File ref:

County: Hampshire **Site Name: Portsmouth Harbour SSSI**

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

Local Planning Authority: Hampshire County Council, Gosport Borough Council, Fareham Borough Council, Portsmouth City Council

National Grid Reference: SU 620035

Ordnance Survey Sheet 1:50,000: 196 **1:10,000:** SU 50 NE, SE; SU 60 NW, SE, SW; SZ 69 NW

Area: 1,266.09 (ha) 3,128.50 (ac)

Date Notified (Under 1949 Act): 1974 **Date of Last Revision: –**

Date Notified (Under 1981 Act): 21 March 1985 **Date of Last Revision:** 29 October 1992

Confirmed: 22 July 1993

Other Information:
Pewit Island (SU 608038) is a Hampshire and Isle of Wight Naturalists' Trust nature reserve.

The SSSI was extended in 1992 to include intertidal areas omitted at the earlier notifications. These include Brick Kiln, Forton, Haslar and Tipner Lakes.

Reasons for Notification:
Portsmouth Harbour is the westernmost of three extensive and connected tidal basins – Portsmouth, Langstone and Chichester Harbours – which share physical characteristics and, in many respects, should be seen as a single biological system. At high water they resemble large, nearly land-locked shallow lagoons. At low water extensive mudflats are exposed which are drained by systems of channels and creeks which, in each harbour, unite to form a narrow exit to The Solent through which the tide runs rapidly on the ebb. The harbours have a salinity approximating to that of the sea but they do receive some fresh water from springs arising in the intertidal zone, and from a number of small streams, the largest of which is the River Wallington, which flows into Fareham Creek, the westernmost channel of Portsmouth Harbour.

The intertidal area of Portsmouth Harbour includes 776ha (1,939 acres) of mudflats and about 173ha (432 acres) of cord-grass *Spartina* marshes. The muds comprise fine silts and organic matter, though over extensive areas angular flint gravel occurs commonly at the surface and similar material forms a beach at high water mark and a floor to the channels. The mudflats support an abundant fauna of benthic marine animals, though of a total fauna of about 60 species, only about ten occur in very large numbers. Of these, however, some occur at very high densities and form the main food sources for shorebirds. The mud surfaces support extensive beds of eelgrasses *Zostera noltii* and *Z. angustifolia* and extensive areas of the mudflats support a high density of green algae, mainly *Enteromorpha* species and *Ulva lactuca* in summer. In general terms the eelgrasses and algae are mutually exclusive in distribution on the mudflats. The eelgrass beds are among the most extensive in Britain and Portsmouth

Harbour is one of only four intertidal areas on the south coast to support extensive eelgrass beds. The beds have a rich associated benthic and epiphytic fauna and algal fauna and the eelgrass itself is an important food of the Brent goose.

The cord-grass marshes occur on mudflats in the upper part of the tidal range and are dominated by *Spartina anglica*. The marshes derive from colonisation of open mud since the late 19th century, and in maturity formed extensive monospecific stands of *Spartina anglica* growing on elevated platforms of accreted mud dissected by ramifying systems of drainage creeks. However, the maturing of the marshes has been succeeded by a phase of recession in which the plants are dying back and the platforms of accreted mud are eroding and slumping back to an approximation of the former mudflat profile. This process is widespread on the central south coast and is itself of great scientific interest. At the uppermost levels of the *Spartina* marshes *Spartina* is replaced locally by saltmarsh dominated by sea purslane *Halimoine portulacoides*. At their highest levels these marshes grade to tussocky grassland dominated by sea couch *Elymus pycnanthus* and on Pewit Island this grassland has in turn been colonised by oak and blackthorn scrub. The nationally scarce golden samphire *Inula crithmoides* occurs at the upper limits of sea purslane marsh and at the toe of some sea walls.

The biological richness and productivity of Portsmouth Harbour is reflected in the numbers of wetland birds, particularly waders and wildfowl, which it supports. A wide range of feeding adaptations are represented among the species occurring in large numbers, which include waders and ducks dependent on the benthic invertebrates of mudflats and shallow waters; Brent geese and wigeon, which feed on eelgrass and algae; and an array of diving birds which depend on small fish, crustaceans and molluscs sought in the channels at low water and in shallow water over the mudflats at high water. Portsmouth Harbour is of national importance for the numbers of three species of waders (grey plover, black-tailed godwit and dunlin) it supports and is of national importance for the numbers of dark-bellied Brent geese which over-winter there. The total numbers of waders and wildfowl present has at times exceeded 20,000.

The SSSI includes two brackish lagoons adjoining Haslar Lake in the south-west of the Harbour. Brackish lagoons in which there is little rise or fall in water levels support a narrow range of species which are, however, highly specialist to lagoonal conditions. The fauna and flora of Little Anglesey Lake (= lagoon) is the most diverse known in lagoons in south-east England. Cockle Pond has a less diverse fauna but includes, in common with Little Anglesey Lake, populations of both the starlet sea anemone *Nematostella vectensis* and the lagoon sand shrimp *Gammarus insensibilis*, which are specially protected by Section 9(5) and Schedule 5 of the Wildlife and Countryside Act 1981.

The SSSI also includes a small area of terrestrial habitat extending along the southern side of Horsea Island, where chalk spoil dumped early in the 20th century supports a rich chalk grassland flora invaded by hawthorn. The flora includes about 30 species with narrow habitat tolerances or of decided rarity in Britain, including five species of orchids and three species of the pea family. The grassland is dominated by red fescue *Festuca rubra*, creeping bent *Agrostis stolonifera* and quaking grass *Briza media*, with abundant herbs such as lady's bedstraw *Galium verum*, eyebright *Euphrasia* species, rough hawkbit *Leontodon hispidus*, common bird's-foot trefoil *Lotus corniculatus*, and cowslip *Primula veris*. Typical chalk-loving species include kidney vetch *Anthyllis vulneraria*, yellow-wort *Blackstonia perfoliata*, stemless thistle *Cirsium acaule*, autumn gentian *Gentianella amarella*, salad burnet *Sanguisorba minor* and the nationally scarce species yellow vetch *Vicia lutea*, tuberous pea *Lathyrus tuberosus* and yellow vetchling *L. aphaca*.