

# **CAVE CONSERVATION PLAN FOR THE CAVES UNDERLYING THE LONGWOOD VALLEY, CHARTERHOUSE-ON-MENDIP, SOMERSET**

## **INTRODUCTION**

This plan relates principally to the caves known as Longwood Swallet and Rhino Rift and also to other cave and karst features to be found in their immediate vicinity. These caves form an important part of the drainage catchment of the Cheddar Springs, with Longwood Swallet engulfing the largest single stream in the catchment area. Rhino Rift is a classic example of an invasion vadose cave (Ford, 1968) since abandoned. It has been described in detail by Stanton (1972) and further studied by Atkinson *et al* (1984). Longwood Swallet has the distinction of being the deepest known cave on Mendip, at 178 m (Irwin and Jarret, 1992). It was the subject of an intensive study by Atkinson (1967) and further studies, of both the caves and of their relevance to studies of Pleistocene landscape evolution, are described by Farrant (1995). In Longwood Swallet the majority of the distinct former water tables of this catchment can be recognised (Farrant, 1995), the most complete sequence that can be seen in any one site. It also has fine examples of fault guided passages and chambers and exposures of fault breccia. The full extent of the scientific work carried out at this site is not reiterated here, readers should refer to the select bibliography given at the end of this plan. The area has been designated as a Site of Special Scientific Interest (SSSI) by the Nature Conservancy Council (now Natural England), see Appendix B.

## **OBJECTIVES**

The particular features of this site, outlined above, are of continuing interest for both scientific and aesthetic reasons. It is important therefore for future enjoyment and study that this site and these features are protected. The objective of this plan is to provide the maximum degree of conservation for the site, whilst still allowing reasonable access for interested and responsible parties under the terms of the Licence between Somerset Wildlife Trust and the Charterhouse Caving Company Ltd).

## **SITE DETAILS**

The entrances to the caves are all to be found in an area known as Longwood Valley, which is a tributary valley to Velvet Bottom, itself tributary to Cheddar Gorge.

The NGR of the entrances are as follows :

ST 48635570	Longwood Swallet
ST 48475557	Rhino Rift

Other sites include:

ST 48585548	Longwood Valley Sink
ST 48585537	Toothache Pot

Surveys of the cave sites have been published by:

Longwood Swallet	Mendip Caving Group, 1984
Rhino Rift	Wessex Cave Club, Journal <b>12</b> . 140 p 50, 1972

Both surveys are available via the Mendip Cave Registry and Archive (MCRA).. Copies are appended to this plan (Appendices A and B).

The land on which the cave entrances are situated belongs to Somerset Wildlife Trust (SWT). There is no public right of way to the caves. Access to the caves is licensed to a company formed by local caving clubs, The Charterhouse Caving Company Ltd. (CCC Ltd.). The underground management, including the control of access, is administered by CCC Ltd.

### **FEATURES REQUIRING CONSERVATION**

The particular features requiring conservation in these caves can be divided into three categories: Calcite Formations, Clastic Sediments and Passage Morphology.

#### **CALCITE FORMATIONS:**

Neither Longwood Swallet nor Rhino Rift are particularly noted for their profuse calcite decoration. Small displays of good quality are to be found at various locations throughout both caves, but more especially in Longwood Swallet. Of less aesthetic but equal scientific value are the calcite flows that overlay or are interbedded with clastic sediments at points throughout the caves.

#### **CLASTIC SEDIMENTS:**

Sediments of mud, sand and gravel are to be found throughout the caves. These have scientific value for correlating the various phases in the history of the formation of the caves. Being less aesthetically pleasing than calcite deposits, they are in danger of random damage through ignorance of their potential importance.

#### **PASSAGE MORPHOLOGY**

Most of the elements of cave passage morphology, passage shapes, dimensions and altitudes, are not generally thought to be at risk, except in the circumstances of digging operations. Some more delicate features do exist, however, such as fossils exposed in the cave walls by differential erosion, and equal care must be shown to these. Included within this category are the surface features of geomorphological interest, notably the stream sinks, both active and abandoned.

## **THE PRESENT STATE OF THE CAVES**

Longwood Swallet was first entered in September 1944 and the majority of the known passages were explored between April 1945 and August 1947. It has been in continuous use by cavers since that time. The (current) end of the system was reached in February 1982 after a prolonged dig. The cave is traversed by a large stream and, is therefore a relatively high energy environment. As such, it tends not to have delicate features which require special care, except in situations well out of the reach of water and therefore relatively safe from accidental damage by cavers. For these reasons and because its difficulties have meant that it has never been as popular as other large Mendip caves it has remained reasonably well preserved since its discovery.

