

# CARMARTHENSHIRE LOCAL BIODIVERSITY ACTION PLAN

## SAND DUNES



### What are sand dunes?

Sand dunes form where dry sand is regularly blown towards land from the beach and is deposited above the high-tide mark. It can then be trapped by specialised dune-building grasses (e.g. marram grass), before eventually being colonised by other plants that help to stabilise the sand and 'fix' the dune.

Wales is important for its sand dunes, the formation of which is strongly influenced by the prevailing westerly winds that help create a series of large ridges separated by wetter 'slacks'. As you move away from the sea you pass through various zones: mobile and semi-fixed dunes are followed by fixed grassland dunes and scrub. The most important sand dune systems are typically those demonstrating all the different zones.

Sand dunes systems can support an extremely diverse range of plants and animals and provide a habitat for a variety of specially adapted species, including a number of uncommon plants, fungi and invertebrates. Orchids, bees and butterflies all thrive in this habitat.

Most sand dunes were grazed in the past by domestic stock and/or rabbits, this helps to maintain the diversity of plants that grow there – up to 30 species per m<sup>2</sup>. Lack of grazing can lead to an increase in scrub and coarse grassland, causing a decline in habitat and species interest.

### Distribution in Carmarthenshire

Carmarthenshire has two major sand dune systems: Laugharne–Pendine Burrows and the Pembrey Coast [both included in the internationally important Carmarthen Bay Dunes Special Area of Conservation (SAC)]. Both sites suffer from lack of grazing. Part of Pembrey was also planted with conifers in the 1920s, resulting in the loss of much sand dune habitat. A minor sand dune spit also occurs at North Dock, Llanelli.

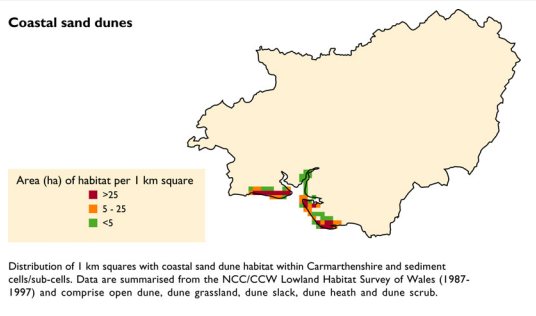
### What are the threats?

- \* Loss through erosion of the mobile dunes.
- \* Over or undergrazing of the dune habitat.
- \* Damage due to excessive human and vehicular use.
- \* Sea defence and stabilization (e.g. sand fencing and marram grass planting) often results in the loss of mobile dunes. Sea buckthorn was introduced to stabilize dunes and has spread widely.
- \* Mechanical beach cleaning resulting in the damage or removal of 'pioneer' dunes and linked specialist species.
- \* Forestry plantations cause direct loss of habitat, and can lower the water table leading to loss of dune slacks.
- \* Loss of habitat to housing, industry, sand extraction.

### What is being done locally

- \* Sea buckthorn clearance is carried out at Pembrey.
- \* The Carmarthen Bay Shoreline Management Plan recognises the environmental value of our sand dunes.
- \* Mechanical beach cleaning is restricted to a short section of Pembrey beach.

Coastal sand dunes



Distribution of 1 km squares with coastal sand dune habitat within Carmarthenshire and sediment cells/sub-cells. Data are summarised from the NCC/CCW Lowland Habitat Survey of Wales (1987-1997) and comprise open dune, dune grassland, dune slack, dune heath and dune scrub.

### Conservation objectives

- \* Protect our sand dunes from further losses due to human factors.
- \* Maintain sand dunes through appropriate management.
- \* Encourage the natural movement and development of sand dune systems.
- \* Consider restoration of dunes from scrub/woodland invasion.

### What you can do to help:

- \* Help out with beach cleans and scrub bashing work parties at Pembrey!

### Further information:

[www.ccw.org.uk](http://www.ccw.org.uk)  
[www.carmarthenshire.gov.uk](http://www.carmarthenshire.gov.uk)

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