

COUNTY: EAST SUSSEX

SITE NAME: PEVENSEY LEVELS

DISTRICT: WEALDEN, ROTHER

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981. Part of this site has been designated a National Nature Reserve under Section 16 of the National Parks and Access to the Countryside Act 1949.

Local Planning Authority: WEALDEN DISTRICT COUNCIL, Rother District Council

National Grid Ref: TQ 650070

Area: 3501.0 (ha.) 8650.9 (ac.)

Ordnance Survey Sheets 1:50,000: 199

1:10,000: TQ 60 SW, TQ 60 SE,
TQ 60 NW, TQ 60 NE,
TQ 61 SW, TQ 61 SE,
TQ 70 NW

Date Notified (Under 1949 Act): 1977

Date Notified (Under 1981 Act): 1990

Other Information:

This site is listed in 'A Nature Conservation Review' and part is a National Nature Reserve.

Reasons for Notification:

Pevensey Levels is a large area of low-lying grazing meadows intersected by a complex system of ditches which show a wide variety of form and species composition and support important communities of wetland flora and fauna. The site supports one nationally rare and several nationally scarce aquatic plants and many nationally rare invertebrates. Ornithologically, the site is of national importance as the number of wintering lapwings has regularly exceeded 1% of the total British population in recent years.

Geologically, the Levels are located where impervious Weald Clay reaching the coast has been overlain by superficial alluvial deposits. In places, however, the Weald Clay itself forms out-crops, as at Hooe Eye, and Tunbridge Wells Sands reach the surface occasionally, as on part of Horse Level. Once an area of intertidal mud flats, the Levels have developed in turn to salt marsh and fresh water marsh. This process has been aided by the deposition of shingle beach deposits, by the process of longshore drift, along the present coastline. This shingle ridge now protects the Levels from sea water inundation, since most of the site lies below the level of highest tide. Past intersection of the marshes by a series of ditches has created the present-day area of rich grazing meadows.

The ditch system facilitates removal of surface water to enable successful stock grazing, at the same time acting as a network of 'wet fences' and as a source of stock drinking water. Maintenance of the ditches is necessary to continue efficient execution of these functions and also creates a wide variety of ditch types from intensively or

recently dredged ditches to neglected ones. In this way a wide variety of floral conditions prevail and the specific requirements of certain invertebrates are always catered for. Following the dredging of a clogged ditch a distinct successional pattern occurs. First, floating and submerged aquatic plants such as duckweeds *Lemna sp.*, pondweeds *Potamogeton sp.* or water fern *Azolla sp.* colonize. These are followed by larger, floating or emergent plants such as frog-bit *Hydrocharis morsus-ranae*, bur-reed *Sparganium erectum* and arrow-head *Sagittaria sagittifolia*. Finally, common reed *Phragmites australis* becomes dominant at the expense of most other species. If left undredged the ditches may dry up and become scrubbed over with drastic effects on plant and animal diversity.

The most species-rich ditches show a varied structure and a good mixture of both open water and emergent species. The broad-leaved pondweed *Potamogeton natans* and frog-bit are abundant, whilst the nationally rare* sharp-leaved pondweed *Potamogeton acutifolius* (RDB:** Vulnerable) is of particular importance. Other open water species include ivy-duckweed *Lemna trisulca* and the nationally scarce⁺ water-soldier *Stratiotes aloides* and flat-stalked pondweed *Potamogeton friesii*. Numerous other pondweeds are found here including shining pondweed *Potamogeton lucens*, curled pondweed *P. crispus* and blunt-leaved pondweed *P. obtusifolius*. Emergents of interest include the nationally scarce greater water-parsnip *Sium latifolium* and river water-dropwort *Oenanthe fluviatilis*. These very species-rich ditches are largely confined to gravity-drained areas within the site.

The main arterial channels, which carry drainage water from the Levels to the sea, are generally poor in vegetation, both in number of species and cover. Submerged and floating species such as common duckweed *Lemna minor* and greater duckweed *Lemna polyrhiza* predominate with the nationally scarce spineless hornwort *Ceratophyllum submersum* and the nationally scarce pondweed *Potamogeton trichoides* also present. Ditches surrounding and within arable areas support relatively few open-water species and tend to be characterised by the presence of water plantain *Alisma plantago-aquatica* and bur-reed. They are often fringed with hard rush *Juncus inflexus* and jointed rush *J. articulatus*.

Rich bankside floras support the nationally scarce marshmallow *Althaea officinalis*, ragged robin *Lychnis flos-cuculi*, water mint *Mentha aquatica* and cuckoo flower *Cardamine pratensis*. Most of the fields are improved rye grass *Lolium perenne* leys with occasional creeping bent *Agrostis stolonifera*.

Woodland dividing the modern main Pevensey to Middle Bridge Road from the old road parallel to it is dominated by mature crack willow *Salix fragilis* with hawthorn *Crataegus monogyna* and elder *Sambucus nigra* scrub. Closed canopies have a sparse ground cover of ground ivy *Glechoma hederacea* and nettle *Urtica dioica*. This area is of importance for moths.

An area of shingle and intertidal muds and sands is included within the site. Although the shingle is largely bereft of vegetation, yellow horned-poppay *Glaucium flavum*, sea campion *Silene maritima* and the nationally scarce sea-kale *Crambe maritima* do occur; there is also a record for pyramidal orchid *Anacamptis pyramidalis*.

The site supports outstanding invertebrate populations and is a top national site for Molluscs and aquatic Coleoptera. Indeed, the site is perhaps the best in Britain for freshwater Mollusc fauna. A ramshorn snail *Segmentina nitida* (RDB: Endangered), is found in well-oxygenated drains with lush vegetation. Particularly widespread and abundant on this site is an aquatic snail *Valvata macrostoma* (RDB: Vulnerable). Of the many species of water beetle recorded at the site, the most interesting are confined to the ditches in areas of permanent pasture. Of particular interest is Britain's largest water beetle, the great silver water beetle *Hydrophilus piceus* (RDB: Rare) which is found only on grazed levels in the southern part of Britain. Also of importance is *Bagous puncticollis* (RDB: Endangered), found on Horse Eye Level and several nationally rare water beetles such as the small reddish-brown *Hydrovatus clypealis* (RDB: Rare) confined to the coast of southern England.

Over fifteen species of dragonfly (Odonata) have been recorded including the nationally scarce species, hairy dragonfly *Brachytron pratense* and variable damselfly *Coenagrion pulchellum*. Survey has also revealed Britain's only known location of *Placobdella costata* (provisional RDB), a large leech which feeds on the blood of vertebrates. One of Britain's largest spiders *Dolomedes plantarius* (RDB: Endangered) has also been recorded.

The site is of national importance for its wintering lapwing *Vanellus vanellus* which exceed 1% of the total British population. The numbers of snipe *Gallinago gallinago* may also be of national importance but exact data relating to the country's wintering population is as yet unavailable. Wintering golden plover *Pluvialis apricaria* are of local significance and in some years are of national importance. Sedge warblers *Acrocephalus schoenobaenus* and reed warblers *Acrocephalus scirpaceus* which nest in scrub close to water and reeds in the ditches respectively, breed in numbers of local significance. The site also supports about one fifth of the breeding yellow wagtails *Motacilla flava* in Sussex.