Rhino Rift was first descended in 1971, after sporadic digging dating back to 1920 (Donovan, 1951). As it is one of the few Mendip caves with deep pitches it has been a popular trip for cavers ever since. The major changes that have occurred over the time that it has been open have been the stabilisation of the loose rock on the ledges, much of which has been removed to the base of the third pitch, and the placement of a number of artificial belays. The first three pitches are currently equipped with BCA approved resin anchors.

## **CURRENT CONSERVATION PRACTICES**

### **ACCESS CONTROL**

Access is controlled by the Charterhouse Caving Company Ltd. Both of the major caves are gated. Keys are held by the member clubs of CCC Ltd. Parties are limited to six persons. No novices are allowed in the caves. Members of non-member clubs are able to gain access by application to a member club or to the Hon. Secretary of CCC Ltd. and are required to sign an indemnity form which also provides details of the regulations governing the use of the cave.

### **USE OF CARBIDE**

The use of carbide lamps is forbidden.

### **DIGGING GUIDELINES**

All digs in the area are subject to the approval of BW and of CCC Ltd. An annual report is required from all digging teams. Submission of these reports is a condition of continued permission. No digs are approved unless, i) likely to lead to significant discoveries, ii) their working will not significantly damage known cave features.

The use of explosives may be approved subject to the damage guideline above and to suitable insurance cover being provided.

### **FIXED AIDS**

The placement of fixed aids in these caves must not be done without the explicit permission of CCC Ltd.

With the exception of the gate, only one fixed aid has been installed in Longwood Swallet by CCC Ltd. and it is not CCC Ltd. policy to alter this state of affairs in the foreseeable future. There is one resin bolt placed above Swing Pitch which is part of the BCA scheme. A series of 8 mm spits on a climb in Main Chamber are not maintained by CCC Ltd.

Since this plan was first drawn up in 1995, the *ad hoc* collection of bolts in Rhino Rift have been replaced by a series of resin anchors installed as part of the BCA scheme. These are actively monitored.

## ACCESS CONTROL – MINOR SITES

*Longwood Valley Sink:* This is an active dig site, it is kept locked and access is controlled by the diggers. Cavers interested in visiting the site should contact the digging team, through the Charterhouse Caving Company Ltd.

*Toothache Pot:* This is an active dig site. It is a 1.5 m square shaft approximately 11 m deep which showed some signs of having been worked by miners. It is surrounded by a post and wire fence. It has no features of particular conservation interest and is difficult to locate amongst the undergrowth, being well off the path. For access, please contact the Charterhouse Caving Company Ltd who will put cavers interested in visiting the site in touch with the diggers.

*Polar Bur:* This is a small hole in the side of the valley in Velvet Bottom. Digging permission has been granted to members of the Cerberus Speleaeological Society. For access, please contact the Charterhouse Caving Company Ltd who will put cavers interested in visiting the site in touch with the diggers.

*Timber Hole:* This is a short shaft at the lower end of Velvet Bottom. Digging permission has been granted to members of the Cerberus Speleaeological Society. For access, please contact the Charterhouse Caving Company Ltd who will put cavers interested in visiting the site in touch with the diggers.

## EXTERNAL FEATURES

At present the area of Longwood Valley, above the caves, is maintained as a Nature Reserve by the Somerset Wildlife Trust. As their practices are also conservation oriented, they are unlikely to cause problems with the caves or karst features.

Pollution of the watercourse has been a problem in the past, but it is considered that this can be adequately monitored and controlled using powers available under the Water Acts.

## BATS

Bats are not commonly seen in the caves in this area, but doubtless they do make some use of the caves. Studies by Heaver (see Heaver 1990 for full bibliography) in South Wales cave sites indicate that bat population sizes appear to be independent of human traffic in caves of this type or larger. It would appear, therefore that no specific measures to conserve the bat populations are necessary.

## MONITORING

The caves are monitored by periodic visual inspections, undertaken by persons familiar with both features of scientific interest and formations of ascetic value. Any changes are noted and recorded. Formal monitoring is undertaken every ten years in a format agreed with Natural England.

## FUTURE CONSERVATION MEASURES

Subject to the results of the surveys, it may be that certain aspects of current practice need to be altered, specifically:

*Access Control:* If damage levels are found to be higher than currently believed, then further restrictions on the availability of keys and the size of parties may be required. It is certainly the case that these caves are not a suitable site for commercially run caving trips, of any type. Neither the increase in traffic nor the decrease in understanding that would result from parties of this type could in any way contribute to the conservation of the site. Access to such delicate sites should be for recreational cavers only. This principle may be applied by limiting access only to members of properly established caving clubs or direct members of the national body for caving.

