

SAND DUNES

DEFINITION

The term sand dunes includes windblown sand formations, both stable and shifting, with slacks (areas of dune wetland), grassland, scrub, woodland and the associated foreshore. Sand dunes form a vital natural resource as a unique habitat for rich and diverse communities of highly specialised plant and animal species. Sand dunes provide a coastal protection role by absorbing the impact of wave energy.

DISTRIBUTION

South West England contains around 4,000ha of sand dunes, north Devon has a great proportion with 1130ha of sand dunes and five of the County's six dune systems:

- Braunton Burrows 899ha
- Croyde Bay 19ha
- Instow Dunes 32ha
- Northam Burrows 134ha
- Woolacombe Sands and Down 46ha

DESCRIPTION

All of north Devon's sand dunes are formed from lime rich sand which gives rise to a calcicolous vegetation. The biodiversity contained within the dune systems of Woolacombe, Croyde and Instow is much more limited than at Braunton and Northam because of their smaller size and their lack of damp/wet slacks. The exceptional biodiversity contained in the dune habitats at Braunton Burrows that includes many nationally scarce species has resulted in the site being designated a UNESCO Biosphere Reserve in 1976 and the core of the new style Biosphere Reserve in 2002.



CHARACTERISTIC WILDLIFE

Plants:	sea sandwort, marram grass, sea stock, sea holly, Portland spurge, thyme, sand pansy, bird's foot trefoil, restharrow, lady's bedstraw, carline thistle, eyebright, pyramid orchid, yellow bartsia, creeping willow, sharp rush, water germander, early gentian, round headed club-rush, round-leaved wintergreen, sharp rush, marsh helleborine, early marsh orchid var coccinea, petalwort, scrambled egg lichen.
Insects:	butterflies: 34 species recorded including: - dark-green fritillary, marbled white, grayling, small blue, brown argus, dingy skipper, grizzled skipper.
Other insects:	great green bushcricket, sand dune tiger beetle, poplar leaf beetle and strandline/beachcomber beetle, 17 species of dragonfly including the ruddy darter.
Molluscs:	amber sand bowl snail
Birds:	whitethroat, stonechat, skylark, ringed plover, kestrel, buzzard.
Herptiles :	adder, grass snake, slow-worm, common lizard, sand lizard, great crested newt

THREATS

Extraction of sand and gravel whether nearby or offshore, coastal defence works reducing sediment movement and excessive dune stabilisation works, leading to a lack of sand movement.

Increasing tourism and local public pressure leading to excessive local erosion and disturbance to wildlife - especially nesting and roosting birds; and soil enrichment from localised dog fouling decreasing the diversity of flora.

Mechanical beach cleaning including the removal of natural organic matter leading to destruction of the strand line ecosystem.

Under-grazing through a decline in rabbit populations, leading to excessive scrub and rank species poor vegetation.

Over-grazing with domestic stock, leading to excessive erosion and a uniform species poor short turf.

Invasive non-native species such as sea buckthorn, Cotoneaster, Japanese rose and Michaelmas daisy overwhelming native plants.

Invasive native species such as alder, aspen, birch, bramble, hawthorn, willow & privet overwhelming flower rich turf.

Lack of & breaks in the continuity of appropriate management.

Falling water tables due to climate change, agricultural and recreation demands and increased vegetation cover, leading to the decline of diversity and rare species

Agricultural/golf course management such as stock feeding/fertiliser use.

Rising sea levels, possible increased storm events leading to direct loss of habitat.

SITE STATUS

Sites of Special Scientific Interest:	Braunton Burrows	899ha
	Northam Burrows	134ha
	Croyde Bay	19ha

County Wildlife Sites	Woolacombe Dunes	46ha
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Special Area of Conservation:	Braunton Burrows
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Biosphere Reserve:	Braunton Burrows (core area), Instow Dunes, Croyde Burrows, Northam Burrows (buffer zone) and Woolacombe (transition zone) The southern two thirds of Braunton Burrows was National Nature Reserve 1964-1996.
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CURRENT ACTION

An active programme of management has been implemented in recent years to halt the loss of the most species-rich dune habitats at Braunton Burrows. Much of this work has been funded by the current Higher Level Scheme agreement. Excavations have been

carried out to recreate many of the important wet slack habitats that were becoming overgrown with scrub and gradually drying out, thus threatening the survival of several rare species such as water germander, petalwort and the amber sand bowl snail. Large areas of herb rich turf are now being maintained by a combination of scrub clearance, mowing and grazing. The habitat and species diversity on Braunton Burrows has been enhanced by the creation of 31 ponds within the dune system and these need to be periodically managed to conserve the different successional stages with their characteristic plant and animal communities that include specialities such as the crested newt.

