

COUNTY: DORSET      SITE NAME: ARNE

DISTRICT: PURBECK

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981, as amended

Local Planning Authority: PURBECK DISTRICT COUNCIL, Dorset County Council

National Grid Reference: SY 966880      Area: 563.4 (ha.) 1392.2 (ac.)

Ordnance Survey Sheet 1:50,000: 195      1:10,000: SY 98 NE, NW

Date Notified (Under 1949 Act): 1952      Date of Last Revision: –

Date Notified (Under 1981 Act): 1986      Date of Last Revision: –

Other Information:

A large part is a nature reserve owned and managed by the RSPB. Adjoins Poole Harbour, The Moors and Stoborough and Creech Heaths SSSIs, to which some areas have been transferred.

Site further amended by deletion.

Description and Reasons for Notification:

The Arne Peninsula lies on the southern shore of Poole Harbour and holds an extensive area of lowland heathland on the Bagshot Beds with diverse plant and animal communities of dry heath, wet heath and bog, which show many characteristics typical of Purbeck heaths. There are fine transitions from heathland into saltmarsh, reed swamp, coniferous and deciduous woodland and the site contains a geological exposure of high fossil plant interest.

The geological exposure is one of only two sites yielding fossil plants from the Dorset Pipe Clays, of lower Eocene age. This is of considerable significance as these deposits are the probable fluvialite ('river-lain') facies equivalents of the marine London clay with its world famous flora. The flora here consists mainly of angiosperm fruits and seeds, many of which represent tropical trees and lianas. Thirty-nine species have been recorded, with ten species and one genus restricted to this site in the British Tertiary succession.

The dry heathland on the higher and sloping ground is largely dominated by Ling *Calluna vulgaris* with Bell Heather *Erica cinerea*, Bristle Bent *Agrostis curtisii*, Dwarf Gorse *Ulex minor* and scattered patches of Common Gorse *U. europaeus*. In places Bracken *Pteridium aquilinum* dominates and there are stands of Scots pine *Pinus sylvestris*, Maritime Pine *P. pinaster* and Silver and Downy Birches *Betula pendula* and *B. pubescens*. Where the heath becomes wetter on lower ground and where there is impeded drainage, Cross-leaved Heath *Erica tetralix* and the rare Dorset Heath *Erica ciliaris*, Ling and Purple Moor-grass *Molinia caerulea* are the dominant species, the last forming deep

tussocks in some areas. Typical mosses of the wet heath are *Sphagnum compactum* and *S. tenellum* and in the south of the site there are strong populations of the very scarce Marsh Gentian *Gentiana pneumonanthe*. Lichens of the genus *Cladonia* are abundant, especially in damp and wet heathland. Locally, where the water table is permanently high, mire communities have developed and, particularly in the south of the site, there are extensive areas of reed swamp. Where mire and wet heath give way to reed swamp or saltmarsh, Black Bog-rush *Schoenus nigricans* and Blunt-flowered Rush *Juncus subnodulosus* are frequent.

Wet woodland is dominated by Downy Birch and Common Sallow *Salix cinerea*, the latter frequently with a luxuriant covering of epiphytic lichens. The bog moss *Sphagnum fimbriatum* covers large areas of wet ground and in places the uncommon Royal Fern *Osmunda regalis* occur. Drier woodland is dominated by Silver Birch and Pedunculate Oak *Quercus robur* locally with Hazel *Corylus avellana*, and occasionally the invasive *Rhododendron ponticum*. There is a good epiphytic lichen flora which includes several species normally characteristic of ancient woodland.

Included in this and the two adjacent SSSI's are road verges with exceptionally high botanical interest. Some of their plants, such as Dorset Heath and Marsh Gentian, are those of the adjoining heaths, but the use of calcareous material in road construction – at a time when nearby grassland was still 'unimproved' – has produced neutral and moderately calcareous conditions. This, together with annual cutting, has given rise to rich 'hay meadow' communities. In addition to a great variety of grasses and flowering plants, the uncommon Adder's-tongue Fern *Ophioglossum vulgatum* is locally frequent and the related but scarcer Moonwort *Botrychium lunaria* is also recorded. Orchids are a prominent and attractive feature of the verges in early summer with large numbers of Marsh and Spotted Orchids *Dactylorhiza praetermissa*, *D. maculata* and *D. fuchsii* occurring with their hybrids. There are also fine stands of the local Marsh Helleborine *Epipactis palustris*.

There is a rich invertebrate fauna. Dragonflies and damselflies are particularly well represented with 18 species including the very local Downy Emerald *Cordulea aenea* and Small Red Damselfly *Ceriagrion tenellum* as well as the Scarce Ischnura *Ischnura pumilio*. Butterflies include the Silver-studded Blue *Plebejus argus*, local and confined mainly to heathland. Over 800 species of moths have been recorded which include the rare heathland species, Speckled Footman *Coscinia cribraria* and Dingy Mocha *Cosymbia pendularis*; Reedbeds hold Flame Wainscot, *Meliana flammea*, a very rare species, and the local Narrow Bordered Bee Hawk *Hemaris tityus* is found on heathy grassland. The site has also yielded records of rare solitary wasps, beetles, dipteran flies and craneflies and Arne is one of the few localities for the salidid bug *Salidala setulosa*. The heathlands are rich in spiders with over 200 species recorded. These include *Scotina palliardi*, *Zora armillata* and *Walekenaera incisa* all of which are known from only a few other localities in Britain. Grasshoppers and crickets include the rare Heath Grasshopper *Chorthippus vagans* and scarce

Long-winged Conehead *Conocephalus discolor*. The local Lesser Cockroach *Ectobius panzeri* is also frequent.

The Arne Peninsula, with its extensive dry heathland and scattered gorse is a very important area for the rare Dartford Warbler *Sylvia undata*. Nightjar *Caprimulgus europaeus*, an uncommon and decreasing bird, also breeds here; Hen Harrier *Circus cyaneus* is a frequent winter visitor and the diversity of habitat afforded by this site results in good numbers of commoner birds. The dry heathland supports strong populations of the rare and specially protected heathland reptiles, Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca*.