

File ref:

**County:** Isle of Wight      **Site Name:** Bouldnor and Hamstead Cliffs SSSI

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

**Local Planning Authority:** Isle of Wight County Council, South Wight Borough Council

**National Grid Reference:** SZ 390910                      **Area:** 95.65 (ha) 236.35 (ac)

**Ordnance Survey Sheet 1:50,000:** 196                      **1:25,000:** SX 28/38

**Date Notified (Under 1949 Act):** 1951                      **Date of Last Revision:** 1977

**Date Notified (Under 1981 Act):** 27.1.1987                      **Date of Last Revision:** -

**Confirmed:** 25.6.1987

**Other Information:**

The foreshore of this site is within the Newtown Harbour Local Nature Reserve.

**Reasons for Notification:**

Bouldnor and Hamstead Cliffs are of great importance of geology because of the complete succession which they provide through the series of rocks of Oligocene age (some 30 million years old) known as the Hamstead Beds. Within the site is also the type-section of the Bouldnor Formation – the youngest Tertiary strata developed in the Hampshire Basin. The cliffs are also of importance because of the rich faunas of fossil mammals, reptiles, birds and insects which occur within the Hamstead Beds; the rocks also contain important fossil floras of similar age. The combination of this wide variety of particular interests makes the Bouldnor and Hamstead Cliffs site one of the most important localities for rocks of this age anywhere in Britain.

Bouldnor Cliff is the principal site in Britain for fossil mammals of Oligocene age, having yielded an extensive fauna of over 24 species; it is the only known mid-Oligocene fauna anywhere in Britain. The site is also the best locality in Britain for fossil reptiles of Oligocene age, including turtles, crocodiles and snakes. Fossil birds belonging to five species occur in the Lower Oligocene rocks of the site. The Hamstead Beds yield a very important fauna of Oligocene fossil insects, and is one of the most significant sites in Britain for these animals: fossil Diptera (flies), Coleoptera (beetles) and Hymenoptera have been collected from here. The cliff and foreshore section is also of great value for studies of Tertiary fossil plants from the Bembridge Marls and the Hamstead Beds, and contains the type locality for a species of the tree *Sequoia*; the site is important both for studies of plant structure and for the palaeoecology of the plants and their associated faunas. It is the only locality in Britain to yield fossil plants from the Middle and Upper parts of the Hamstead Beds and is also the only locality in Britain at which detailed studies of the palaeoecology and sedimentology of Oligocene fossil plant-bearing rocks have been undertaken.

Bouldnor and Hamstead Cliffs are of great ecological as well as geological importance. Ecologically the cliffs display a wide range of habitat types ranging from broad-leaved woodland through a variety of scrub communities to a variety of early pioneer plant communities. All these habitats are strongly influenced by the cliff stability, acidity and availability of water. This range of plant communities from almost bare ground to mature woodland shows examples of all stages in a primary succession and is of great ecological interest.

Mature pedunculate oak *Quercus robur* woodland dominates much of the site. It occurs on the calcareous clays of the cliff face and locally on acid plateau gravels on the cliff top. On the calcareous clays ash *Fraxinus excelsior* is a common canopy component. To the east of the site a variety of conifers and beech *Fagus sylvatica* have been planted into the woodland. The shrub layer contains many species of base-rich soils such as privet *Ligustrum vulgare* and spindle *Euonymus europaeus*. The ground flora retains several species of old woodlands such as primroses *Primula vulgaris* and enchanter's nightshade *Circaea lutetiana*. The woodland on acid soils contains many very old oaks *Quercus robur*. The shrub layer and ground flora consist of a variety of acid-loving plants such as gorse *Ulex europaeus*, purple moor-grass *Molinia caerulea* and bell heather *Erica cinerea*. In places on the cliff face an immature birch *Betula* species woodland has developed. This is a transitional habitat between scrub and mature oak woodland. It contains many young oaks and ashes. The scrub in the site varies from dense stands of grey willow *Salix cinerea* and wetter clays with invasive birch *Betula* species to dense acidic scrub dominated by gorse *Ulex europaeus* where plateau gravels have slipped down the cliff face.

The more freshly exposed areas of the cliffs form a series of broadly semi-circular landslips. The degree of vegetation cover varies with the age of the cliff fall. It is dominated by giant horsetail *Equisetum telmateia* and coltsfoot *Tussilago farfara* with a variety of coloniser species such as creeping bent *Agrostis stolonifera* and fleabane *Pulicaria dysenterica*. In the wettest areas of the cliff face reed beds dominated by *Phragmites australis* have developed.