

File ref:

**County:** Devon    **Site Name:** Exe Estuary

**District:** East Devon, Exeter, Teignbridge

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

**Local Planning Authority:** Devon County Council, East Devon District Council, Exeter City Council, Teignbridge District Council

**National Grid Reference:** 980845    **Area:** 2,181.6 (ha) 5,390.7 (ac)

**Ordnance Survey Sheet 1:50,000:** 192    **1:10,000:** SX 97 NE, SX 98 SE, NE, SY 07 NW, SY 08 SW

**Date Notified (Under 1949 Act):** 1952    **Date of Last Revision:** 1976

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

**Other Information:**

A Nature Conservation Review Site proposed for designation under the Ramsar Convention and also as a Special Protection Area under EEC Directive on the Conservation of Wild Birds (79/410/EEC). Part of the site is covered by a Bird Sanctuary Order (SI. No. 901 of 1951). It lies within a County Structure Plan Nature Conservation Zone, Coastal Preservation Area (part) and Area of Great Landscape Value (part). Site boundary amended. Adjacent to Dawlish Warren LNR/SSSI. Includes Devon Trust for Nature Conservation Old Sludge Beds Reserve.

**Description and Reasons for Notification:**

The waters, foreshore and low-lying land of the Exe Estuary are of international importance for wintering wildfowl and waders. Many rare species of plant occur too, whilst the sandbanks and mudflats support communities of invertebrates that are of national significance. The site also contains key features of geological interest and has been the subject of considerable scientific research.

The Estuary runs south-eastward for about 4 km from Exeter to the junction of the Exe and Clyst Rivers. Here it broadens, being over 2 km wide in places, and runs for a further 7 km to Exmouth, where it is sheltered from the sea by the sand ridge of Dawlish Warren. The northern half of the estuary is flanked by reclaimed agricultural land, sewage works, reedbeds and the Exeter Canal. The soil is alluvial, derived from a variety of Devonian, Carboniferous and Permian rocks.

Over 10,000 wildfowl and 20,000 waders winter on the Estuary, which regularly supports over 1% of the European population of species such as dark-bellied Brent goose *Branta bernicla bernicla*, wigeon *Anas penelope*, ringed plover *Charadrius hiaticula* and black-tailed godwit *Limosa limosa*. At about 250 birds, the flock of wintering avocets *Recurvirostra avosetta* is presently the largest in Britain.

Reclaimed land within the site is used by water birds at high tide, and also provides nesting and feeding habitat for other bird species. The largest portion is the Exminster Marshes, a series of fields drained by dykes and ditches, which in turn carry a rich flora and fauna including several plants rare in Devon such as parsley water-dropwort *Oenanthe lachenalii*, flowering rush *Butomus umbellatus* and frog-bit *Hydrocharis morsus-ranae*, and a wide variety of dragonflies including the nationally uncommon ruddy darter *Sympetrum sanguineum* and hairy dragonfly *Brachytron pratense*. The Marshes are bounded by the Exeter Canal, and both the Canal and the Estuary in its upper reaches are fringed by beds mainly of common reed *Phragmites australis* which form an important area for several species of birds, notably warblers.

Below the reedbeds there is a transition to saltmarsh. Here club-rushes *Scirpus* spp. and sea rush *Juncus maritimus* are characteristic of the upper levels, with cord-grass *Spartina* spp. bordering these and increasing in extent lower down the Estuary.

Below the saltmarshes and exposed at low tide, there are extensive areas of sand and mud. Some central banks are bare, and the remainder have only a sparse vegetation, but that vegetation consists largely of eelgrass *Zostera* spp. and green seaweed *Enteromorpha* spp., which are favoured foods of some wildfowl. Burrowing invertebrates are found in most of the sandbanks and mudflats, providing food for many fish and birds. Characteristic species include lugworm *Arenicola marina*, peppery furrow shell *Scrobicularia plana*, Tellins *Macoma*, *Donax*, *Tellina*, common cockle *Cardium edule*, razor shell *Ensis siliqua*, sea potato *Echinocardium cordatum* and masked crab *Corystes cassivelaunus*. Beds of mussels *Mytilus edulis* are important feeding grounds for oystercatchers *Haematopus ostralegus*. The Estuary is the only British locality for the polychaete worm *Ophelia bicornia* which occurs mainly on Bull Hill Bank. The foreshore rocks towards Orcombe Point are notable for the abundance of bivalve molluscs which bore into the soft sandstones. Here also occur colonies of the honeycomb worm *Sabellaria alveolata*.

The Orcombe rocks are a key geological feature which display an excellent coastal section in the sandstones, siltstones and mudstones of the Permian Exmouth Formation. These fluvial sandstones show a variety of trough and planar-tabular cross-bedding indicating that the rivers which deposited these sediments flowed towards the north. Mudstones represent deposition in fluvial overbank (flood plain) and playa-like environments, and they contain rare plant fossils. This is an important site for the elucidation of Late Permian environments, and is also of general geomorphological importance for the study of sedimentation processes.