

COUNTY: KENT SITE NAME: SANDWICH BAY AND HACKLINGE
MARSHEs

DISTRICTS: THANET/DOVER

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

Local Planning Authority: THANET DISTRICT COUNCIL/DOVER
DISTRICT COUNCIL

National Grid Reference: TR 353585 Area: 1756.5 (ha.) 4338.6 (ac.)

Ordnance Survey Sheet 1:50,000: 179 1:10,000: TR 35 NE, NW, SE,
SW; TR 36 SW, SE

Date Notified (Under 1949 Act): 1951 Date of Last Revision: 1981

Date Notified (Under 1981 Act): 1984 (part) Date of Last Revision: 1994
1985 (part)
1990

Other Information:

Parts of the site are listed in 'A Nature Conservation Review' and in 'A Geological Conservation Review'². The nature reserve at Sandwich Bay is owned jointly by the Kent Trust for Nature Conservation, National Trust and Royal Society for the Protection of Birds. The site has been extended to include a Kent Trust designated Site of Nature Conservation Interest known as Richborough Pasture and there are several other small amendments.

Reasons for Notification:

This site contains the most important sand dune system and sandy coastal grassland in South East England and also includes a wide range of other habitats such as mudflats, saltmarsh, chalk cliffs, freshwater grazing marsh, scrub and woodland. Associated with the various constituent habitats of the site are outstanding assemblages of both terrestrial and marine plants with over 30 nationally rare and nationally scarce species, having been recorded. Invertebrates are also of interest with recent records including 19 nationally rare³, and 149 nationally scarce⁴ species. These areas provide an important landfall for migrating birds and also support large wintering populations of waders, some of which regularly reach levels of national importance⁵. The cliffs at Pegwell Bay are also of geological interest.

Biological Interest

The sand dunes which stretch from the mouth of the River Stour to Deal comprise the most outstanding botanical habitat within the site. The dunes and associated dune slacks and coastal grassland support a distinctive flora with species including crown garlic *Allium vineale*, viper's bugloss *Echium vulgare*, sea holly *Eryngium maritimum* and restharrow *Ononis repens*, whilst the nationally

rare³ lizard orchid *Himantoglossum hircinum* and bedstraw broomrape *Orobanche caryophyllacea* have their largest British colonies here. Many continental species have been recorded from the dunes and the dune grassland also support a high diversity of clover *Trifolium* species and many other leguminous plants.

The dunes support a diversity of invertebrates many of which are associated with warm dry conditions and include the nationally rare³ carthusian snail *Monacha cartusiana* and the nationally scarce⁴ grey bush cricket *Platycleis albopunctata*. The nationally rare³ moths restharrow *Aplasta ononaria*, pygmy footman *Eilema pygmaeola pygmaeola* and brightwave *Idaea ochrata* have also been recorded, whilst one of the damp hollows supports the only British colony of the moth *Stigmella zelleriella*, the larvae of which mine in leaves of creeping willow *Salix repens var. argentea*.

The chalk coastline around Pegwell Bay comprises a considerable diversity of cliff and cave habitats which support a range of marine algal communities. The area is the type locality for one algal genus and three species new to science *Chrysonema*, *C. littorale*; *Chrysotila lamellosa*, *Chrysotila stipitata* and is one of the sites where Anand (1937) undertook pioneer ecological investigations. Typical chalk-cliff zonation comprises a 'Chrysophyte' zone (mainly *Apistonema carterae*) at supralittoral levels. *Enteromorpha* spp. and other green algae and the lichen *Arthrogyrenia halodites* at upper littoral levels; a turf of small filamentous red, brown and green algae is predominant at lower levels. The caves contain 'Chrysophyte' communities with species such as *Chrysonema littorale* and *Thallochrysis littoralis*, together with other typical cave species such as *Pilinia rimosa* and *Pseudendoclonium submarinum*.

Foreshore algal communities are typical of wave-washed shores, low in species diversity, although a unique feature (not seen on other chalk platforms in southeast England) of lower littoral levels is the dense population (zone-forming) of the Sand-Mason worm *Lanice conchilega* forming a bank extending for 100 m by the Ramsgate Western Esplanade.

The saltmarsh comprises a diversity of characteristic plants dominated by salt-marsh grasses such as *Puccinellia maritima* and common cord-grass *Spartina anglica*. Other abundant species include sea purslane *Halimione portulacoides*, sea aster *Aster tripolium*, sea lavender *Limonium vulgare* and the nationally scarce⁴ golden samphire *Inula crithmoides*. South of the River Stour saltmarsh grades into the sand dune system; this is the only Kent site for the long-bracted sedge *Carex extensa*, and also provides suitable conditions for a dense growth of the nationally scarce⁴ sharp rush *Juncus acutus*. Below the cliff at Cliffsend Point, where freshwater springs emerge at the foot of the cliff, the saltmarsh grades into a swampy type of vegetation where common reed *Phragmites australis* and common reedmace *Typha latifolia* predominate.