*Scientific Work:* The Cheddar Catchment is probably the most intensively studied karst area in the country. This large base of material makes it valuable as a subject for further research. Whilst this is to be encouraged, It is proposed that the sampling of sediments should be restricted to those projects likely to produce new information, and that sampling simply to confirm current knowledge or for training purposes should be prohibited.

*External Features:* Any proposed changes in the use of the overlying land should be carefully reviewed, and the list of Potentially Damaging Operations (PDO's) applied by the SSSI schedule should be adhered to. (See Appendix C)

*Site Clean-Ups:* These have been held sporadically in the past. It is proposed that they should become regular events, in line with the site surveys.

*Education:* No policy of this nature can succeed unless it is known to and understood by those people who use the site. This policy and the circumstances surrounding its formation will be published in such manner as will reach the greatest number of these people. Consideration will also be given in future to other ways of publicising it.

It is equally important that the policy, and the reasoning behind it, should be understood by those people who administer it. Regular training will be held for those people in CCC Ltd. clubs who have responsibility for issuing keys, and that only those persons with this training will, in future, take this responsibility.

## REVIEW

This plan will remain in force for a period of ten years from the date hereof and this period may be extended for further periods of ten years or as otherwise agreed by the signatories.

## APPENDICES

- A) Copy of the published survey of Longwood Swallet.
- B) Copy of the published survey of Rhino Rift
- C) Copy of the SSSI notification Citation Sheet, Map and PDO list.

## REFERENCES CITED AND SELECT BIBLIOGRAPHY

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- HEAVER, S. 1990. Bat Investigations of Mynydd Llangatwg 1988-1989. *The Red Dragon, Annual Journal of the Cambrian Caving Council*. **17**. pp8-19.
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- KNIBBS, A.J. 1967. August Hole: New Discoveries. *Journal of the Mendip Caving Group* **4**. pp15-18
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STRIDE, R.D. and STRIDE, A.H. 1946. Longwood Swallet, Charterhouse-on-Mendip. *Proceedings of the University of Bristol Speleological Society* 5. 3. pp 183-187.

STRIDE, R.D. and STRIDE, A.H. 1949. August Hole, Charterhouse-on-Mendip *Proceedings of the University of Bristol Speleological Society* 6. 1. pp 14-22

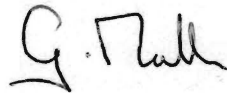
Originally prepared by G. J. Mullan

Dated 1<sup>st</sup> day of June 2015

Signed



On behalf of Natural England



On behalf of Charterhouse Caving Company Ltd.



