EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	Dorset Heaths (Purbeck and Wareham) and Studland Dunes
Unitary Authority/County:	Dorset
SAC status:	Designated on 1 April 2005
Grid reference:	SZ024839
SAC EU code:	UK0030038
Area (ha):	2221.94
Component SSSI:	Arne SSSI, Blue Pool and Norden Heaths SSSI, Brenscombe Heath SSSI, Hartland Moor SSSI, Holton and Sandford Heaths SSSI, Morden Bog and Hyde Heath SSSI, Poole Harbour SSSI, Rempstone Heaths SSSI, Stoborough and Creech Heaths SSSI, Studland and Godlingston Heaths SSSI, The Moors SSSI, Thrasher's Heath SSSI

Site description:

This site, with the Dorset Heaths SAC, covers an extensive complex of heaths that form one of the best developed and most significant tracts of heathland in the lowlands of the UK. There are fine transitions between dry heath, wet heath and acid mire vegetation types, as well as a high diversity of associated habitats such as acid grassland, sand dune, acid oak woods, bog woodland, base-rich mires, fen-meadow, reedswamp and small water bodies.

The dry heath occurs on very infertile soils and is dominated by heather *Calluna vulgaris* growing in association with bell heather *Erica cinerea,* gorse *Ulex europaeus* and dwarf gorse *U. minor*. These heaths are not diverse botanically but occasionally some nationally scarce plants occur, such as mossy stonecrop *Crassula tillaea*, which has a stronghold on the Dorset heathlands. In places, where heather *Calluna vulgaris* occurs in mature stands, lichens of the genus *Cladonia* are very abundant. The dry heath, in conjunction with the wider heathland mosaic, supports important assemblages of animal species that include grasshoppers (Orthoptera), bees and wasps (Hymenoptera), spiders (Arachnida), and all six species of native British reptiles. Some species have a major part of their UK population on these heaths, including silver-studded blue butterfly *Plebejus argus*, heath grasshopper *Chorthippus vagans*, the mason wasp *Pseudepipona herrichii*, sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*.

Typically the wet heaths occupy areas of impeded drainage on the lower sides of valleys and on areas of less steeply sloping ground over more impermeable soils. They are characterised by the dominance of cross-leaved heath *Erica tetralix,* heather, and purple moor-grass *Molinia caerulea,* often in association with the bog-moss *Sphagnum compactum*. Within this SAC the nationally rare Dorset heath *Erica ciliaris* (which readily hybridises with *E. tetralix*), occurs extensively and often in abundance, and this is its principal location in the UK. In many situations the wet heaths grade into examples of other wetland vegetation types. These are usually base-poor, acid mire communities and include a widespread presence of the more floristically rich *Rhynchosporion* associated with depressions on peat in bog pool and flush situations. White beak-sedge *Rhynchospora alba,* round- and oblong-leaved sundews *Drosera rotundifolia* and *D. intermedia,* and the bog-mosses *Sphagnum auriculatum and S. pulchrum* are among the typical species. The wet heaths and acid mires support a diverse group of nationally rare and scarce species. Among the plants these include bog orchid *Hammarbya*

paludosa, and national population strongholds for brown beak-sedge *Rhynchospora fusca*, marsh gentian *Gentiana pneumonanthe* and marsh clubmoss *Lycopodiella inundata*.

The valley mires contain small pockets of wet woodland but most of these appear to be of recent origin. However, at Morden Bog a bog woodland stand is of ancient origin, as shown by its pollen record and old maps. The woodland is dominated by downy birch *Betula pubescens* with a ground flora consisting of greater tussock sedge *Carex paniculata* and purple moor-grass. There is a rich epiphytic lichen assemblage, again indicating the persistence of this area of bog woodland.

At Studland there is a large acidic dune system. The structure and function are well conserved with dune-building processes still active. Embryonic shifting dunes initiate the very clear successional sequence of dune communities and there are well-developed examples of both sand couch *Elytrigia juncea* and lyme-grass *Leymus arenarius*-dominated communities. Shifting dunes form the next stage of the successional sequence and the seaward dune ridge supports marram *Ammophila arenaria* vegetation. There are transitions to embryonic dunes, and to decalcified fixed dunes and dune heath. The dune heath occupies a series of dune ridges, which have developed over a period of several hundred years. This dry open heath is especially important for sand lizards.

Acidic humid dune slack communities with a high water table lie in the parallel hollows between the dune ridges. In these slacks, wet heath, acid mire and reedbeds have developed. Some areas are dominated by grey willow *Salix cinerea* and birch *Betula* sp. carr with the very local royal fern *Osmunda regalis* a conspicuous element. The dune slacks are linked to the Little Sea, which is a shallow lake of recent origin (<500 years old), formed as a large body of seawater became landlocked by the growing sand dunes (hence the name Little Sea). This water is now fresh and is replenished by acidic, nutrient-poor water draining off the adjacent heathland, which then flows through the dune slacks and into the sea. The submerged vegetation is characterised by communities of alternate water-milfoil *Myriophyllum alterniflorum*, shoreweed *Littorella uniflora* and spring quillwort *Isoetes echinospora*, together with bladderwort *Utricularia australis* and less frequently six-stamened waterwort *Elatine hexandra*.

To the north of the Purbeck chalk ridge and in places elsewhere, spring-fed water flushes the heathland wetlands. This base enrichment gives rise to mires characterised by the presence of black bog-rush *Schoenus nigricans* and species rich fen-meadows that conform to the purple moor-grass *Molinia caerulea* – meadow thistle *Cirsium dissectum* community. Near Poole Harbour a further type of wetland, saw sedge *Cladium mariscus* fen, occurs very locally.

The heathland wetlands together with numerous small water bodies form a stronghold for invertebrates, particularly dragonflies and damselflies (Odonata) such as small red damselfly *Ceriagrion tenellum* and southern damselfly *Coenagrion mercuriale*, some grasshoppers notably large marsh grasshopper *Stethophyma grossum*, butterflies and moths (Lepidoptera), beetles (Coleoptera) and spiders. Some of the ponds, particularly towards the edges of the heathland area where there is base enrichment of the groundwater, support populations of great crested newt *Triturus cristatus*.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Alkaline fens. (calcium-rich springwater-fed fens)
- Atlantic decalcified fixed dunes (*Calluno-Ulicetea*). (Coastal dune heathland)*
- Bog woodland*
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*. (Calcium-rich fen dominated by great fen sedge (saw sedge))*
- Depressions on peat substrates of the *Rhynchosporion*

- Embryonic shifting dunes
- European dry heaths
- Humid dune slacks
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*). (Purple moor-grass meadows)
- Northern Atlantic wet heaths with *Erica tetralix*. (Wet heathland with cross-leaved heath)
- Old acidophilous oak woods with *Quercus robur* on sandy plains. (Dry oak-dominated woodland)
- Oligotrophic waters containing very few minerals of sandy plains: *Littorelletalia uniflorae*. (Nutrient-poor shallow waters with aquatic vegetation on sandy plains)
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes). (Shifting dunes with marram)
- Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix*. (Wet heathland with Dorset heath and cross-leaved heath)*

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Southern damselfly *Coenagrion mercuriale*
- Great crested newt *Triturus cristatus*

Annex I priority habitats are denoted by an asterisk (*).

This citation relates to a site entered in the Register of European Sites for Great Britain.
Register reference number: UK0030038
Date of registration: 14 June 2005

Signed: Trevor Salmon

On behalf of the Secretary of State for Environment, Food and Rural Affairs