

County: Devon

Site Name: Yealm Estuary

District: South Hams

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
South Hams District Council

National Grid Reference: SX 550505

Area: 85.2 (ha) (ac)

Ordnance Survey Sheet 1:50,000: 201
SE

1:10,000: SX 54 NW, NE, SX 55 SW,

Date Notified (Under 1981 Act): 29 September 1997 **Date of Last Revision:** –

Other Information:

This is a new site.

Description and Reasons for Notification:

The Yealm lies on the south coast of Devon and enters the sea at Wembury Bay. It is an example of a ria, or drowned river valley, which shows a transition to estuarine conditions in its upper reaches. The inlet is steep sided and narrow with several tributaries. A sand bar at the entrance provides some shelter from the prevailing south westerly winds. There is a diverse range of biological communities, reflecting the influence of marine conditions far up the inlet.

At the mouth of the inlet steep rocky shores on the southern side are quite different from those on the north side (including Wembury Point SSSI) which are more exposed and eroding. Depending on the degree of exposure the middle part of the shore is dominated either by barnacles (mainly *Semibalanus balanoides* with *Cthamalus montagui*) and limpets *Patella vulgata* alone or a mosaic of these with the seaweed bladder wrack *Fucus vesiculosus*. Zones above these include intermittent zones of lichens and the seaweeds flat wrack *Fucus spiralis* and channel wrack *Pelvetia canaliculata*, and below these include saw wrack *Fucus serratus* with various red seaweeds. The sponges *Hymeniacidon perleve* (orange peel) and *Halichondria paniacea* (breadcrumb) are common on the lower and lower mid shore. At Cellar Beach, overhangs and small caves on the lower shore are colonised by a rich and characteristic fauna including a number of animals not normally found on the open shore such as the anemone *Sagartiogeton undatus* and sea squirt *Morchellium argus*.

Cellar Beach extends down to a wide area of sand with gravel and pebbles. The fauna is dominated by the sand mason *Lanice conchilega*, typical of sediment shores subject to strong water movement, with a number of other polychaete worm species, amphipods and the razor shell bivalve *Ensis ensis*.

The spit at Warren Point consists of a shelving silty to sandy beach with slate pebbles on which is deposited a variety of debris including seaweeds. The upper shore has patches of the seaweeds channel wrack, flat wrack, egg wrack *Ascophyllum nodosum*, flat wrack *Fucus vesiculosus* and the bright green *Enteromorpha* sp. The mid shore is characterised by dense

lugworm *Arenicola marina*. The infauna includes smaller numbers of other polychaete worms such as the sand mason and the catworm *Nephtys* sp.

In the middle reaches of the inlet, from south of Yealm Pool up to Steer Point the shore comprises a low steep cliff with mixed sediment in the mid to lower shore grading into mudflats. There is a well established zonation of biological communities down the shore. The following habitats and species are present throughout most of this stretch of the inlet. At the top of the shore there is a zone of yellow, grey and black lichens (including *Xanthoria parietina* and *Verrucaria maura*). Below this is an intermittent band of channel wrack intermingled with, or replaced by (depending on the degree of shade), a turf of the seaweeds *Bostrychia scorpioides* and *Catanella caespitosa*. This zone grades into a patchy zone of the flat wrack which in turn grades into egg or knotted wrack. The egg wrack zone is replaced by, or forms a mosaic with, a barnacle (including small numbers of the south-western species *Balanus perforatus*) and limpet dominated community, particularly where the cliff is near vertical such as south of Clitters Beach. There is a less well developed seaweed zone in the lower shore due to lack of, and silting up of, suitable substrate. Where this zone is developed, e.g. at Warren Cottages and south of Shortaflete Creek, it is dominated by the saw wrack. A variety of animal species inhabit these zones including, in particular, abundant sponges in overhangs and crevices, bryozoans, or seamats, such as infrequent *Bowerbankia imbricata*, and numerous periwinkles including *Littorina littorea* and *L. saxatilis*.

Where a mixed sediment of muddy shingle occurs there are extensive areas of a rich and nationally uncommon community dominated by the orange peel sponge *Hymeniacion perleve* and the peacock worm *Sabella pavonina*. The community includes a variety of other attached (e.g. bryozoans) and burrowing (e.g. sand mason worm) animals. The sponge occurs in the columnar form including in unusually large clumps up to the size of a football.

Mudflats of varying width extend beyond or between the above habitats into the main channel. These are characterised by ragworm *Hediste diversicolor* and patches of lugworm *Arenicola marina*.

Variation in the middle reaches is provided by the inlet of Shortaflete Creek. Here the mud infauna includes the bivalves *Scobicularia plana* and *Cerastoderma edule*. More gravelly areas within the Creek support a dense cover of seaweeds *Ulva lactuca* and *Chaetomorpha* spp. and occasional patches of the fucoid *Fucus ceranoides*.

The upper parts of the inlet beyond Steer Point show increasingly estuarine conditions with extensive mudflats and reduced salinity. The shore comprises a low shale cliff (replaced in places on the north shore by an old retaining wall), with varying amounts of shale pebbles and cobbles below this and mudflats dissected by small channels. The mudflats are extensive particularly north-east of Broad Ooze, the area upstream of which almost completely dries at low water. At the top of the inlet the mudflats are backed by a small area of saltmarsh.

Above Steer Point there is a decrease in the variety of foliose red seaweeds, occurrence of some barnacles and molluscs, and an increase in some species such as the bryozoan *Bowerbankia imbricata*. The biological communities vary with the increasingly estuarine conditions around the following general zonation. The top of the cliff and boulders is characterised by an intermittent band of channel wrack grading into a band of flat wrack. This is mixed with or replaced by, a well developed turf of red seaweeds *Bostrychia scorpioides*, *Catanella caespitosa* and green seaweeds *Enteromorpha* sp. which in places acts as a silt trap. At the base of the cliff and on bedrock or areas of pebbles the dominant seaweed is egg wrack. At Quarry Plantation towards the top of the inlet, where there is a freshwater input, *Fucus ceranoides*

occurs. Both flat and egg wrack become more stubby in growth towards the upper reaches. A variety of animal species live amongst and below these seaweeds, the most common of which are small shore crabs *Carcinus maenus*, *Gammarus* amphipods and periwinkles.

In the mid shore the mud tends to be more stable and stiff with varying quantities of leaf litter, grading into softer muds in the lower shore which are stable over extensive areas where they are characterised by a surface film of seaweeds including *Enteromorpha* sp. The infauna is dominated in places by ragworms and includes a variety of other types of polychaete worms. Bivalves such as *Scobicularia plana* and *Cerastoderma edule* are also present.