Public access to Woolacombe Dunes is managed so as to prevent excessive erosion. There is a fine tuned system of seasonal exclusion through fencing of the northern area of the dunes, excluding people in the summer months and allowing access in winter. This has been fine-tuned over 35 years and works well.

Guided walks & other activities including volunteer tasks such as flora and fauna monitoring, conservation works etc are carried out regularly to fulfil the functions of the Biosphere Reserve.

LINKS TO OTHER BIODIVERSITY ACTION PLANS

	UK BAP	SW BAP	Devon BAP
Habitat Action Plans	Coastal sand dunes	Sand dunes	
Species Action Plans	Fen orchid, early gentian, shore dock, water germander, petalwort, sea bryum moss, dune tiger beetle, sand lizard, great crested newt, amber sand bowl snail, otter, skylark, linnet, song thrush, bullfinch	Early gentian Dune gentian Petalwort Sand lizard Great crested newt	Primrose Great green bushcricket Greater horseshoe bat Pipistrelle bat

OBJECTIVES

- 1 Maintain the current extent, distribution and quality of sand dune areas in north Devon.
- 2 Protect sand dune habitats from all inappropriate uses.
- 3 Ensure all sites of conservation value are managed to maintain and enhance their wildlife value.
- 4 Restore, where appropriate, other sand dune areas to favourable conservation status.
- 5 Foster greater public understanding, awareness and involvement in the management of sand dunes.

	ACTION	TARGET	LEAD DELIVERER	PARTNERS	OBJECTIVE
A	Policy and Legislation				
1	Ensure that planning policies protect sand dunes from inappropriate development, use or neglect.	No loss in sand dune area due to development	NDC, TDC	NE, DCC	1, 2
2	Implement strategies for managing the coastal zone with reference to dune systems at local and regional levels.	Adoption of SMP 2 and regional Coastal Zone Management plan	NDC, TDC, Landowners, MOD	NE, NT	1,2,3,4

ACTION		TARGET	LEAD DELIVERER	PARTNERS	OBJECTIVE
B Site Safeguard and Management					
1	Continue or implement management programmes to conserve site for geomorphological coastal landform processes.	Statutory sites in recovering or favourable geomorphological condition by 2013	NE, Landowners, MoD	NDABS	1,2,3,4
2	Maintain the full successional range of flora and fauna through active habitat recreation	Statutory sites in recovering or favourable SSSI condition by 2010	NE, Landowners	NDC, TDC, NDABS	1,2,3,4
3	Control damaging and invasive species.	Reduction in coverage of invasive species by 20%	NE, Landowners	NDC, TDC, NDABS ,	3
4	Ensure the survival and long term viability of rare species, enhance populations, and reintroduce species as appropriate.	No net loss in rare species or viable populations established	NE, BC, ARC, BDS, Plantlife	Landowners	3
5	Support suitable public access in accordance with above, control damaging access and activities	Access on dunes reviewed in relation to capacity of dune systems	Landowners, NE, NT	NDABS	2,3,5
C Advisory					
1	Provide advisory service to landowners on management for sand dune processes and wildlife.	Provide Landowners with appropriate advice.	NE, NT	DWT	2,3,4

	ACTION	TARGET	LEAD DELIVERER	PARTNERS	OBJECTIVE
D	Research and Monitoring				
1	Identify management requirements of sites, evaluate results of operations on currently managed sites & continue long term monitoring of management, key and rare species & water tables where appropriate.	Site condition survey of all dune sites, statutory and non statutory	NE, Landowners	NT, DBRC	1,3,4
2	Encourage the use of certain dune areas for ecological fieldwork.	Field work carried out	Landowners, NE	NDABS	5
E	Communication, Education and Publicity				
1	Foster increased understanding and awareness of sand dune systems.	Information disseminated through suitable publications, interpretive displays & electronic format.	NE, NT, Braunton Countryside Centre & Northam Visitor Centre	DWT, RSPB	5



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