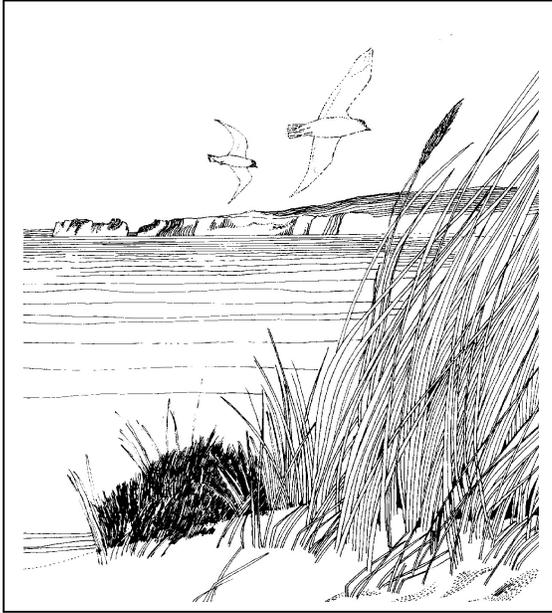


Coastal sand dunes



1 Definition

Coastal sand dunes develop where there is an adequate supply of sand (sediment within the size range 0.2 to 2.0 mm) in the intertidal zone and where onshore winds are prevalent. It is critical that the beach plain is large enough so that the surface dries out between high tides. The dry sand is blown landwards and deposited above high water mark, where it is trapped by dune-building grasses, which grow up through successive layers of deposited sand.

Sand dune vegetation forms a number of zones, which are related to the time elapsed since the sand

was deposited, the degree of stability and the local hydrological conditions. Embryonic and mobile dunes occur where sand deposition is occurring and in blow-outs. The vegetation is typically species-poor, usually dominated by Marram grass (*Ammophila arenaria*).

Semi-fixed dunes occur where the rate of sand accretion is slower, but still has predominantly a bare sand surface. Marram grass is still a common component of the vegetation, but there are an increasing number of other species.

Fixed dune grassland has largely closed swards, with little significant accretion, a stable surface and some soil development. Dunes acidified due to leaching develop into dune heaths, which are usually dominated by heather (*Calluna vulgaris*). Acidic dunes that are heavily grazed by rabbits may support acid grassland flora and lichen communities. Dune slack vegetation occurs in wet depressions between dune ridges. Fixed dunes and dune heath are particularly threatened habitats and are regarded as priorities under the EC Habitats Directive.

2 Current status

2.1 National

There are approximately 56,000 hectares of sand dunes in the UK, with 11,897 ha in England.

2.2 Local

There are 66 hectares of sand dunes in Suffolk (0.1% of the UK resource). Due to its limited extent in Suffolk, the habitat is considered to be of local significance only. Suffolk sand dunes are important for a nationally scarce moss, *Campylium polygamum*.

3 Current factors affecting sand dunes in Suffolk

- The main threats to sand dunes in the region are associated with sea level rise. This problem is aggravated by the gradual sinking of south eastern regions of the country caused by isostatic tilt of the UK mainland. This process is predicted to occur at a rate too rapid for sand dune formation to keep pace.
- Sand dunes are usually readily accessible. Excessive pedestrian use may cause or exacerbate erosion.
- Sea defence structures and artificial stabilisation measures such as fencing can result in sediment starvation down-drift.

4 Current Action

Legal Status

- Almost all Suffolk sand dunes fall within SSSIs, or County Wildlife Sites.
- The Suffolk sand dunes fall within the Suffolk Coast and Heaths Area of Outstanding Natural Beauty and the area designated as Heritage Coast.
- The Environment Agency (EA) and local authorities have a statutory duty to further conservation where consistent with purposes of enactments relating to their functions, and this duty therefore covers sand dunes.

4 Management, research and guidance

- The Shoreline Management Plan for the Suffolk Coast is currently under revision.
- The Suffolk Coasts and Heaths Management Strategy has a priority objective of safeguarding and extending the area of semi-natural habitats with an associated action of extending the area of coastal habitats and heathland through management or where necessary through acquisition by appropriate bodies.

5 Action Plan Objectives and Targets

- 1 *Protect existing area and nature conservation status of sand dunes from further losses to anthropogenic factors. Management may be required especially in areas holding rare species.*
- 2 *Offset any losses since 1992 (year of adoption of Habitats Directive) and expected losses due to natural causes over 20 years by allowing new dunes to accrete and by allowing mobile dune systems to move inland.*
- 3 *Improve knowledge of extent, quality and current level of threat to Suffolk sand dunes.*
- 4 *Promote the importance of sand dunes.*

6 Sand dunes: Proposed Action with Lead Agencies

Action	Date	Partners
POLICY AND LEGISLATION		
Ensure that sand dunes of nature conservation importance are granted appropriate designation where this has not already been done.	2005	EN, SCC, SWT
Ensure the implementation of more environmentally sensitive coast protection measures through the Shoreline Management Plan and Suffolk Coast and Heaths Management and ensure these documents make reference to coastal sand dune habitats.	2005	EA, EN, SCDC, WDC
Ensure EN/EA Coastal Habitat Action Management Plans (CHAMPs) identify the scale and impact of likely potential losses of sand dunes and set area targets for habitat creation that recognises both the need for replacement habitats and delivery of UK biodiversity targets.	2005	EA, EN, RSPB, SWT
Develop and promote planning policies and procedures which will aim to prevent further losses of sand dune habitat to development and exploitation and minimise them where they are unavoidable.	2005	SCDC, WDC
SITE SAFEGUARD AND MANAGEMENT		
Agree management briefs for all sand dunes of conservation importance with a view to maintaining or improving their ecological value.	2005	EN, SWT, RSPB
Ensure that, as far as possible, coastal defence or other construction works avoid any disruption of coastal or other natural processes that might lead to the loss of sand dunes.	On-going	EA, EN, SCDC, WDC
RESEARCH AND MONITORING		
Identify suitable sites for landward migration of sand dunes and produce map.	2004	EN, SBRC, EA, SCDC, WDC, SWT, RSPB
Collect information on changes in the extent and quality of sand dune resource in Suffolk.	2005	EA, EN, SWT, RSPB, SBRC
Produce GIS maps to help monitor and predict the rate and extent of change locally.	2005	SBRC, EA, EN

ADVISORY		
Encourage the appropriate management of sand dunes through the dissemination of guidance material and advice, and information on grants/schemes, to key organisations and landowners and managers.	2005	EA, EN, DEFRA, SWT, RSPB, NT
COMMUNICATIONS AND PUBLICITY		
Raise public awareness of the nature conservation importance of sand dunes, coastal processes, and their value for a variety of interests including amenity and recreation using open days and guided walks.	2005	Coastal HWG