

# Area 4 - Freshfield to Ainsdale Summary



- ◆◆◆◆ Informal Rubble
- ▲▲▲▲ Rock Armour
- Sand dunes
- Accreting Sand dunes
- Eroding Sand dunes
- Saltmarsh
- Saltmarsh/embryo dune
- ■ ■ ■ Sea Wall
- Training Wall
- Profile Line
- Prediction of coastline location (2050)

**Length of coastline**  
 6.3km Total  
 6.3km sand dunes

**Monitoring carried out**  
 Profile lines  
 Beach topographic survey  
 False colour infra-red aerial photography  
 Colour aerial photography  
 Coastal defence inspections  
 GPS survey of sand dunes

**Designations**  
 SSSI, cSAC, SPA, Ramsar, NNR

**Coordinates**  
 Top right 330000 414000  
 Bottom Left 326000 408000

## Introduction

This report summarises the coastal process monitoring and coastal defence work carried out by Sefton Council 2000-2004 and provides relevant background and historic information for Area 4 – Freshfield to Ainsdale.

## Coastal Defence Policy

The policy for this section is in the short term natural defence management and in the long term is natural defence management and /or hold the line. Natural defence management is maintaining the integrity of soft defences, sand dunes and saltmarsh, as a coastal defence.

## History

As with Formby Point, the recorded information available for this section indicates a period of accretion in the 19<sup>th</sup> century followed by erosion in the 20<sup>th</sup>. Prior to the 19<sup>th</sup> Century, there is a history of erosion: it is thought that the lost village of Argarmeols was somewhere in this area.

Since the turn of the 20<sup>th</sup> century the action of coastal erosion in this section has blunted the northern apex of Formby Point. The length of coastline subject to erosion has increased year by year as the northern limit of erosion moved steadily north. Accretion continued to the north of this limit. Thus a straighter coastline replaced the more angular form that existed in the early part of the 20<sup>th</sup> century.

The Ainsdale National Nature Reserve was declared in 1965, and regular

measurements of erosion were made from 1969 onwards. Severe erosion occurred in the storm surge of November 1977. In 1978, the northern limit of erosion was 250 metres north of the Freshfield/Ainsdale boundary. By the end of the 20<sup>th</sup> century the change between accretion and erosion fluctuated between Fisherman's Path and the Freshfield/Ainsdale boundary.

Dune restoration work was undertaken along the National Trust and for a time, the National Nature Reserve frontages, from Wicks Lane northwards to the Ainsdale boundary. During the 1990's the policy changed from attempted dune reclamation to a more natural system of dynamic management. Over-mature frontal coniferous woodlands were felled to compensate for the loss of rare coastal habitats to erosion. Sheep grazing was introduced to help control invasive scrub.

## Site Description

Sand dunes stretch the length of this section, only being interrupted by Shore Road.

The upper foreshore is relatively steep and generally dry. Hence, during periods of onshore winds, sand is readily transported into the dune system, which extends some 1.5km inland.

Victoria Road, Freshfield, is a main pedestrian entrance which has in the past suffered from serious erosion due to these visitor pressures. Now a series of marked paths protect the frontal dunes from further damage.

Further north where the frontage is managed by the English Nature, public access is limited, however there are still visitor pressures. There is an area of sand blow at Fisherman's Path, exacerbated by the visitors to the Nature Reserve who use this access to the shore.

The foreshore begins to widen north of Fisherman's Path and erosion becomes progressively less severe, giving way to dune accretion north of the Freshfield/Ainsdale boundary.

Shore Road is a major public access and motor vehicles are allowed onto the beach at this point. The parking zone extends approximately 1km north and south of Shore Road.

The foreshore is protected by several nature conservation designations; a candidate Special Area of Conservation (cSAC), Site of Special Scientific Interest (SSSI), RAMSAR site and Special Protection Area (SPA).

## Summary of Coastal Processes

- Wave conditions are affected by Taylor's Bank and Crosby Channel.
- Inter-tidal area is roughly 600 metres wide gradually getting wider in the northern extent of this section.
- The ridge (crest) and runnel (trough) feature run parallel to the shoreline and are clearly visible in both aerial photographs and profile lines. These features are not static, changing in height and position.
- Formby Point receives sediments from offshore, which is then fed north towards the Ribble and south to Crosby.
- Sediment size is typically fine to medium sands with finer sediments occurring offshore. Sediments are coarser on ridges and finer in runnels.
- The dune toe is retreating in the majority of this section between 1.2 and 5.5 metres per annum. With long term trends, since 1980, of between 0.5m and 4 m per annum. In the northern limits the trend changes to -0.5 to 2 metres showing some gains under favourable conditions.
- Significant losses to the dunes were recorded following storm events in March 2001 and February 2002.
- The amount of sand on the beach has marginally decreased since 2001. There have, however, been some cyclical losses and gains between the years.

## Summary of Coastal processes Cont...

- The Freshfield to Ainsdale beach is much narrower and steeper than the beach at Formby, which is sheltered by Taylor's Bank offshore from Formby. The beach is narrowest between Victoria Road and Fisherman's Path, from where it starts to widen approaching the Ribble Estuary.

## Summary of Coastal Defence Works

- Several areas were planted with marram grass to stabilise the dunes.
- Active sand trapping techniques were used to prevent the growth of frontal blowouts.
- The construction/relocation of two boardwalks across the frontal dunes to the beach has help decrease visitor pressure on the fragile frontal dunes.

## Other Projects of Interest

- Wind farm – In August 2001 a proposal to construct a wind farm in Liverpool Bay was submitted by Seascope Energy. This proposal was followed up in 2002 with an extensive consultation programme. An Environmental Statement was prepared following various studies concerning the impacts on wildlife, sediment flows, shipping etc. In September 2002 a bid for consent to build Burbo Offshore was submitted.

## Future Coastal Developments

A proposal for a sand dune study is being developed that will seek to refine our predictions of future coastline evolution taking into account the latest predictions and understanding of climate change. It will also look at the implications of the change on coastal habitats and develop a system for checking the 'health' of the sand dunes for coastal defence.



Beach and dune system at Ainsdale

## Further Information

The full coastal process monitoring report and all the reports in this series as well as other relevant information and a list of references can be found at:

[www.sefton.gov.uk](http://www.sefton.gov.uk)

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

These reports will be updated every three years and any interim reporting will be made available online. If information over and above this is required contact Graham Lymbery on 0151 934 2960 or email [graham.lymbery@technical.sefton.gov.uk](mailto:graham.lymbery@technical.sefton.gov.uk)

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