County: Devon

Site name: Hele, Samson’s and Combe Martin Bays

District: North Devon District

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

Local Planning Authority: *

National grid reference: SS 536479 - 547485 and SS 567476 - 582480

Area: 22.21 (ha)

Ordnance survey sheet: 1:50,000: Sheet 180 1:10,000: SS 44/54

Date notified (under 1981 Act): 17 February 1998 Date of last revision: *

Other information: Incorporates three Geological Conservation Review (GCR) sites – Rillage Point, Ilfracombe Coastal Section and Combe Martin Beach

Description and reasons for notification:

Hele, Samson’s and Combe Martin Bays are located on the north Devon coast, just east of Ilfracombe. The site is represented by approximately 2.7 km of coastline stretching from Hele to Samson’s Bays (including Rillage Point) and Combe Martin Bay (from Jenny Start to Wild Pear Beach).

The coastal cliffs between Hele and Samson’s Bay provide good exposures of the Middle Devonian (Givetian) Ilfracombe Beds, consisting of sandstones and mudstones with occasional limestone bands. This western part of the site includes Rillage Point and exposes the Jenny Start Limestone; it is also the type locality for the Rillage Limestone. The strata here display well the lithological and faunal characteristics of these limestones which form valuable marker-horizons, especially when correlated inland where exposure is relatively poor. The Ilfracombe Beds contrast strongly with beds of similar age in south Devon (massive reef-limestones) and north Cornwall (deep-water slates) and it is possible that these three regions were completely, or partially isolated during Devonian times.

Combe Martin Bay displays well the faunal and lithological characteristics of the lower part of the Ilfracombe Beds, namely the ‘Lester Slates and Sandstones’ and the ‘Combe Martin Slates’. Within the Combe Martin Slates is a thin, fossiliferous limestone, the Combe Martin Beach Limestone, which is a valuable marker-horizon. The development of thin, persistent bioclastic limestones within sequences dominated by nearshore clastic sediments has been interpreted as representing the transition from shallow marine conditions to slightly deeper water environments.

The coastal exposures also provide excellent sections through large-scale structures which lie close to the northern limit of the Variscan foldbelt in southwest England and clearly illustrate the structural characteristics of the area. The folds have near-horizontal east-west trending axes and are generally steeply inclined or overturned northwards. The folds are picked out by limestone layers ranging in thickness from a few centimetres to several metres and include the Jenny Start, David’s Stone and Red limestones. Fold structures on several scales are developed, ranging from small ‘fish-hook’ folds of the thinnest limestones to folds larger than
the scale of the cliffs. The overturned, northern limbs of the folds are often cut out by reverse faults, and wrench faults are also common.

Hele, Samson’s and Combe Martin Bays are of considerable national importance for Devonian stratigraphy, palaeontology and palaeogeography in addition to providing key exposures of fold structures situated on the northern edge of the Variscan foldbelt.