SITE NOTIFIED TO THE SECRETARY OF STATE ON THE 8TH JANUARY 1993

COUNTY: NORFOLK SITE NAME: SIDESTRAND AND TRIMINGHAM CLIFFS

DISTRICT: NORTH NORFOLK

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

Local Planning Authority: North Norfolk District Council

National Grid Reference: TG 252408 to TG 305375 Area: (ha.) (ac.) c.168

Ordnance Survey Sheet 1:50,000: 133 1:10,000: TG 23 NE and TG 33 NW

Date Notified (Under 1949 Act): 1954 Date of Last Revision: –

Date Notified (Under 1981 Act): 1993 Date of Last Revision: –

Other Information:
Boundary includes 4 GCR SILS.

Description and Reasons for Notification:
This stretch of cliffs between Overstrand and Mundesley on the north-east coast of Norfolk provides a fine series of geological exposures in unconsolidated Pleistocene sediments and in the underlying chalk. These cliffs, which extend for a distance of 6.5 kilometres and are up to 60 metres high, are subject to frequent cliff falls and slumping. This mobility creates a mosaic of habitats from bare clay and sand to ruderal communities and semi-stabilised grassland with occasional seepage lines which support an outstanding assemblage of invertebrates.

Four aspects of the geology of the site are of special interest; the chalk, the Pleistocene sediments, fossil vertebrates and mass movement.

The chalk is exposed on the foreshore and cliffs in a series of blocks which have been thrust upwards by glacial action. It has a rich fossil invertebrate fauna which has enabled much of the chalk to be assigned to the Lower Maastrichtian stage i.e. very late Cretaceous age. These exposures comprise the only significant outcrops of chalk of this age in Britain and are therefore also the youngest Mesozoic rocks in the British Isles.

The common occurrence of the belemnite, *Belemnella lanceolata* (Schlotheim) indicates the lowest of four zones of the continental Maastrichtian stage and detailed studies of the brachiopod faunas have now facilitated detailed correlations with Lower Maastrichtian successions in Denmark, Sweden, Germany and Poland. A composite Lower Maastrichtian succession has been reconstructed by correlating the several chalk masses at Sidestrand and Trimingham. The succession includes the type localities and reference sections of four lithographic units namely the Sidestrand Chalk, the Trimingham Sponge Beds, the Little Marl Point and the Beacon Hill Grey Chalk members. Only the Sidestrand Chalk Member is known at any other locality in Britain.

The Maastrichtian succession of the Sidestrand -- Trimingham district is of fundamental importance to British Cretaceous geology and also has a wider significance to studies of the latest Cretaceous elsewhere in north-west Europe.

The cliffs at Sidestrand expose one of the best pre-glacial stratigraphic sequences in England. Analysis of their faunal and floral elements has led to the development of a detailed picture of the early Pleistocene environments in north Norfolk. At this locality unique domes of chalk thrust upwards by diapiric or glacio-tectonic processes are exposed in cliff sections and on the foreshore. Overlying sediments of the Cromer Forest Bed formation, displaced from their usual position at and below beach level, are consequently well exposed. The sequence includes fossiliferous Pre-Pastonian and Pastonian marine sediments, unconformably overlain by deposits of Cromerian age. This unconformity, of great importance for the interpretation of the Cromer Forest Bed Formation, is particularly well shown.

Sampling of the pre-pastonian and Pastonian beds has yielded an interesting mammalian fauna. The assemblage collected from the different sites are essentially the same and is dominated by the vole, *Mimomys pliocaenicus*. Other species recorded include other vole species eg. *Mimomys blanci*, a lemming *Lemnus* sp., and two species of desman *Galemys kormosi* and *Desmana thermalis*. At present it is thought that the composition of the Sidestrand vertebrate fauna suggests an age of 1.7 million years and is equivalent to the continental Villanyian.

The entire length of these cliffs has a substantial history of impressive rotational slumping affecting the Pleistocene deposits. The Sidestrand to Trimingham stretch in particular is the finest site of slumping unconsolidated sediments in Britain. Huge collapses of the cliffs continue to occur, in places breaking through an elaborate set of coastal defence works which stretch along part of this coast.

This is probably the best soft rock cliff site for invertebrates in East Anglia. There are modern records for a number of rare coleoptera including *Nebria livida* and isopoda associated with the crevices and fallen debris at the bases of the cliffs. In addition there are old records for two Red Data Book beetles *Dyschirius obscurus* and *Bledius filipes*. Suitable conditions for these elusive and mobile species exist on this stretch of the coast and overlooked colonies may still be present.

The cliff top flora includes a large colony of species purple broomrape *Orobanche purpurea*, a Red Data Book species, which grows in grassland close to the cliff edge.