncoast.org.uk).

Following on from Sally Edmondson's suggestion last year one element of the meeting will be to develop a prioritised list of research questions for the Sefton coast. Whilst we have previously agreed that coastal geomorphology is the most important aspect it will be useful to identify other areas and provide some detail of the research

needs so that as funding or resource opportunities arise any one of us can use the information to take research forward.

Another area of discussion will be the Sefton Coast Conference 2008. The group will be able to discuss abstracts that have been submitted and identify potential gaps and how to fill them as well as looking at some of the detailed arrangements for the event.

If you have any other topics you would like to discuss then please suggest agenda items but bear in mind that there will be limited time on the day.



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### **An analysis of current information on the dune wetlands of the Sefton coast**

Natural England is supporting current work between Sefton Council and the Environment Agency through a research contract to (i) draw together the diverse existing dune wetland information for the Sefton coast, (ii) draw any conclusions that this evidence will support on interactions between the water table and dune slack vegetation on the Sefton coast over the last 30 years, and (iii) identify remaining gaps in evidence (requiring additional monitoring and/or research). The study has been commissioned by the Science and Evidence team.

The project work is being carried out in three stages. First a review of all available sources of information (contracted to P H Smith), second a more detailed analysis of site data to prepare GIS layers and database / spreadsheet information and third, the evaluation of the results of the project and the development of ideas for future research.

The background to the study is that a wide range of dune slack vegetation data has been collected on the Sefton coast since the 1970s, and is held by a range of organisations and individuals, but has never been brought together. In addition, water table data has been collected on various parts of the dune system for a variety of reasons at various times. No comprehensive comparison of trends and fluctuations in the water table in different parts of the dune system with changes in the dune slack vegetation has yet been achieved. The study will begin the process of assembling data.

Key outputs of the study, as required by Natura England are;

Chronological presentation of vegetation and hydrological data dune slack by dune slack.

Description of changes in each dune slack's vegetation, relating this to NVC sub-communities where possible.

Description of trends and fluctuations in each dune slack's water table,



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using the longest runs of information available for each slack.

An attempt at an initial hydrological classification of each dune slack, using the typology developed in English Nature Research Report 696 Development of eco-hydrological guidelines for dune habitats: phase 1 (2006).

Where possible, comparison of trends in vegetation with trends in water table and provide an initial assessment of any likely causation.

Identification of key evidence gaps and recommendations for any necessary additional research and/or monitoring.

Dr Smith will complete the first stage of the work by the end of May and the draft report will be circulated for information and perhaps also to prompt the addition of other studies not yet referenced. Between June –August we hope to appoint a postgraduate equivalent to bring together a number of datasets and to begin to identify the 'key' sites on the coast which could be the focus of more detailed studies (i.e. those with long time sequences, good

fixed point photographs, information on soils etc).

In early September we would hope to present this information to the potential 'research partnership' to help interpret the findings and develop proposals for future research. At this stage we should have assembled a set of data which should be useful to other researchers and which could be compared to similar work at Braunton Burrows and Newborough Warren. Some funds will be held back to this stage so that we can support the involvement of experts.



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### Coastal Flooding by Extreme Events (CoFEE), part of NERC FREE Programme

#### **Project Aims**

The broad project aim is to improve our understanding of how the coast will respond to changes in climate, sea-level, storm and wave frequency in the future such that we can make informed decisions as to how to manage the consequences of these changes. The key elements that are being focussed upon are changes in coastal flood risk and changes in shorelines, beach profiles and coastal habitats. The detailed outputs of the project will be defined in collaboration with the end-users of this information. The project will use the Sefton Coast as a case study but the outputs will include the presentation of results in a generic format so that the knowledge gained can be applied elsewhere.

#### **Rationale**

It is believed that global warming carries with it the possibility of an increase in the frequency and intensity of extreme coastal flooding events. In

particular the combined effect of larger and more frequent storm surges coupled with larger waves and increased terrestrial runoff will impact on the quality, health and sustainability of industry, housing, communication, power and transport systems on the UK coastline and is a cause of great concern for individual citizens, businesses and those charged with management and protection. Over the coming decades flood-prone areas are likely to become increasingly more densely populated and thus the consequences of flooding will be greater. For these reasons it is important to improve our understanding of how the coast will respond to changes in the factors that drive extreme events.

