DORSET LOCAL NATURE RECOVERY STRATEGY HABITAT ASSEMBLAGES

Habitat assemblage:	Species of sand dunes
Broad Habitat type:	Coastlands
S41 and Priority Habitat type:	Coastal Sand Dunes
Composite species assemblages:	Invertebrates of open acid sand dunes and dune slacks Invertebrates associated with sparsely vegetated beaches and strandlines Plants of pioneer, mobile and semi-fixed sand dunes Lichens of acid dune heaths Fungi of acid sand dunes and dune slacks

Habitat assemblage description:	Sand dunes are widespread around the coasts of Britain but are rare on the South Coast of England. Sand dunes are a complex of zones ranging from pioneer dunes on beaches to stabilised grassland or heathland at the back of the system. In larger systems there are often wet dune slacks between the drier ridges. All these zones support different assemblages of species many of which are reliant on nutrient-poor soils and / or open ground with patches of loose sand. In Dorset the 200-hectare dune system Studland is the main site with the largest extent of acid dune-heath in Southern England. There are smaller areas of dunes on the coast from Poole Harbour east to Highcliffe. All our dunes are formed from blown sand derived from the Tertiary cliffs and are therefore acidic in nature. There are a significant number of species that are confined to dune habitat in the county several of which are rare or threatened in Britain. Relict sand dune vegetation is also present on blown sand on the cliff tops at Boscombe and Southbourne Overcliff and on Hengistbury Head. The only dune system in the west of the county was at Small Mouth Sands but is no longer active. Some depth of sand still occurs among the cobbles of Chesil Beach and several rare invertebrates and plants are associated with this habitat.

Other related assemblages:	Species of stabilised and vegetated shingle Species associated with bare ground and pioneer stages of dry and humid heath

Pressures and Threats	
PA08	**Extensive grazing or under-grazing by livestock**
	At Studland the cessation of grazing management in the first half of the 20th Century led to the acceleration of natural succession leading to an increase in scrub, trees and tall vegetation, and a corresponding loss of bare ground and pioneer habitats which support many of the sand dunes specialists. Grazing has recently been reinstated to the area.

PF05	**Sports, tourism and leisure activities**
	Studland beach is a major tourist attraction in the county, the heaviest pressure is during the summer but the area is popular all year round. Around the car parks and access points there is impact on the vegetation with the constant foot-fall leading to localised erosion and the continued disturbance of the sand prevents plants from colonising especially at the front of the dune system and along strandlines. Boardwalks and signage can help to limit the impacts. In some area at Studland in the winter there is disturbance to shorebirds feeding and roosting on the beach. An enclosure established on the end of Mudeford Spit has been successful in controlling public access allowing ringed plover to breed at the site.
PI02	**Other invasive alien species**
	Non-native species can be found in all zones of the dunes system and at Studland rhododendron, pirri-pirri-bur, New Zealand pygmyweed and the moss *Campylopus introflexus* are of particular concern. Elsewhere along the coast from Poole to Highcliffe where the dunes are closer to habitation species have naturalised from nearby gardens and requiring monitoring.
PI03	**Problematic native species**
	The main issue with most dune systems in Britain is that few are now functioning naturally and have become too stable with natural succession leading to closed vegetation and an increase in scrub and trees and a reduction is bare ground and loose sand which supports the bulk of sand dune specialist invertebrates and plants.
PJ04	**Sea-level rise due to climate change**
	Over the long-term sea-level rise is a threat to the habitat and many of the specialist species associated with it.
PJ07	**Cyclones, storms, or tornados due to climate change**
	Any increase in storm events will impact on the dune system causing erosion to the front of the system impacting on those species found mainly in pioneer zones. This will be compounded by sea-level rise.
PK04	**Atmospheric N-deposition**
	Sand dunes are a naturally nutrient-poor habitat low levels of deposition of nitrogen compounds over a long period will lead to enrichment and the increased growth of coarse vegetation resulting in the displacement of those specialist plants requiring open, nutrient-poor substrates by more competitive and faster growing species. This is compounded by lack of management and periodic disturbance resulting in the loss of natural dune dynamics.

