Table of Contents

[**Introduction** 1](#_Toc9929875)

[**Conservation Objective** 1](#_Toc9929876)

[**Why should we conserve?** 1](#_Toc9929877)

[**Why does Ogof Draenen warrant special consideration?** 2](#_Toc9929878)

[**Conditions of Access** 2](#_Toc9929879)

[**Code of Conduct** 2](#_Toc9929880)

[**Taping Policy** 2](#_Toc9929881)

[**Policy on Entrances** 2](#_Toc9929882)

[**Biological conservation and Bats** 2](#_Toc9929883)

[**Geological features and conservation** 3](#_Toc9929884)

[**Stalagmite and speleothem deposits** 3](#_Toc9929885)

[**Rock outcrops, fossils and mineral deposits** 3](#_Toc9929886)

[**Cave sediments** 4](#_Toc9929887)

[**Bat Guano deposits** 4](#_Toc9929888)

[**Archaeological deposits** 4](#_Toc9929889)

[**Wilderness conservation principles** 4](#_Toc9929890)

[**Guidelines for cavers - Caving with minimum impact** 5](#_Toc9929891)

[**Guidelines for diggers and exploration** 7](#_Toc9929892)

[**Guidelines for camping** 7](#_Toc9929893)

[**PDCMG Policy on Camps bivouacs and brew stops.** 7](#_Toc9929894)

[**Guidelines for minimal impact camps.** 8](#_Toc9929895)

[**Educational Objectives** 8](#_Toc9929896)

[**Assessment of damage** 8](#_Toc9929897)

[**Statutory Protection** 9](#_Toc9929898)

**Introduction**

This Document is principally concerned with Ogof Draenen but also relates to other caves and sites of speleological interest that fall with in the Ogof Draenen hydrological area. This area can be defined as being bounded by the following features; the Principal amongst these are:

* Siambri Ddu
* Ogof Ddwy Sir
* Jackdaw Quarry Cave
* Cwmavon Quarry Caves.

**Conservation Objective**

*To maintain the cave systems of the Pwll Ddu area and in particular Ogof Draenen in as close to their original natural state as possible.*

To this end this document sets out a number of policies, guide lines and objectives which together constitute the intent of the PDCMG with regards to the conservation of the caves of the Pwll Ddu area.

***The Area***

The area we are concerned with is bounded by the following features:

To the NE the limit is the quarries of Gilwern hill,

To the N the limit is the Pwll Ddu embayment and the scarp face of the Blorenge,

The Easterly boundary is the eastern side of the Blorenge and the ridge running South from it. The extent to the south is the resurgences at Snatchwood.

**Why should we conserve?**

It should be possible for cavers in the future to visit Ogof Draenen and experience the cave in the same condition as early explorers, not only should the cave walls and floor look the same as they did originally, but the cave should retain the same feel.

This is achieved by going beyond the conservation of individual parts, such as speleothems or sediment banks and instead taking a holistic approach to conserve the cave in its entirety.

As a result it should, in the future be possible to carry out scientific investigations of a similar quality to that which could be carried out immediately following discovery. It is recognised that there are situations where this is impossible, certain aspects of microbiological investigation being one.

**Why does Ogof Draenen warrant special consideration?**

Ogof Draenen is the longest continuously traversable cave system in the UK and lies within the top 20 longest in the world.

It is very complex both physically and in terms of its speleogenisis, having been formed in a number of distinct phases, each in response to the changing surface topography.

Extensive fossil passages remain which together with their sediments are a record not only of the cave's development but of the geomorphological history of the surrounding area.

Many passages contain exceptionally fine formations including extensive areas of gypsum crust and the largest aragonite bushes found in the UK. to date.

The cave is used during winter by greater and lesser horseshoe bats.

**[Conditions of Access](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/access.htm)**

and

**[Code of Conduct](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/conduct.htm)**

**[Taping Policy](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/poltap.htm)**

**[Policy on Entrances](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/polent.htm)**

**Biological conservation and Bats**

The cave is used by a number of species of bat as a winter roost. Fortunately there has so far been little conflict of interest between bats and cavers within the cave and some minor alteration of routes through the cave is all that has been necessary to prevent disturbance of roosting bats. Signs have been placed at the entrance and at various points in the cave indicating that bats use the cave in general, certain sites in particular, that they are protected by law and that it is an offence to disturb them in any way. **There is also a request that any sightings of bats or any other species be reported to the [Biological Recorder](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/com.htm)**

There have been many other species [recorded](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/plancons2003.htm#area) in the cave. Both vertebrates and invertebrates are represented. Work to date on identification and distribution of species has been carried out by a number of individuals who have specialised areas of expertise. Whilst very useful, this has resulted in great detail being known about small areas of the system whilst other areas have yet to be studied.