Understanding how the coastline will respond depends not only on the complex physical processes at work but also on the interactions between the environment and human actions. In order to calibrate the computer models that will be used to develop future scenarios of coastal change and flood risk it is necessary to have a study site



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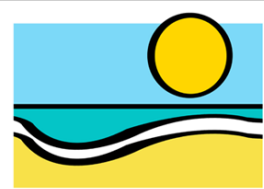
with sufficient data. In this respect Liverpool Bay and the Sefton Coast are considered to be an optimum combination to satisfy this need.

### **Methodology and approach.**

A key element of this research is the role of coastal end-users in defining the required outputs of the predictive models, this will be achieved through initial consultation with and subsequent dissemination to end-users to guide and check the outputs. A model simulating coastal processes and sediment transport in response to extreme events will be developed and tested against past observations of coastal change. The model will be used to identify any weaknesses, uncertainties or gaps in the existing data. Models will then be linked together to translate the off-shore forcing factors (waves, tidal currents, storm surges) into on-shore sedimentary responses focussed on three key environments; salt marshes, sand dunes and hard defences. There is also a need to model beach response as this is an important part of the coast

with respect to protection from flooding and erosion. These models, when calibrated and validated against the extensive historical, recent and real-time data sets will be used to predict future possible scenarios.

The key partners in this project are the University of Plymouth (lead partner), Proudman Oceanographic Laboratory with BODC, University of Liverpool and Edge Hill University with Sefton Council. The project commenced as of April 1<sup>st</sup> 2007 and will run for three years.



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### Links

[Sefton Coast Database](#)

[coastaldefence@  
technical.sefton.gov.uk](mailto:coastaldefence@technical.sefton.gov.uk)

### Sefton Coast Database update

Work has continued with collating data for the Sefton Coast Database and has begun on the analysis of this information. Two new reports have been added to the Sefton Council website <http://www.sefton.gov.uk/Default.aspx?page=4730>. The first of these looks at the tipping of nicotine waste on the Sefton Coast, whilst the second looks at the evolution of the Bog Hole channel on Southport's foreshore. A complete database reference list has also been added to the website.

Several other reports are in the pipeline and should shortly be made available on the website. Two of these reports, that look at climate change and the resultant coastal evolution around Formby Point, will be presented to the Environmental Committee in the near future for their approval. Other reports include: - saltmarsh, hard defences, evolution of Ainsdale foreshore, spatial data.

### Sefton Coastal defence monitoring:

Sefton Council's Coastal Defence section has also recently purchase a digital Penetrometer to measure sediment resistance. We have identified projects to look at saltmarsh compaction and the impact of cars on the beach. If you have any other ideas please contact us to discuss them.

We are waiting for the delivery of a borer to assist in the installation of monitoring wells for water levels within the dunes. We will be taking soil samples at these locations to aid our understanding. If you have any views on where additional water level monitoring points should be placed or additional data that we may be able to capture at the same time please contact us to discuss. This element of work is being led by Coast and Countryside Service and the Environment Agency.



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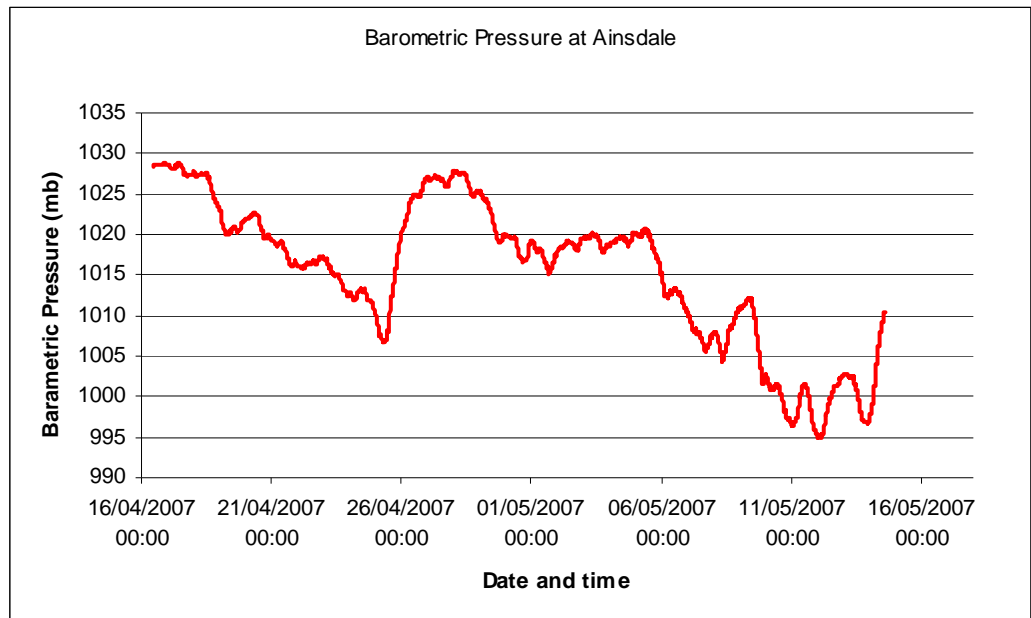
[Davis website](#)