Micro-habitat assemblage: Invertebrates of open acid sand dunes and dune slacks

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures							
Beetles	*Cicindela sylvatica*	Wood Tiger Beetle	EN	n/a	n/a	**1**	PA05	PA08	PF05	.	.	.	.	.
Flies	*Tachytrechus ripicola*	long-legged flies	CR	n/a	n/a	**1**	.	.	.	.	.	.	.	.
Hoverflies	*Eumerus sabulonum*		LC	n/a	n/a	**4**	.	.	.	.	.	.	.	.
Wasps	*Oxybelus argentatus*	Silver Spiny Digger Wasp		n/a	n/a	**4**	PF05	.	.	.	.	.	.	.
Wasps	*Oxybelus mandibularis*	Pale Jawed Spiny Digger Wasp	(NT)	n/a	n/a	**3**	PA04	PA05	PA07	PF05	PH04	.	.	.
Wasps	*Tachysphex nitidus*		(NT)	n/a	n/a	**3**	PA04	PA05	PF05	.	.	.	.	.
Bees	*Andrena argentata*	Small Sandpit Mining Bee	.	n/a	DD(ERLB)	**3**	PA05	PF05	PH04	.	.	.	.	.
Bees	*Nomada baccata*	Bear-clawed Nomad Bee	.	n/a	NT(ERLB)	**2**	PA04	PA05	.	.	.	.	.	.
Butterflies	*Hipparchia semele*	Grayling	EN	n/a	n/a	**1**	PA08	.	.	.	.	.	.	.
Moths	*Agrotis ripae*	Sand Dart		n/a	n/a	**4**	.	.	.	.	.	.	.	.
Moths	*Cochylis pallidana*	Sheep's-bit Straw		n/a	n/a	**3**	.	.	.	.	.	.	.	.
Moths	*Gymnancyla canella*	Shore Knot-horn;				**4**	.	.	.	.	.	.	.	.
Moths	*Homoeosoma nimbella*	Sheep's-bit Knot-horn;		n/a	n/a	**3, 4**	.	.	.	.	.	.	.	.
Moths	*Scythris empetrella*	Ling Owlet		n/a	n/a	**3**	.	.	.	.	.	.	.	.
Spiders	*Attulus saltator*	a jumping spider		n/a	n/a	**4**	PA05	PA08	.	.	.	.	.	.
Spiders	*Phlegra fasciata*	a jumping spider	NT	n/a	n/a	**2**	PJ04	PF05	.	.	.	.	.	.
Spiders	*Rhysodromus fallax*	Sand Running-spider	VU	n/a	n/a	**1**	PF05	.	.	.	.	.	.	.
Spiders	*Xerolycosa miniata*	a money spider		n/a	n/a	**4**	PF05	PH04	.	.	.	.	.	.

Micro-habitat assemblage: Plants of pioneer, mobile and semi-fixed sand dunes

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures							
Plants	*Calystegia soldanella*	Sea Bindweed	LC	VU	n/a	**1**	PF04	PF05	PJ04	PJ07	.	.	.	.
Plants	*Eryngium maritimum*	Sea Holly	LC	NT	n/a	**2**	PA05	PA08	.	.	.	.	.	.
Plants	*Jasione montana*	Sheep's-bit	LC	VU	n/a	**1**	PA05	PA08	PK04	.	.	.	.	.
Plants	*Pancratium maritimum*	Sea Daffodil	NE	NE	n/a	**4**	.	.	.	.	.	.	.	.
Plants	*Phleum arenarium*	Sand Cat's-tail	LC	NT	n/a	**2, 4**	PA05	PA08	.	.	.	.	.	.
Plants	*Polygonum maritimum*	Sea Knotgrass	VU	VU	n/a	**1, 4**	PF04	PF05	PJ04	PJ07	.	.	.	.
Plants	*Polygonum oxyspermum* subsp. *raii*	Ray's Knotgrass	LC	LC	n/a	**4**	PF04	PF05	PJ04	PJ07	.	.	.	.
Plants	*Salsola kali*	Prickly Saltwort	VU	LC	n/a	**1**	PF04	PF05	PJ04	PJ07	.	.	.	.

Micro-habitat assemblage: Fungi of acid sand dunes and dune slacks

Group	Species	Common Name	IUCN GB	IUCN Eng	IUCN other	Criteria	Threats / Pressures							
Fungi	*Arrhenia chlorocyanea*	Verdigris Navel	n/a	n/a	n/a	**4**	PA08	PK04	.	.	.	.	.	.
Fungi	*Gymnopulus fulgens*		n/a	n/a	n/a	**4**	.	PK04	.	.	.	.	.	.
Fungi	*Hygrocybe coccineocrenata*	Bog Waxcap	n/a	n/a	NT(Eur)	**2**	PA08	PI02	PI02	PJ04	PJ05	PK04	.	.

Fungi	*Mycena chlorantha*		n/a	n/a	n/a	**4**	PF05	PJ04	.	.	.	.	.	.
Fungi	*Phallus hadriani*		n/a	n/a	n/a	**4**	PF05	PJ04	.	.	.	.	.	.
Fungi	*Psathyrella flexispora*		n/a	n/a	n/a	**4**	PJ04	PK04	.	.	.	.	.	.
Fungi	*Puccinia hydrocotyles*	Rusty Pennies	n/a	n/a	n/a	**3, 4**	PI02	PI02	PJ04	PJ05	.	.	.	.
Fungi	*Sabulooglossum arenarium*	'Sand Earthtongue'	n/a	n/a	n/a	**3, 4**	PA08	PI02	PJ04	PJ05	PK04	.	.	.