

COUNTY: DORSET SITE NAME: POOLE HARBOUR

DISTRICT: POOLE, PURBECK

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981, as amended. Parts of the site are National Nature Reserve (NNR) declared under Section 19 of the National Parks and Access to the Countryside Act 1949.

Local Planning Authority: PURBECK DISTRICT COUNCIL, Poole Borough Council, Dorset County Council

National Grid Reference: SZ 000890 Area: 4049 (ha.) 10,006 (ac.)

Ordnance Survey Sheet 1:50,000: 195 1:10,000: SY 99 SE,
SW, 98 NE, NW, SZ 09 SW, 08 NW, SW

Date Notified (Under 1949 Act): 1964 Date of Last Revision: 1977

Date Notified (Under 1981 Act): 1990 Date of Last Revision: –

Other Information:

Formerly notified as Poole Harbour Marshes, Mudflats and islands SSSI. Parts of this former site have been incorporated into adjoining SSSIs, with the boundary further amended by extension and deletion. The site is listed in 'A Nature Conservation Review', Ed. D. A. Ratcliffe (Cambridge University Press 1977) and meets the criteria for designation as a Special Protection Area under the European Community Directive and as a wetland of international importance under the RAMSAR Convention. The site incorporates the Arne Reedbeds NNR and the shorelines of the Studland and Godlingston Heaths NNR, Holton Heath NNR and Arne RSPB nature reserve. Brownsea Island is owned by the National Trust and part is managed as a nature reserve by the Dorset Trust for Nature Conservation.

Description and Reasons for Notification:

Poole Harbour is one of the largest natural harbours in the world, a very high proportion of its area comprising intertidal marshes and mudflats. These, together with the permanent channels, support large numbers of wintering wildfowl and waders, for which Poole Harbour has national and international significance. Fringing habitats of heathland, grassland and the islands provide additional interests, in turn supporting further scarce and restricted flora and fauna. Several rare marine invertebrates also occur within the harbour.

Covering an area of nearly 4,000 ha., Poole Harbour occupies a shallow depression in the acidic, Tertiary deposits towards the south-western extremity of the Hampshire Basin and has been formed over the past 5,000 years by a rising sea level. The 4 main islands represent high ground between former river valleys and these now have fringing marshes and in places cliffs cut in the underlying sands and clays. A relatively low volume of freshwater from several

small rivers enters the Harbour and this, together with a narrow entrance and shallow form, provide poor flushing characteristics, giving rise to extensive intertidal mudflats and saltmarshes. Tides are variable but of low vertical range and with a 'double high' phenomenon causing water to be held at or above mean level for 16 out of 24 hours. The original heathland landscape in which the Harbour is set has been severely modified by human activity, particularly in the past 200 years, but some remaining natural transitions from saltmarsh to bog and heathland still occur. Grazing marshes and fragments of fen and carr woodland also persist, with extensive reedswamp fringes. The north-eastern shores are mostly urbanized to high water mark.

Deep water channels maintained by natural scour supplemented by dredging are restricted: some 80% of the Harbour area comprises inter-tidal, fine-grained mud, sandflats and marshes. The variety of inter-tidal and sub-tidal habitats reflects the range of substrate types and degree of exposure. Most marine invertebrate species are of widespread distribution but, especially in the case of the sheltered intertidal bays, often are in very large numbers. Associated with subtidal fine sands of the central Harbour are species-rich communities dominated by beds of the tube worm *Sabella pavonina*: such extensive beds represent a habitat not so well developed elsewhere. Whilst species diversity is generally low, Poole Harbour is notable in supporting several rare and restricted marine invertebrates. The sponge *Suberites massa*, rarely recorded in British waters, is locally abundant on suitable substrates together with an interesting community of Sea squirts, Ascidians and Sea mats, Bryozoans. Among these *Anguinella palmata* and *Farella repens* are also rare. The Starlet Sea Anemone *Nematostella vectensis* is a rare species found only in a few similar lagoonal situations and the mollusc *Aeolidiella sanguinea* is otherwise only recorded from western Ireland.

The mud and sandflats are mostly fringed on their landward sides by saltmarshes or stands of Common Reed *Phragmites australis*. Much of the saltmarsh is dominated by Common Cord Grass *Spartina anglica* which arose as a hybrid and rapidly colonized several south coast estuaries earlier this century. Some retreat or 'die-back' is now occurring across its range in southern Britain. The mid and higher level saltmarshes are characterised by more diverse communities with many typical saltmarsh species present. The local Shrubby Seablite *Suaeda vera* occurs in places, towards the western limit of its distribution in Britain.

These fringes of saltmarsh or reed are important for several nesting birds such as Bearded Tit *Panurus biarmicus* associated with reed stands and a particularly high density of nesting Redshank *Tringa totanus* on some of the marshes. The small colonies of Blackheaded Gulls *Larus ridibundus* mostly on the islands sometimes shelter a pair of Mediterranean Gulls *L. melanocephalus* and on Brownsea locally important colonies of Sandwich and Common Terns *Sterna sandvicensis* and *S. hirundo*. The expanse of intertidal flats with large populations of invertebrates is of great importance as a feeding resource for large numbers of wading birds and wildfowl in winter. These wintering birds have been recorded in Poole Harbour over the past 3 decades and at least 14 species regularly attain levels in excess of 1% of their British populations. Two species, Black-tailed Godwit *Limosa limosa* and Shelduck *Tadorna tadorna*, also

regularly occur at internationally significant levels, with an excess of 1% of their western European populations present. In addition to the intertidal feeding areas, adjoining grasslands, notably at Keyworth and in the Lower Frome Valley, are important as feeding sites and high water roosts.

Poole Harbour SSSI adjoins a number of other SSSIs, notably heathland on its southern and western margins, but does include some areas of these fringing habitats, particularly at Lytchett Bay. The reedswamp merges with acidic bog communities which then grade into wet and dry heathland. There is also dry heathland of the Heather *Calluna vulgaris*/Western Gorse *Ulex gallii* type on the islands, though this has been reduced in extent through tree planting and invasion. The open dry heathland at Brownsea is particularly notable for its lichen assemblage which is of national importance. Some areas of heathland on the islands are regularly mown as lawns, modifying the vegetation to acidic grassland with heath species and a high moss content.

Wetter grasslands occur on the Harbour shores with neutral, herb-rich swards at Lytchett and more extensive brackish grazing marshes at Keyworth, the latter dominated by Creeping Bent *Agrostis stolonifera*, with frequent Strawberry Clover *Trifolium fragiferum* and Narrow-leaved Bird's-foot-trefoil *Lotus tenuis*. Wet woodlands of Birch and Sallow adjoin these areas, whilst particularly on the islands, stands of Scots and Maritime Pines *Pinus sylvestris* and *P. maritima* dominate the drier soils. Here there are populations of the rare and protected Red Squirrel *Sciurus vulgaris* and also on Brownsea the largest colony of nesting Grey Heron *Ardea cinerea* in Dorset with about 100 pairs present.

This range of habitats and their continuity with one another supports several scarce and restricted species. The nationally scarce Hairy Dragonfly *Brachytron pratense* and Small Red Damselfly *Ceriagrion tenellum* are recorded from heathland in the site, as is the Silver-studded Blue Butterfly *Plebejus argus*. The rare shore bug *Saldula setulosa* is recorded only from Poole Harbour, on sandy areas near high water mark and the rare and endangered ground beetle *Drypta dentata* occurs on Brownsea. Both of these insects are listed in the Red Data Book.