Researchers are welcome but any research project should be discussed with the [Biological Recorder](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/com.htm) prior to starting. This is to make sure that projects are viable, necessary, and do not duplicate other work. **Cave ecosystems are fragile and populations of organisms may be very low so great care should be taken not to oversample any one area.** Any results should be made available to the committee but will **not** be made available to the wider public except with the explicit permission of the author/researcher.

**Geological features and conservation**

Ogof Draenen contains many features of geological, geomorphological and archaeological importance. These include rock outcrops, passage morphology, stalagmite formations, cave formations, cave sediments, mineral deposits, bat guano deposits, fossils, bones and skeletal remains.

The need to conserve such features is important because of the information that can be gained by studying such deposits. As such, any serious research projects in the cave are encouraged and permission to collect samples, and study these deposits will be given unless there are overriding conservation issues. Any research project shoiuld be discussed with the PDCMG [Geological Officer](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/com.htm) prior to starting. This is to make sure that projects are viable, necessary, and do not duplicate other work. Any results should be made available to the committee but will **not** be made available to the wider public except with the explicit permission of the author/researcher.

**Stalagmite and speleothem deposits**

Apart from their intrinsic aesthetic interest, stalagmite deposits of all types (collectively known as speleothem deposits) are potentially important scientific archives and should be conserved where possible. Some speleothem deposit may be suitable for dating using U-series, palaeomagnetic and ESR methods.

Collecting of speleothem deposits for research purposes (palaeoclimatology, dating etc) should be done in consultation with the PDCMG [Geological Officer](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/com.htm). Sample collection should be from areas where sampling will not impact significantly on the aesthetic quality of the cave. Ideally, samples should be taken from already damaged, broken or buried stalagmite deposits. The minimum sample shold be taken, ideally taken by coring. Thought needs to be given to site restoration.

Digging and removal of speleothem deposits for exploration is discouraged and should only be considered as a last resort and avoided where possible. Rare anthodites, gypsum needles and helicites should be conserved, and taped off. If necessary, construction of retaining walls and creating footpaths away from the formations should be considered.

**Rock outcrops, fossils and mineral deposits**

Ogof Draenen provides a superb exposure of the entire limestone sequence in three dimensions, and contains some significant fossils and minerals. All the rock units are well exposed, and although such exposures are very robust, some particular exposures may be damaged by heavy traffic, for example INDIANA Highway, where the pale grey Gilwern oolite is being encrusted in mud.

The lower part of the Gilwern oolite in particular contains some good fossils (the Craig-y-Gaer fossil bed). All fossil and mineral deposits such as barytes, copper minerals (azurite, malachite) and gypsum should be left in situ, unless they are in immediate danger of damage. Wher possible, good localities should be taped or walled off. Collecting of fossils and mineral deposits is didcouraged unless for research purposes where authorisation should be sought from the PDCMG [Geological Officer](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/com.htm) before collecting any samples. Any samples removed from the cave should be deposited in a local museum.

**Cave sediments**

These are the Cindarella of cave deposits. Often overlooked and damaged, cave sediments are important in understanding how the cave functioned and evolved. When discovering new passage, consideration should be given to cave sediments, and in particular to any sedimentary structure they contain such as ripple marks. Many delicate features are destroyed when a passage is discovered. Watch where you put your feet and try to keep to a single footpath, and avoid walking over large expanses of sediment. Early taping is imperative, even as you explore. In particular, mud cracks, ripples and sediment banks should be taped or walled off (for example those in Gilwern passage) as soon as possible.

When digging, please try and avoid digging through good exposures of cave sediment. Where possible, please make a record of the type of sediment and note any interesting features. Collecting of sediments is discouraged unless for research purposes where authorisation should be sought from the PDCMG [Geological Officer](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/com.htm) before collecting any samples.

**Bat Guano deposits**

Any significant guano deposits should be taped off and left undisturbed. Collecting of guano is discouraged unless for research purposes where authorisation should be sought from the PDCMG [Geological Officer](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/com.htm) before collecting any samples.

**Archaeological deposits**

All skeletal remains should be left in situ and taped off as soon as possible, unless they are in immediate danger of damage. In this case, a detailed description, and photographs of the deposit and its context is desirable. Any archaelogical investigation should be carried out by qualified archaelogists only, and authorisation should be sought from the PDCMG [Geological Officer](https://web.archive.org/web/20110727132235/http:/www.pdcmg.org.uk/com.htm). Any samples removed from the cave should be deposited in a local museum.