Further inland, the grazing marsh and associated dykes provide suitable conditions for a wide range of plants and animals. The grassland is dominated by

grasses such as meadow barley *Hordeum secalinum*, meadow foxtail *Alopecurus pratensis* and crested dog's tail *Cynosurus cristatus*. Some of the more uncommon broadleaved herbs that have been recorded, especially narrow leaf bird's-foot-trefoil *Lotus tenuis*, adder's tongue *Ophioglossum vulgatum*, strawberry clover *Trifolium fragiferum* and divided sedge *Carex divisa*⁴. A more unusual vegetation type found within the site is the relict fen vegetation. This is found in and around the dykes of the farmland and in the marshes at Hacklinge. Fen plants such as ragged robin *Lychnis flos-cuculi*, bog pimpernel *Anagallis tenella* and greater spearwort *Ranunculus lingua* occur here, most of these are now scarce in Kent. In addition the dykes contain a number of scarce aquatic plants including whorled water-milfoil *Myriophyllum verticillatum*⁴, fen pondweed *Potamogeton coloratus*⁴ and river water-dropwort *Oenanthe fluviatilis*⁴. This area is also the only known locality in SE England for least bur-reed *Sparganium minimum*. The wet alder wood at Ham Brooks also contains uncommon plants including great fen-sedge *Cladium mariscus*.

The ornithological interest of Sandwich Bay and Hacklinge Marshes is centred on the large numbers of waders and wildfowl which use the area in winter and during the Spring and Autumn migrations. Dunlin *Calidris alpina* is usually the most common wader present, found particularly on the mudflats where the rich invertebrate fauna also attracts a wide range of other common species such as oystercatcher *Haematopus ostralegus*, curlew *Numenius arquata*, and redshank *Tringa totanus*. Grey plover *Pluvialis squatarola* and sanderling *Calidris alba* both overwinter in nationally important numbers⁵, whilst ringed plover *Charadrius hiaticula* also occurs in nationally important numbers⁵ during migration. Wildfowl that occur on the site include mallard *Anas platyrhynchos*, shelduck *Tadorna tadorna* and occasionally brent goose *Branta bernicla*.

Many of the birds use more than one habitat, some for example feed on the mudflats at low tide and then move up to roost on the saltmarsh or grazing marsh.

Breeding birds include ringed plover, oystercatcher and little tern *Sterna albifrons*, a species specially protected by law and listed on Schedule 1 of the Wildlife and Countryside Act 1981. Inland areas are also of interest supporting two nationally rare species of breeding birds.

Geological Interest

Parts of the site are also of geological interest. The 16" shell bed at the base of the Reculver Silts (Thanet Formation) contains an important fish fauna. This is preserved as disarticulated fish debris, including a diversity of identifiable shark teeth. There is no other Thanetian site in Western Europe with this diversity of fauna which includes many, as yet, undescribed species plus the earliest records of other known Tertiary forms. The outcrop has very great significance because it is the only outcrop which shows the bottom living fish assemblage which was subsequently destroyed by the North Sea volcanicity, for the ash falls by these volcanoes brought about an extinction event. Interesting conclusions can be drawn from this local extinction and the later recolonisation of the area; for example unspecialised, bottom living sharks survive across the event, presumably because

a stock that was living elsewhere at the time was able to migrate back to this part of the basin and recolonise.

At Pegwell Bay the Upper Chalk is overlain by the basal Tertiary beds of the Thanet Sands. The junction is marked by the celebrated 'Bull-head Bed', an *in situ* weathering residue of unabraded flint nodules. This is a key section showing a demonstrable and regionally significant unconformity. Pegwell Bay is also the most important site for loess studies in Britain. The section shows up to 4 m of Devensian loess overlying Upper Chalk and Thanet Beds. The loess, an accumulation of wind-blown dust produced under periglacial conditions during the Ice Age is probably thicker here than at any other site in Britain, and is certainly the most closely studied example. Although leached in its upper part, the loess is calcareous below, with rootlet tubes and small concretions. Where the loess rests on the Chalk, there is often a highly frost-shattered zone with well developed involutions. In one part of the section where an infilled channel is cut into the frost-shattered chalk, the loess overlies chalky-flinty gravels and loams produced by solifluction. Pegwell Bay provides the best exposures of true loess deposits in Britain. They are exceptional in having escaped modification by solifluction; no other site provides such useful sections in highly calcareous loess that has not been reworked.

¹ *'A Nature Conservation Review'*: edited by D A Ratcliffe. Cambridge University Press 1979.

² *A Geological Conservation Review*: in preparation.

³ Species regarded as 'rare' in Britain (recorded from 1–15 10 × 10 km squares) and listed in *British Red Data Books*.

⁴ Species regarded as 'scarce' in Britain (recorded from 16–100 10 × 10km squares).

⁵ *Wildfowl and Wader Counts* 1988–1989. D G Salmon et al, Wildfowl Trust 1989.