

Coastal Sand Dunes and Vegetated Shingle Habitat Action Plan



Welsh Name: Twyni Arfordirol a Graean Bras wedi'u Gorchuddio â Phlanhigion

UK BAP Status: Priority Habitat

UK Lead Partner: Scottish Natural Heritage

Denbighshire Status: Priority Habitat

Local Lead Partner: Denbighshire Countryside Service

Statutory Protection:

Wildlife and Countryside Act 1981 (as amended); Certain saltmarsh habitats are listed on Annex 1 of the EC Habitats Directive; Gronant Dunes and Talacre Warren SSSI; Gronant Dunes and Talacre Warren are part of the proposed Dee Estuary SAC (Special Area of Conservation) and the proposed extension to the Dee Estuary SPA (Special Protection Area) and Ramsar Site

Links to other Action Plans

Natterjack Toad SAP; Little Tern SAP; Sand Lizard SAP; Brown Hare SAP; Terrestrial Reptiles SAP; Farmland Birds SAP; Skylark SAP; Sandhill Rustic Moth SAP; adjoining counties' Sand Dunes and Vegetated Shingle HAPs; Gronant Dunes LNR Summary Management Plan; Gronant Dunes and Talacre Warren SSSI Management Plan.

OBJECTIVES

Objective 1

To protect, maintain and enhance Coastal Sand Dune and associated Vegetated Shingle habitat, including its characteristic vegetation, in Denbighshire.

Objective 2

To maintain the functional role of sand dunes as a natural coastal defence and to ensure no coastal or sea defence works or developments, including those offshore, adversely affect the sand dune systems and associated vegetated shingle habitat.

Objective 3

To continue to maintain and enhance the biodiversity of these habitats and their characteristic species through appropriate habitat and species management.

Objective 4

To raise awareness of the significance of this habitat and its conservation requirements.

Objective 5

To carry out all necessary monitoring.

DESCRIPTION

Sand dunes are a dynamic system, which are dependent on a supply of dry sand and onshore winds. Above the high water mark, vegetation, shingle and tidal litter can trap dry sand grains blown landward to form small embryonic or mobile dunes. These dunes are the most susceptible to erosion but continue to grow as more sand builds up on the leeward side, and pioneer plant species like Sand Couch Grass *Elytrigia juncea*, Marram Grass *Ammophila arenaria* and Lyme Grass *Leymus arenarius* take root providing stability. Sand dune succession is a process operating through time with the youngest dunes situated near the coast, increasing in age as they progress further inland. Semi-fixed dunes are generally located windward of embryonic foredunes due to a lesser rate of sand deposition, and a greater variety of plants can subsist under these conditions. Fixed dunes, found the furthest from the coast, tend to be fully covered by vegetation and begin to form a thin, organic surface soil layer.



The coastline between Prestatyn and Point of Ayr, encompassing both Gronant and Talacre Warren further east, is one of the last remaining unspoilt and intact stretches of sand dunes along the North Wales coast. The biodiversity value of these sand dunes together with other remnant dunes along the Denbighshire coastline are reflected by a combination of SSSI, LNR and Wildlife Site designations. The semi-fixed dunes support such uncommon species as Sea Holly *Eryngium maritimum*, Pyramidal Orchid *Anacamptis pyramidalis*, and Sea Spurge *Euphorbia paralias*, and a number of rare bryophytes. In terms of fauna, the dune systems support a variety of

species, including the nationally rare and recently re-introduced Natterjack Toad, Brown Hare and Skylark, all of which are UK BAP Priority species. The dunes also support a number of locally significant invertebrate species including the Mining Bee *Colletes cunicularius*, Sandhill Rustic moth *Luperina nickerli* and Broad-bordered Bee Hawk moth *Hemaris fuciformis*.

Saltmarsh vegetation is found where brackish conditions exist, particularly where sea water inundation occurs at the eastern end. A shingle spit has developed on the foreshore at the eastern end of Gronant dunes. Shingle is coarse sediment with an average particle size between 2 and 200 mm. It is supplied to the coast from land erosion, from the coastline or from the sea bed itself, mainly during rain and high winds. Shingle structures can take the form of spits, bars, barrier islands, or parallel ridges up against the coastline. This shingle spit provides important breeding habitat for a number of birds, including Ringed Plover, Grey Plover and one of Britain's rarest sea birds - the Little Tern. In fact, the seaward shingle spit at Gronant supports one of the most productive Little Tern breeding colonies in the UK. This shingle spit is likewise an important high tide roost site, particularly in winter, for several wading bird species, most notably Sanderling. Both the shingle and adjacent foreshore can be important for roosting cormorant and at migration times in late summer can be used by terns of several species.