On behalf of Somerset Wildlife Trust



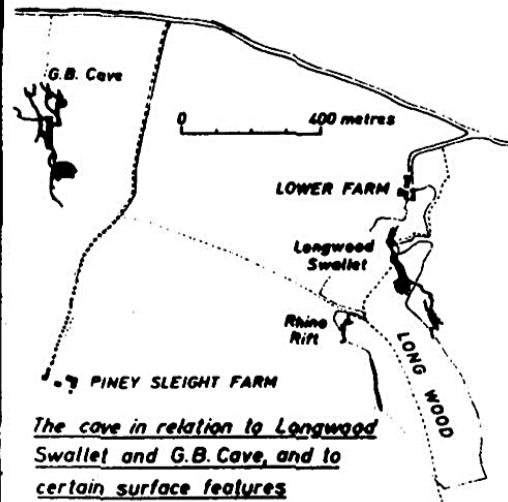
# RHINO RIFT

CHARTERHOUSE ON MENDIP

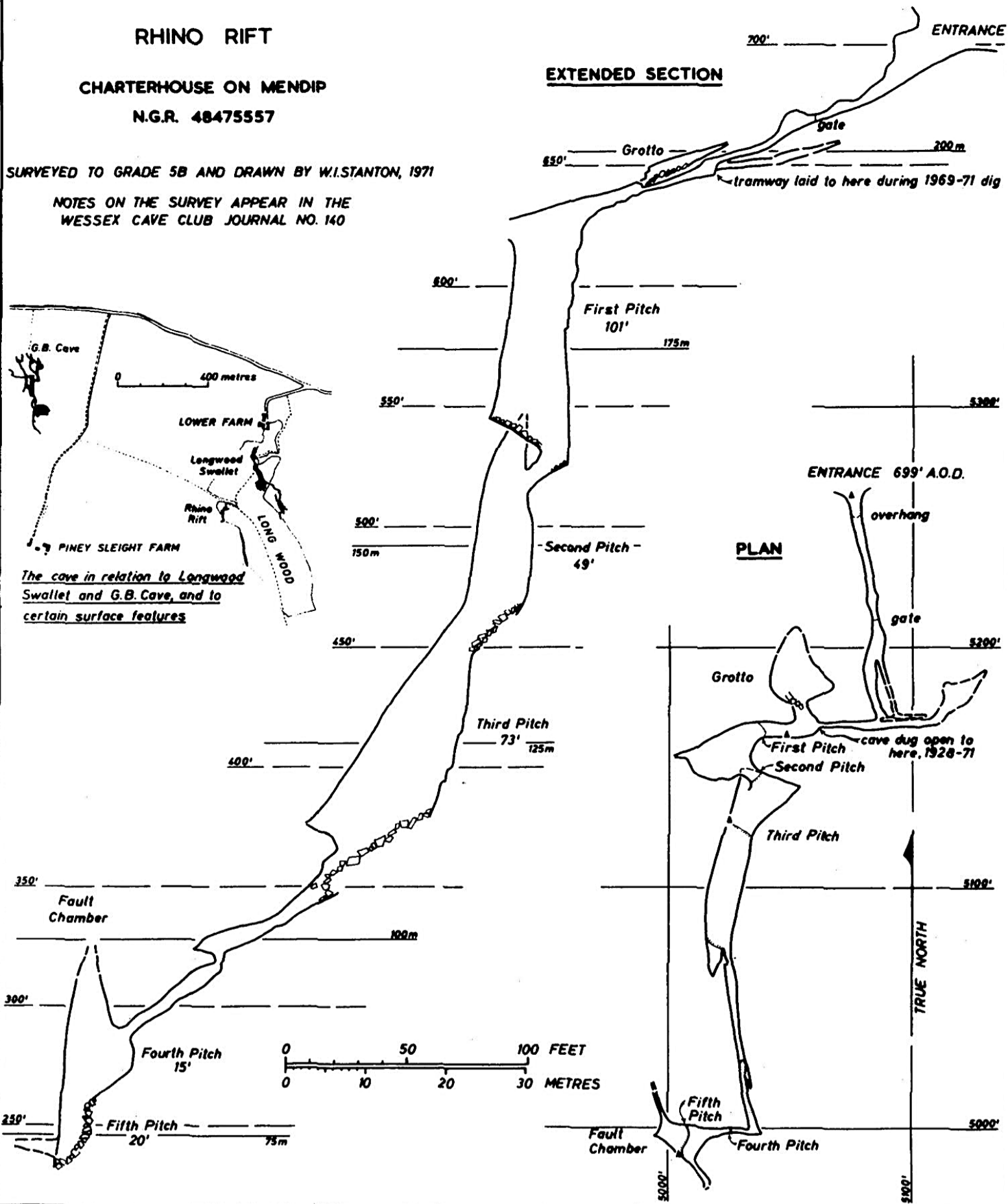
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SURVEYED TO GRADE 5B AND DRAWN BY W.I. STANTON, 1971

