

COUNTY: SOMERSET

SITE NAME: THE CHEDDAR COMPLEX

DISTRICT: MENDIP, SEDGEMOOR

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

Local Planning Authority: MENDIP DISTRICT COUNCIL, Sedgemoor District Council, Somerset County Council

National Grid Reference: ST 465538–505560,
470563, 477563

Area: 441.3 (ha.) 1090.5 (ac.)

Ordnance Survey Sheet 1:50,000: 182

1:10,000: ST 45 NE, SE,
ST 55 SW, NW

Date Notified (Under 1949 Act): 1952

Date of Last Revision: 1972

Date Notified (Under 1981 Act): 1989

Date of Last Revision: –

Other Information:

Site renamed and boundary amended by extension and deletion.

Site now includes 4 SSSIs formerly known as Cheddar Gorge SSSI, August Hole/Longwood Swallet SSSI, GB Cavern Charterhouse SSSI and Charterhouse-on-Mendip SSSI. Part of site listed in 'A Nature Conservation Review', Ed D A Ratcliffe (Cambridge University Press 1977). Part owned by the National Trust. Part managed by the Somerset Trust for Nature Conservation. Site lies within the Mendip Hills Area of Outstanding Natural Beauty. Site listed in the Geological Conservation Review.

Description and Reasons for Notification:

Biological

The Cheddar Complex supports a wide range of semi-natural habitats which includes unimproved grassland, calcareous dry dwarf-shrub heath, semi-natural broadleaved woodland and dense and scattered scrub. The unimproved acidic and calcareous grassland communities and the complex mosaic of calcareous grassland and acidic dry dwarf-shrub heath have a restricted distribution in Britain. The floristic interest of the site is high. Four nationally rare plants are present -- two of which are endemic to the Cheddar area -- as well as fifteen nationally scarce species. The lower plants and the fauna are also of interest.

The Cheddar Complex occupies one of the many dry valleys which dissect the plateau of the Mendip Hills. The steep cliffs and scree slopes of Cheddar Gorge are the dominant physical feature of the site. The area is underlain by Black Rock Limestone, Burrington Oolite and Clifton Down Limestone of the Carboniferous Limestone Series, and by Dolomitic Conglomerate of the Keuper. In many places weathering of these strata has resulted in the formation of immature calcareous soils. In contrast more acid soils derived in large part from windblown silt (loess) originating from outside the Mendips, are also present. Lead ore was worked at Charterhouse until the beginning of this century and soils in this area contain high levels of the metal.

Many of the unimproved calcareous grassland communities are characterised by an abundance of Meadow Oat-grass *Avenula pratensis*. Sheep's Fescue *Festuca ovina* and Crested Hair-grass *Koeleria macrantha* with Glaucous Sedge *Carex flacca* and Spring-sedge *Carex caryophyllea*. Associate species on south-facing slopes with shallow soils include Dwarf Thistle *Cirsium acaule*, Common Rock-rose *Helianthemum nummularium*, Kidney Vetch *Anthyllis vulneraria*, Wild Thyme

Thymus praecox and Hoary Plantain *Plantago media*. Soils of slopes with other aspects tend to be wetter, and here associated species include Flea Sedge *Carex pulicaris*, Betony *Stachys officinalis*, Selfheal *Prunella vulgaris* and Lady's Bedstraw *Galium verum*. Unimproved acidic grassland communities dominated by Red Fescue *Festuca rubra*, Brown Bent *Agrostis capillaris* and Sweet Vernal-grass *Anthoxanthum odoratum* are also widespread. Associated species include Spring Sedge, Yorkshire Fog *Holcus lanatus*, Pignut *Conopodium majus*, Heath Bedstraw *Galium saxatile* and Tormentil *Potentilla erecta*. This community grades into calcareous dry dwarf-shrub heath on heavily leached soils.

A complex mosaic of unimproved calcareous grassland and calcareous dry dwarf-shrub heath also occurs. Species typical of calcareous grassland include Meadow Oat-grass, Sheep's Fescue, Fairy Flax *Linum catharticum* and Dwarf Thistle. Heath species such as Heather *Calluna vulgaris* and Gorse *Ulex europaeus* are well represented and Bracken *Pteridium aquilinum* is often locally dominant.

An unusually large number of rare plant species occur. Many grow on the rocky outcrops and steep scree slopes of Cheddar Gorge. The nationally rare Little Robin *Geranium purpureum*, Cheddar Pink *Dianthus gratianopolitanus* and Cheddar Bedstraw *Galium fleurotii* occur here, the latter two species being endemic to the area. Nationally scarce species include Slender Tare *Vicia tenuissima*, Dwarf Mouse-ear *Cerastium pumilum* and Rock Stonecrop *Sedum forsterianum*. Mossy Saxifrage *Saxifraga hypnoides* and Lesser Meadow-rue *Thalictrum minus* do not occur elsewhere in Somerset.