CURRENT STATUS

International

Coastal shingle seldom occurs outside north-west Europe, Japan and New Zealand. Shingle formations with sufficient stability to support perennial vegetation are a comparatively rare feature in the UK.

UK

Coastal sand dunes and vegetated shingle are both UK BAP priority habitats in their own right, supporting many priority species. The total area of sand dune in the UK is recorded as 54,500 ha. Vegetated shingle habitat amounts to approximately 5,800 ha in the UK.

Wales

In Wales, coastal dunes occur on the north and south coasts and in the northern part of Cardigan Bay. The total area of sand dune habitat in Wales equates to 8100 ha (around 16% of the British total), with approximately 110 ha (approximately 2% of the British total) of coastal vegetated shingle habitat around the Welsh coast.

Denbighshire

In Denbighshire, 52 ha of coastal sand dunes and less than 10 ha of vegetated shingle remain. Historically, the dune system would have stretched from Rhyl to Gronant. However, much of this natural coastal defence system has been lost to hard sea defences and to development. Much of the remaining and intact dune system falls within the Gronant Dunes and Talacre Warren Site of Special Scientific Interest (SSSI). In addition, Denbighshire County Council has declared Gronant Dunes a Local Nature Reserve (LNR). Remnant dunes elsewhere along the coast are designated as Wildlife Sites.

CURRENT FACTORS AFFECTING THE HABITAT

- **Development**, including housing estates, caravan parks and golf courses on or adjoining sand dunes have decreased their extent. Such developments increase recreational pressure and disturb natural, interdependent systems like topography, vegetation and water table levels, amplifying the need to undertake artificial coastal defence. They also prevent the natural retreat of the dunes. Future developments need to allow for this to happen, particularly along sections of the coast with a natural sea defence.
- **Recreational pressure** is a very serious threat to sand dunes and shingle habitats. Unlimited public access to areas of coastal shingle contributes to its deterioration and can disturb the important bird colonies that breed and roost there, as well as accelerating erosion and blow-out formation.
- **Pollution**, both on and offshore, can have detrimental effects on coastal flora and fauna. Beach pollution, especially from oil, can shift public pressure to the more sensitive foredunes resulting in greater erosion.
- **Sea Defence** - the amount of coastline using groynes and sea walls for coastal protection is increasing every year, erected for the most part to protect areas of housing and industrial development. This reduces the coast's capacity to erode naturally and deposit sand and shingle (preventing replenishment of the sand dunes) and inhibits their ability to change.
- **Scrub development**, in the absence of adequate grazing, decreases biodiversity.
- **Alien species** are also a problem within the Gronant dune system, even if in small amounts.
- **Other Factors**, such as fly-tipping, dumping of matter from ditch cleaning and golf course management, mechanical beach cleaning and nutrient enrichment from dog faeces, as well as indirect factors such as atmospheric nutrient deposition and coastal squeeze due to rising sea levels and storm surges, all contribute to loss of habitat and reduction in quality.

CURRENT ACTION

UK and Wales

- Comprehensive habitat data exists from the National Vegetation Classification (NVC) Sand Dune Habitat Survey of Great Britain.

Denbighshire

- The Gronant Dunes LNR Management Advisory Group, with representatives from a variety of organisations and groups, has been set up to oversee the implementation of the LNR Management Plan.

