

**Site name:** Slapton Ley **County:** Devon

**District:** South Hams

**Status:** Site of Special Scientific Interest (SSSI) notified under section 28C of the Wildlife and Countryside Act 1981, as inserted by Schedule 9 to the Countryside and Rights of Way Act 2000.

**Local Planning Authority:** South Hams District Council

**National Grid reference:** SX826440 **Area:** 254.72 (ha)

**Ordnance Survey sheet: 1:50,000:** 202 **1:10,000:** SX84NW, SX84SW

**Date notified:** 11 February 2004

**Reasons for notification:**

Slapton Ley is nationally important for its coastal geomorphology (shingle barrier beach enclosing a coastal lagoon), open water, vegetated shingle, reed-bed, tall herb-fen and fen woodland plant communities, an assemblage of breeding birds of lowland open waters and their margins, a breeding population of the rare Cetti's warbler *Cettia cetti*, non-breeding passage birds, wintering bittern *Botaurus stellaris*, a vascular plant assemblage, and a lichen assemblage.

**General description:**

***Geomorphology***

Slapton is an important site for coastal geomorphology. It is a classic shingle barrier beach enclosing a lagoon, Slapton Ley. To the north, the bar is backed by an in-filled former arm of the lagoon and by cliffs of Lower Devonian slates and grits. Very little local material occurs in the beach, which consists almost entirely of flint and chert shingle. There are few such features on the coast of Britain and along the English Channel, Slapton provides an unusual combination of shingle material and an easterly aspect, sheltered as it is from the main Atlantic wave systems. The bar is continuing to 'roll' landward in response to sea-level rise, and washover 'fans' of shingle in the lagoon show how this happens. Slapton has been the focus of considerable research interest and is a major site for educational studies of coastal landforms. It forms part of a larger coastal system at the western extremity of Lyme Bay that includes Bee Sands and Hallsands.

Study of the sediments that have built up in the lagoon allow a detailed reconstruction of the development of the site since the last glaciation, first as an estuary open to the sea and from about 2,900 years ago as a lagoon occasionally flooded by the sea during major storm events.

***Biology***

Slapton Ley has a mosaic of coastal, freshwater, terrestrial and transitional habitats. The various habitat types continue to change in size and character as the geomorphology evolves.

### ***Shingle vegetation***

The individual pebbles that make up the shingle bar are of relatively small size compared to other shingle beaches. This creates better conditions for colonization by plants and has resulted in a large proportion of the shingle bar supporting stabilized vegetation of grassland and scrub. The relevant National Vegetation Classification (NVC) communities of the vegetated shingle are: *Rumex crispus* - *Glaucium flavum* shingle community (SD1); *Elymus farctus* spp. *boreali-atlanticus* foredune community (SD4); *Festuca rubra* - *Achillea millefolium* - *Lotus corniculatus* community (MC11b); *Arrhenatherum elatius* grassland *Festuca rubra* subcommunity with *Raphanus raphanistrum* spp. *maritimum* (MG1a); *Prunus spinosa* – *Rubus fruticosus* sub-community (W22); *Ulex europaeus* – *Rubus fruticosus* scrub *Anthoxanthum odoratum* scrub-community (W23a); *Pteridium aquilinum* - *Rubus fruticosus* under-scrub *Hyacinthoides non-scripta* sub-community (W25a).

### ***Freshwater habitats***

The freshwater coastal lagoon is the largest natural eutrophic lake in south-west England and supports an aquatic plant flora characteristic of this habitat type. Large areas of open freshwater are uncommon in Devon and the aquatic plants of these habitats are consequently rare. The Lower Ley is predominantly shallow open water with associated areas of reed-bed, tall-herb fen and fen woodland. The nature of Higher and Lower Leys are quite different with species like intermediate water-starwort *Callitriche hamulata* and ivy-leaved duckweed *Lemna trisulca* far more common in the Upper Ley. The open water areas of the upper Ley appear to have suffered less from nutrient enrichment and thus support a wider range of interesting macrophytes, including soft hornwort *Ceratophyllum submersum* at its only Devon site. Slapton Ley is classified under the SSSI Guidelines as a naturally eutrophic ‘standing water type 10’ lake, with representative species including the stoneworts *Chara contraria* and *Chara globularis* as well as fennel pondweed *Potamogeton pectinatus*, lesser pondweed *Potamogeton pusillus*, and curled pondweed *Potamogeton crispus*. Slapton Ley is the only Devon site for fan-leaved water-crowfoot *Ranunculus circinatus*.