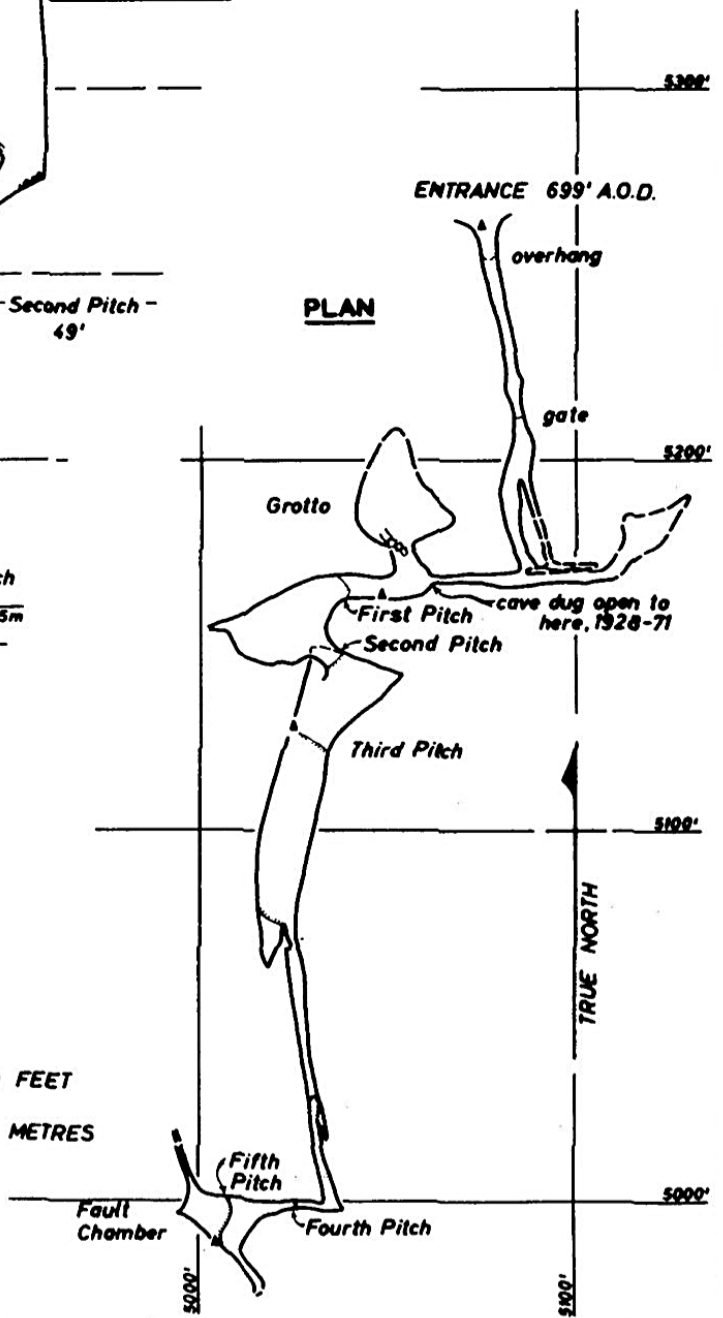
NOTES ON THE SURVEY APPEAR IN THE  
WESSEX CAVE CLUB JOURNAL NO. 140



## EXTENDED SECTION



## PLAN



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 swallet 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.

SITE NAME: THE CHEDDAR COMPLEX, SSSI, SOMERSET

OPERATIONS LIKELY TO DAMAGE THE FEATURES OF SPECIAL INTEREST

<u>Standard Ref. No.</u>	<u>Type of Operation</u>
1	Cultivation, including ploughing, rotovating, harrowing and reseeded.
2	Grazing and changes in the grazing regime (including type of stock or intensity or seasonal pattern of grazing and cessation of grazing).
3	Stock feeding.
4	Mowing or other methods of cutting vegetation.
5	Application of manure, fertilisers and lime.
6	Application of pesticides, including herbicides (weedkillers).
7	Dumping, spreading or discharge of any materials.
8	Burning.
9	The release into the site of any wild, feral or domestic animal*, plant or seed.
10	The killing or removal of any wild animal*, including pest control.
11	The destruction, displacement, removal or cutting of any plant or plant remains, including tree, shrub, herb, hedge, dead or decaying wood, moss, lichen, fungus, leaf-mould and turf.
12	Tree and/or woodland management (including afforestation, planting, clear and selective felling, thinning, coppicing, modification of the stand or underwood, changes in species composition, cessation of management).
13a	Drainage (including moor-gripping and the use of mole, tile, tunnel or artificial drains).
13b	Modification of the structure of water courses (e.g., rivers, streams, springs, ditches and drains), including their banks and beds, as by re-alignment, regrading and dredging.
13c	Management of aquatic and bank vegetation for drainage purposes.
14	The changing of water levels and tables and water utilisation (including irrigation, storage and abstraction from existing water bodies and through boreholes).
15	Infilling of ditches, drains, ponds, pools, marshes or pits.
16a	Freshwater fishery production and management including sporting fishing and angling.
20	Extraction of minerals, including topsoil, sub-soil, lime, limestone pavement and spoil.
21	Construction, removal or destruction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, or the laying, maintenance or removal of pipelines and cables, above or below ground.
22	Storage of materials on or against features of interest.
23	Erection of permanent or temporary structures, or the undertaking of engineering works, including drilling.
24	Modification of natural or man-made features (including cave entrances), clearance of boulders, large stones, loose rock or scree and battering, buttressing or grading rock-faces and cuttings, infilling of pits and quarries.
26	Use of vehicles likely to damage or disturb features of interest.
27	Recreational or other activities (excluding caving) likely to damage features of interest.
28	Game and waterfowl management and hunting practices.

\*"animal" includes any mammal, reptile, amphibian, bird, fish or invertebrate.

Site Notified to the Secretary of State on 23 March 1989



SOMERSET

NOTE: A larger scale map, showing the definitive boundary, is available on request

**NATURE CONSERVANCY COUNCIL**  
 Site boundary thus  
 Scale 1:25 000

0 Metres 500 1000  
 0 Yards 500 1000

▲ Grid North

Site notified to the Secretary of State on 23 March 1989

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