**Wilderness conservation principles**

Ogof Draenen contains an additional rare resource. Because of its length, complexity, recent discovery, and because it has no naturally open entrances, it contains extensive ares of cave which must be classed as remote wilderness. Conservation of this wilderness is important not just because it helps preserve the phyical condition of the cave, but also because it offers a caving experience extremely rare in British caving. The preservation of particularly good examples of remote wilderness is now a common conservation strategy in above ground landscape management. The PDCMG believes it is important to take a lead in formally recognising the natural extension of this approach to the underground environment. Wilderness preservation is best served by adhering to a number of specific guidelines:

Where possible do not:

* Further enlarge squeezes or crawls once they have been passed
* Drain sumps
* Remove or modify other obstacles
* Open additional entrances
* Create artificial round trips (The conservation implications of this can be seen in the lower Wessex Series. This area contains many delicate aragonite straws, columns and urchins in narrow awkward passages and these remained in fine condition while this was an off the track seldom visited area. Now that a trade route has been established through here, both the formations on the route and in the side passages easily mistaken for the route are suffering.)

Where possible do:

* Immediately tape routes through new cave to restrict caver damage to the smallest possible area.
* Restrict access to experienced cavers who are most likely to use the site in careful and conservation minded manner
* Undertake whatever steps are necessary to protect individual features of importance and the cave as a whole.

**Guidelines for cavers - Caving with minimum impact**

Every caver on every caving trip inflicts damage upon the cave. However the extent of this damage varies greatly and in general experienced fit and conservation aware cavers will do less damage over the course of many trips than may be caused by one careless individual on a single trip.

After a new area of cave is found and hopefully taped, there follows a period during which the cave floor within the tapes is destroyed - this is inevitable unless we stop caving. Following this virtually no further damage occurs either inside the tape, as there is nothing left to damage, or out side the tapes as nobody goes there. That is until an individual through ignorance or carelessness blunders over the tapes and causes irreparable damage. Even in areas where the awkwardness of the passage extends the area of damage to things that we would prefer to remain undamaged, once the initial period of wear and tear is over, only rogue individuals or parties will cause further damage.

There are a number of steps that individuals and group leaders can take to ensure that their trip has as little impact upon the cave as is possible.

The points made below are deemed to be particularly pertinent to the nature of trips undertaken in Ogof Draenen. They may be in addition to or reiterate those listed in sections 13.1 to 13.3 of the NCA cave conservation handbook and should be read in conjunction with these.

1. Make sure that you and everyone in the party understands why conservation tapes have been laid and why you should stay within them. They are there to protect pristine cave passage from damage by you by confining your boot-marks and other evidence of your passing to specific paths.

2. Cave within your means: do not plan trips that are going to leave you or members of your party exhausted to the point where they become careless, damaging the cave or becoming a liability to themselves or others.

3. Make sure that your equipment, in particular lights is in good working order, and that these will last the trip. A caver without a light is certainly likely to do damage.

4. Give thought to what you carry under ground and to the container that it's packed in. Obviously small packages will do less damage than large ones. A lightweight approach is good for conservation.

5. Food. Almost all trips in Draenen will require food to be carried but the mould left by careless eating can become a serious eyesore. Eating over a poly bay is one fast easy solution to the problem.

6. Urine. Peeing into stream ways will have no serious consequences and these are the preferred spots. When a stream isn't available an area with plenty of percolation drips or that is regularly flooded is the next best choice. Try to avoid peeing in dry areas in fossil passages.

7. Excreta. You should at all costs avoid leaving excreta in the cave. If the need is likely to arise as on camps or very long trips then suitable poly bags should be carried and used and the whole lot carried out. In an emergency try to improvise some means of carrying it out, if this is impossible and there's a sizeable stream nearby then this is the next best option, otherwise you need to return with the necessary equipment to remove it at the earliest opportunity.

Anyone in a position of leadership, be that formerly or simply as the more experienced member of the group has a duty to ensure the following.

That all members of the group understand the fragility of the cave environment and the rationales behind cave conservation, conservation taping and caving with minimum impact.

Everybody has a responsibility to pass on the ideals of good cave conservation to new cavers and if a group or individual is witnessed damaging or potentially damaging the cave through carelessness, ignorance or malice, then constructive interference is justified.

Finally it's worth considering cave conservation the next time you buy a new oversuit. Shiny PVC style suits hold and spread considerably less mud and dust than the woven nylon cordura kind.