[Ainsdale weather link](#)

### Weather stations

Sefton Council has recently purchased two Davis Vantage Pro2 weather stations, one has been installed on the Ainsdale Discovery Centre and the other will shortly be installed at the National Trust office on Blundell Avenue, Formby. Data from the Ainsdale weather station is being uploaded to the Sefton Coast Partnership website on a 15 minute interval, we are looking to achieve the same with the Formby station. The

stations record temperature, wind speed and direction, humidity, barometric pressure, rain fall, UV radiation and solar radiation and dew points. Monthly data sets will be posted on the website for those wishing to do their own analysis. If you require further information please contact [coastaldefence@sefton.gov.uk](mailto:coastaldefence@sefton.gov.uk) or visit [www.seftoncoast.org.uk/index\\_weather.html](http://www.seftoncoast.org.uk/index_weather.html)



### News:-

#### Antony Gormley's Another Place:

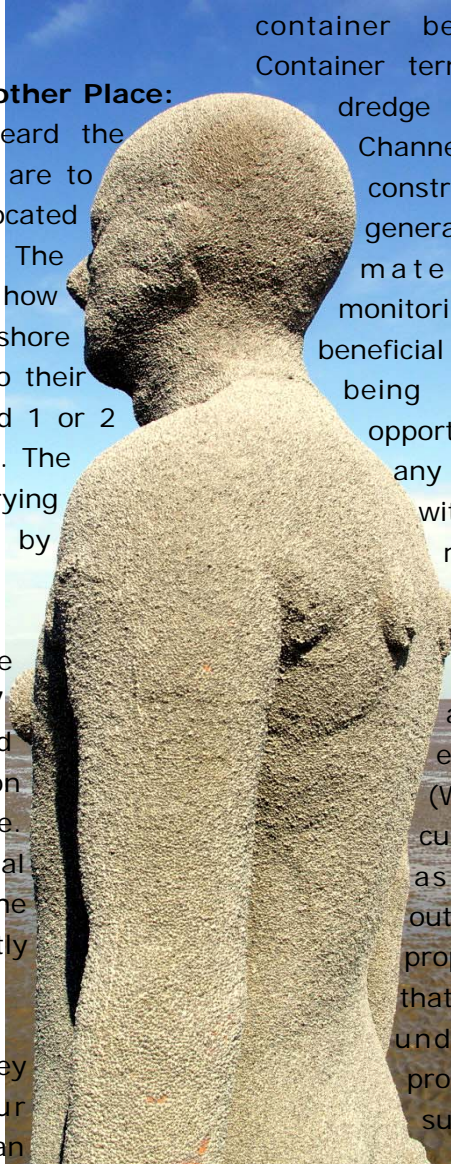
if you hadn't already heard the statues on Crosby beach are to remain (with some relocated for safety purposes). The statues clearly show how dynamic the Crosby foreshore is with some buried up to their chests whilst others stand 1 or 2 ft proud on their footings. The statues also show varying degrees of colonisation by marine organisms.

**Sandwinning:** since January 2007 sandwinning has ceased from the Horse Bank on the Southport foreshore. Options for the beneficial use or restoration of the compound are currently being discussed.

**Seaforth triangle:** Mersey Docks and Harbour company have had an application to create a new post panamax

container berth at the Seaforth Container terminal and increase the dredge depth of the Crosby Channel to -8m approved. The construction of this berth will generate additional dredged material and require monitoring. The potential for the beneficial use of the dredgings is being explored as is the opportunities to co-ordinate any additional monitoring with existing monitoring regimes.

**Aggregate extraction:** The application for aggregate extraction from Area 457 (West of Formby Point) is currently being discussed as Sefton have an outstanding objection to the proposal. The concern is that there is insufficient understanding of the processes and sediment supply upon which to make a decision.



Statue covered head to toe in barnacles, photography taken about 1month after installation. © Paul Wisse