- DCS has undertaken a variety of sand dune restoration/ erosion control measures at Gronant Dunes, including the construction of a boardwalk, marram grass planting where areas of exposed sand were under pressure and erecting Chestnut paling fencing to prevent excessive trampling of more sensitive and eroded areas and to encourage revitalisation by trapping wind blown sand.
- Since 2001, a Christmas tree recycling scheme has been carried out, where trees are set at angles facing the prevailing north west wind, trapping sand on the seaward side of the foredunes to provide better stability to the fragile single dune ridge.
- **Sand dunes** at the Tower Beach development are now managed by DCS. Completed dune works include reinstatement and re-profiling of the dunes following completion of works by the developers, marram replacement using Hessian netting to assist stability, new post and rail fencing, chestnut paling and a boardwalk. Volunteers are an integral part of all these coastal projects and have helped to make such changes possible through hard work and funding efforts.
- The Gronant Dunes and Talacre sand dune system is currently being considered as part of the proposed extension to the Dee Estuary SPA and Ramsar Site and as part of the proposed Dee Estuary SAC. The Gronant Dune system includes a number of Annex 1 habitats including the fixed dunes with herbaceous vegetation (grey dunes), which is a priority European habitat.
- Sand from works at Rhyl Marina has recently been deposited at Barkby Beach for beach nourishment.

Sources of Information

Principal authors: Holly Bowler and Mike Whitley (DCS)

References

- UK BAP website: www.ukbap.org.uk
- BTCV. 1991. *Sand Dunes: A Practical Handbook*. The Eastern Press Ltd., Reading.
- Young, Moira. 1999. *Gronant Dunes Local Nature Reserve, Summary Management Plan*, Denbighshire County Council, Ruthin.
- Jones, Adrian Lloyd. 2003. *Habitat Action Plan - Coastal Sand Dunes and Habitat Action Plan – Coastal Vegetated Shingle*. Conwy County Borough Council.

Abbreviations

BAP – Biodiversity Action Plan
 CCW - Countryside Council for Wales
 DBP - Denbighshire Biodiversity Partnership
 DCC – Denbighshire County Council
 DCS – Denbighshire Countryside Service
 FCC – Flintshire County Council
 HAP – Habitat Action Plan
 HCT – Herpetological Conservation Trust

LNR – Local Nature Reserve
RSPB – Royal Society for the Protection of Birds
SAC – Special Area of Conservation
SAP – Species Action Plan
SPA – Special Protection Area for Birds
SSSI – Site of Special Scientific Interest

PROPOSED ACTIONS BY LEAD PARTNERS

Policy and Legislation	Lead Partners	Target	Objective
Ensure coastal sand dunes and vegetated shingle habitat is fully protected through the planning system and is fully accounted for in the Shoreline Management Plan.	DCC	Ongoing	1,2
Site/ Species Safeguard and Management			
Reverse fragmentation of populations of priority species by habitat re-creation and management.	DCS, CCW	Ongoing	1,3
Implement and review existing SSSI and LNR management plans to incorporate provisions for all relevant BAP species. Liaise with adjoining authority to ensure strategic approach.	DCS, CCW, FCC	From 2004	1,3
Ensure coastal management practices do not negatively impact on dune and shingle habitat.	DCS, CCW	Ongoing	1
Work with coastal defence authority in their flood and sea defence strategies to encourage the importance of soft sea defences.	DCS, DCC, CCW	As opportunities arise	1,2
Continue the steady re-introduction of Natterjack Toad westward along the coast to incorporate other dune systems.	DCS, HCT, CCW	From 2004	3
Carry out habitat management to create a mosaic of vegetated and bare sand areas for sand lizard cover and thermoregulation sites.	DCS, HCT	From 2004	3
Re-introduce the Sand Lizard to suitable habitat along the coast.	DCS, CCW, HCT	Re-introduction programme under-way by 2005	3
Prepare and implement conservation management plans for the Ffrith sand dune system. Liaise with Prestatyn Golf Club to maintain and enhance coastal habitats within golf course.	DCS	Ongoing	1,3
Communication and publicity			
Raise awareness of the importance, rarity and conservation needs of the sand dune system and associated species and its value as a natural sea defence through all the different media.	DCS, RSPB, CCW	As opportunities arise	4
Survey, Research and Monitoring			
Monitor condition of SSSI.	CCW	As required	1
Monitor vegetation cover and spit movement on shingle ridges used by little tern for breeding to determine its suitability for this purpose.	RSPB, CCW, DCC, Port of Mostyn	Annually for vegetation; bi-annually for spit topography	5
Review this Plan every 5 years.	DBP	2009	1,5

For further Details Contact:-
Denbighshire Countryside Service:
County Ecologist – Tel: 01824 708263
Biodiversity Officer – Tel: 01824 708234
or e-mail: biodiversity@denbighshire.gov.uk

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