The shores of the Lower Ley have been colonized to a large extent by reed *Phragmites australis* with important plants growing on areas of exposed mud. Start stream enters the Lower Ley through an area of reed-bed, reed-swamp and fen woodland. The Upper Ley is composed predominantly of reed-bed, reed-swamp and fen woodland with narrow channels of open water carrying the Gara River through to the Lower Ley. The NVC communities of the Upper and Lower Ley wetland areas are: *Phragmites australis* swamp and reed beds (S4); *Sparganium erectum* swamp (S14) including the *Phalaris arundinaceae* sub-community (S14d); *Glyceria fluitans* water margin vegetation (S22) and *Alopecurus geniculatus* sub-community (S22c); *Phragmites australis* - *Urtica dioica* tall-herb fen (S26), *Oenanthe crocata* sub-community (S26c) and *Epilobium* sub-community (S26d); *Salix cinerea* - *Galium palustre* woodland (W1); *Alnus glutinosa* - *Carex paniculata* woodland (W5) and *Phragmites australis* sub-community (W5a); *Alnus glutinosa* - *Urtica dioica* woodland (W6) including the *Sambucus nigra* sub-community (W6d).

### ***Breeding bird assemblage including Cetti's warbler***

The mosaic of freshwater habitats supports a nationally important assemblage of breeding birds, including water rail *Rallus aquaticus*, *cuckoo* *Cuculus canorus*,

kingfisher *Alcedo atthis*, reed warbler *Acrocephalus scirpaceus*, sedge warbler *A. schoenobaenus*, and reed bunting *Emberiza schoeniclus*. Mute swan *Cygnus olor*, great crested grebe *Podiceps cristatus*, gadwall *Anas strepera*, pochard *Aythya ferina* and tufted duck *Aythya fuligula* also feed in the open water and breed in the reed fringe. There is a nationally important population of Cetti's warbler breeding in the fen woodland fringing the Ley, as well as a heronry in Hartshorn plantation next to the Lower Ley.

### ***Non-breeding passage and wintering birds***

The reed-beds fringing the Ley are important for migrant and wintering birds, particularly in autumn when large numbers of swallows *Hirundo rustica*, sand martins *Riparia riparia*, reed warblers *Acrocephalus scirpaceus* and sedge warblers *A. schoenobaenus* gather to roost. In winter, they are regularly used by bittern.

### ***Vascular plant assemblage***

During summer, lower water levels expose areas of mud along the shore, which support the small annual plant strapwort *Corrigiola litoralis*, the only site of this species occurrence in the United Kingdom, together with other mud colonisers, including shoreweed *Littorella uniflora*.

Toadflax-leaved St John's-wort *Hypericum linariifolium* occurs on the cliff tops at the northern end of the site. South Devon is a stronghold for this plant. Together with the population of strapwort along the fringes of the Lower Ley this forms an important plant assemblage.

### ***Lichen assemblage***

The lichen flora at Slapton Ley has been well studied and supports a large number of species within a relatively small area, with the best examples found along the margins of the Upper and Lower Ley. Four Red Data Book species have been recorded, *Cryptolechia carneolutea*, *Physcia tribacioides*, *Parmelina quercina* and *Teloschistes flavicans* (commonly known as golden hair lichen). These are all species characteristic of wayside trees and are all suffering major decline nationally.

In addition to the reasons for notification, Slapton Ley is also important for non-vascular plants other than lichens. The total number of 2,344 species of fungi recorded contains lichenised species as well as important species of slime mould. 195 species of mosses and liverworts have also been recorded. Slapton Ley is also important for mammals. Otter *Lutra lutra* are present throughout the year around the margins of the Ley and the presence of cubs suggests that they breed in the locality. Dormice *Muscardinus avellanarius* breed in the woodland and the fringes of the Ley and have been found in gorse on the backslope of the shingle bar, a habitat previously considered to be unsuitable.

### **Other information:**

- Slapton Ley is listed in *A Nature Conservation Review* (NCR) (Ratcliffe, 1977).
- This site is a Geological Conservation Review (GCR) site.
- Part of the site is a National Nature Reserve, declared under section 16 of the

National Parks and Access to the Countryside Act 1949.

- Slapton Ley lies within the South Devon Area of Outstanding Natural Beauty (AONB).