Two nationally scarce species are present in the Charterhouse area. Spring Sandwort *Minuartia verna* is found on the old lead works, and Soft-leaved Sedge *Carex montana* is common on Ubley Warren.

Broadleaved semi-natural woodland characterised by Ash *Fraxinus excelsior* is widespread in many places along the lower slopes. Other species include Wych Elm *Ulmus glabra* and Pedunculate Oak *Quercus robur*. The understorey is usually dominated by Hazel *Corylus avellana* with Field Maple *Acer campestre* and Spindle *Euonymus europaeus*. Dog's Mercury *Mercurialis perennis* and Ivy *Hedera helix* are the most frequent ground flora species. Sanicle *Sanicula europaea*, Nettle-leaved Bellflower *Campanula trachelium*, Early-purple Orchid *Orchis mascula*, Broad-leaved Helleborine *Epipactis helleborine* and the nationally scarce Narrow-lipped Helleborine *Epipactis leptochila* also occur.

A wide range of scrub communities are present. Typical species include Hawthorn *Crataegus monogyna* Yew *Taxus baccata*, Buckthorn *Rhamnus catharticus*, Common Whitebeam *Sorbus aria*, Dogwood *Cornus sanguinea* and Wayfaring Tree *Viburnum lantana*. The nationally scarce *Sorbus porrigentiformis* and the nationally rare *Sorbus anglica* also occur.

The lower plant interest of the site is considerable. Cheddar Gorge is one of the very few areas in southern Britain for the lichens *Solorina saccata*, *Squamaria cartilaginea* and *Caloplaca cirrochroa*. Bryophytes at Charterhouse with a restricted distribution in Somerset include *Grimmia doniana* and *Gymnostonium aeruginosum*.

The site supports a rich fauna. Twenty-nine resident breeding species of butterfly have been recorded. The local Small Pearl-bordered Fritillary *Boloria selene* and Chalkhill Blue *Lysandra coridon* are of particular interest. Ash-black Slug *Limax cinereoniger*, a Harvestman *Homalenotus quadridentatus* and the notable Large Chrysalis Snail *Abida secale* also have a local distribution in Somerset. Bats are well represented with Greater Horseshoe Bat *Rhinolophus ferrumequinum*, Natterer's Bat *Myotis nattereri*, Whiskered Bat *M. mystacinus*, Daubenton's Bat *M. daubentoni* and Brown Long-eared Bat *Plecotus auritus*. A strong population of

Dormouse *Muscardinus avelanarius* is also present. Breeding birds include Grasshopper Warbler *Locustella naevia*.

Geological

This site is important for karst, caves and vertebrate palaeontology and comprises four single interest localities. Cheddar Gorge is Britain's largest gorge and probably the country's best known limestone feature. It is a spectacular fluvial feature with a geomorphic history extending back 2 million years and encompassing the major environmental changes of the Pleistocene period. This history can be traced in the morphology of both the Gorge and associated caves.

Cheddar Caves contain both active and fossil systems. The active cave system is one of the most heavily studied karst systems in Britain with reference to the conduit and diffuse flow characteristics of its hydrology. The fossil cave passages provide important evidence for Pleistocene landscape evolution both within Cheddar Gorge and over the adjacent lowlands.

Charterhouse Caves include four major swallow caves that provide an indisputable record of Pleistocene landform development in the Mendips and surrounding area. In G.B. Cave, in particular, the sequence of clastic and stalagmite deposits contains an unequalled record of alternating warm and cold surface environments during the last 350,000 years. As such it is one of the most important sites in Britain for developing an absolute chronology for the Pleistocene.

Sun Hole Cave provides a varied fauna radiocarbon-dated to the end of the Late Devensian Cold Stage. The fauna includes both arctic and Norway lemming, several voles, steppe pika *Ochotona pusilla*, brown bear, wolf, horse, reindeer, and of particular interest saiga antelope -- the only well-dated record of this species in Britain.

The Charterhouse area is of great importance as the finest remaining example of the unique Lead orefields of the Mendips. The surface features derived from lead working from pre-Roman times up to the nineteenth century are extremely well preserved. Study of these surface features has enabled geologists to determine the form of the mineral veins and the large size of the ore-bodies. The orefield can be examined underground in a number of caves and old mines. Mineralization is seen to occur in sedimentary features known as neptunian dykes. Most of the ore-bodies are dominated by the mineral Galena (lead sulphide), but Cerussite (lead carbonate), Pyrite (iron sulphide), Limonite (iron oxide) and Calcite (calcium carbonate) occur; Smithsonite (zinc carbonate) occurs locally. This type of residual mineralization is restricted to the Mendip area in Britain and this site is the best locality at which to study it.