**Guidelines for diggers and exploration**

Digging and exploration, probably more so than any other activity within the cave, are by their nature activities likely to result in long-term damage to the cave. The quandaries often faced by the explorer can best be illustrated by the scenario where open drafting passage can be seen stretching into the distance beyond a barrier of straws or other formations. The decision as to whether to destroy the formations in the hope of finding greater and better things beyond is difficult, and responsibility usually rests entirely with the explorers.

However, although the way on is seldom blocked by fantastic formations, any digging activity or progression into new passage usually involves the destruction of one section of the cave in order to discover another.

So the question you should have in your mind whenever involved in these activities is this:

Is what I am likely to find worth the destruction of what I am likely to destroy.

Before tearing up any section of pristine floor consider the following:

Has the passage you are hoping to discover been entered already from another location or if the area in which you intend to dig is sensitive have you tried other alternatives to reach the same area?

**Guidelines for camping**

It is recognized that owing to the time needed to reach certain areas of the cave it may be necessary to camp within the cave in order to effectively carry out projects in the further reaches of the cave.

In the past large scale long-term camps have posed a serious pollution problem and have caused damage on an unnecessary scale.

This situation must not occur in Ogof Draenen.

Fortunately it has already been shown that this does not need to be the case. Small scale short term camps have been used to great effect in Draenen and subsequently removed or relocated, leaving almost no trace of their presence.

This method of operation is certainly preferable to the opening of additional entrances as a means of shortening journey times as the these have been shown in OFD and other caves to have a very serious long term detrimental effect on the cave and once opened are very difficult to close. The opening of additional entrances also has an unknown effect on drafts and hence on bat roosts and probably on many other features with in the cave.

To sum up

**PDCMG Policy on Camps bivouacs and brew stops.**

The above are permitted as they are an effective means of working efficiently within the further reaches of the cave and are a less damaging alternative to opening additional entrances. They should be kept as small as possible, be completely removed as soon as their useful life span is over and adhere to the following guidelines.

**Guidelines for minimal impact camps.**

If camps or brew-stops are to be established in the cave strong consideration should be given to minimising their impact. Choose your site sensitively, where immediate visual impact is minimised and where significant long-term damage is avoided. Do not alter the site unnecessarily (e.g. by building stone tables or other structures) and remove everything once the camp is no longer to be used.

Do not over provision. This can lead to inertia, making removal of the camp difficult once it is no longer used. It also increases immediate visual impact, and promotes decay. Take care not to pollute the site by dropping food, or leaving organic matter exposed. Careful choice of provisions can avoid the need for cooking, and hence washing up waste, altogether. The best meals from this point of view are specialist backpacking meals which simply require the addition of boiling water to the packet from which they are then eaten. Remove all waste, including human faeces, immediately, and use robust containers for transporting organic materials both in and out of the cave.

Do not use paraffin, hexamine, or other fuels that produce exhaust potentially toxic to bats, or intrusively odorous to other cavers. Gas is by far the cleanest fuel for cooking and is the fuel of choice for cave camps. Remember - any organic material in the cave will eventually go mouldy, potentially impacting the experience of other cavers and altering the cave's ecology.

**Educational Objectives**

It is to be hoped that by the time cavers reach Ogof Draenen they are already well aware of the concepts of cave conservation and of the need to cave with minimum impact. There is however a role for education within the cave and for the cave as an educational tool and hopefully as an example of what can be achieved with determination.

The dissemination of the code of conduct to those applying for access and its placing at the entrance are key parts of this, as is the use of small signs with in the cave to explain taping strategy where it may be ambiguous or controversial.

**Assessment of damage**

In order to ascertain whether the measures that we are undertaking are effective it is necessary to have in place some means of measuring the level of damage being suffered.

We currently monitor the usage of the cave and have a reasonably complete picture of the number of trips made to the various areas of the cave.

Fixed-point photography at certain key locations should be undertaken. We alredy have a library of photos taken in the weeks after discovery and it should be possible to repeat these in vulnerable areas such as Gilwern Passage and Indiana Highway to ascertain how these have been affected by the traffic so far.

**Statutory Protection**

The cave is currently a Regionally Important Geological Site (RIGS) and Siambri Ddu is designated a Site of Special Scientific Importance (SSSI) although Draenen itself doesn't have SSSI status at the moment.

SSSI status should be considered.

A pollution incident in which diesel from an overturned lorry entered the cave with effects that lasted many months could have been reduced if the area was registered as a Ground Water Protection Zone. Councils have a legal obligation to prevent pollutants escaping into the ground water in these areas.