Report on the first AHRC Upland Caves Network meeting – *Caves and Cave Research*

The first workshop of the Upland Caves Network was held at Manchester Museum on June 13th 2009.

The aim of this workshop was to bring together people with an interest in caves and cave research to discuss their fields of expertise (e.g. caving, archaeology, conservation, management) and to examine how groups with diverse interests can best work together to improve our understanding of cave environments, both past and present.

Four 'issues' talks were presented in the morning session, to provide food for thought and to facilitate discussion. These were followed in the afternoon by two further talks on successful cave research projects, followed by further discussion.

The major conclusion from the first workshop was that communication between people and groups working in caves is key to a productive relationship. We have a lot to learn from each other, and the best way to promote this is to keep in contact and disseminate information about our activities.

It was also felt that guidelines or just general information on how to excavate a cave, and the type of information that should be recorded (surveys, soil samples, etc.) would be very useful. This is the topic for the next workshop and conference of the Upland Caves Network (entitled *Cave Exploration and Excavation*), and draft plans should exist by the end of 2009. It was also apparent from the meeting that guidelines have already been produced by several different interest groups and land owners/managers and that it would be a good idea to bring these together to prevent duplication of effort.

An overall feeling from the day is that cave research is on the fringe of many areas, e.g. archaeology, biology, etc., but it has a lot to offer in aiding our understanding of past human activities, and even such large topics as the biological colonisation of Britain after the last ice age. Therefore caves and cave deposits deserve more attention than they have currently received.

Overviews of the talks:

Graham Proudlove, Manchester Museum, 'Issues in cave biology'. Graham's talk emphasised the importance of past research, and also how many questions on cave faunas remain to be answered. Focussing on Britain and Ireland Graham explained the difference between subterranean biology and

cave biology (cave biology is a subset, as subterranean biology can include animals that live in sediments, gravels, mines, etc.). Amongst animals that dwell in caves there are a number of different types, from those that are only found in caves (Troglobites) to those that find their way in by accident and cannot survive there (Trogloxenes). The Hazelton database contains over 6,000 records of animals in caves, but it is biased towards larger creatures (greater than 2mm long) and also contains many records of accidentals rather than true cave dwellers. Britain has relatively few cave specialist fauna (approximately 6-10 troglobite species) in comparison with the continent, and this may be a result of the ice ages that covered the British landscape with ice, which subsequently melted flushing the cave systems. Some cave systems contain a considerable number of species, such as Gaping Gill which has 33 different taxa recorded within it. In several cases the same species are recorded in populations that live both within and outside the caves, but the level of movement between these populations is unknown. Examples of these creatures include springtails (Collembola), the rosy woodlouse (*Androniscus dentiger*) and a millipede (*Nanogona polydesmoides*). Genetic work that has been undertaken on two different troglobite species – *Niphargus kochianus* (found in England and Scotland) and *Niphargus irlandicus* (found in Ireland) indicates that they diverged some 23 Million years ago. This suggests that they have been living separately for million years, and that Ireland was not recolonised from Britain, indicating that the glaciers did not result in the complete absence of animals in caves after all. Future work: targeted surveys of particular cave systems are needed, with a particular need for taxa less than 2mm long to be recorded. There is also a need for more genetic work to understand the population dynamics of the animals that live within the caves.

John Thorp 'Issues in cave exploration'. John gave a talk based on his extensive caving experience, from exploration to surveying. There are many different ways of searching for new caves including plotting the surface features, examining the hydrology of the area, or looking at local vegetation. A new cave should be surveyed as it is explored, and the surveys published as soon as possible. These surveys should ideally include a plan, elevation and cross-sections of the cave. Once the exploration has been completed, a cave can be capped and made stock proof if necessary. There are many types of cave survey that can be undertaken, for special interests such as archaeology or biology. Some caves are active with movement of sediment, these include some archaeological sites such as North End Pot. These are a particular challenge, not only for surveying but also for archaeologists, and cave digging requires a good knowledge of shoring techniques.

Paul Mortimer, The National Trust, 'Issues in cave management'. Paul talked about the responsibilities of managing an area which contains many cave sites, but also sees upwards of 1 million visitors per year – the Manifold Valley in Staffordshire. Caves come with a large number of interests – people are interested in them for recreation, cultural reasons, sedimentology, geology, archaeology, speleology and caving. A major part of a land managers job is to balance the protection of the cave resource with the demands placed upon it, and to reduce the threat to the cave resources without unreasonably removing access. Caves are particularly vulnerable to damage and loss of sensitive elements, be that plants, speleothems or archaeology. Particular challenges come with people, and burrowing animals such as badgers and rabbits. There are a number of management options which include legislation (e.g. SSSI, SAM, etc) or physical barriers such as gates or doors, and there are advantages and disadvantages of each. Further management strategies within caves can include: zoning a site so that not all areas can be accessed, the use of mesh to prevent burrowing animals digging holes in vulnerable areas, taping off areas of particular importance within a cave to reduce traffic over those sediments, or as a last resort - preserving the deposits by record (i.e. excavating them). Paul talked about the Derbyshire Conservation Association, which represents the diverse caving groups in the Peak District, and initiates cave conservation projects as well as helping to draft cave usage agreements. The conservation of caves has been enabled by developing a positive relationship between the land managers and the DCA. Some of the major issues facing cave research are a lack of interest and funding in cave studies, as it is seen as a bit of a fringe activity by many groups. There are also many different groups and individuals involved and it is difficult to reach all of them – except perhaps through websites. There has also been a lack of communication in the past between those groups that are working on caves and cave research, so hopefully in future this can be improved.

Jonathan Last, English Heritage, 'issues in cave archaeology'. Jonathan talked about the challenges of archaeology in caves and rockshelters as they are a unique type of site. They have a lot of potential to provide information about past environments and human activity dating from the Prehistoric to the post-Medieval periods. But there is relatively little available information on archaeology in caves, as even those that have been excavated have not necessarily been published in detail. Following consultation, therefore, English Heritage funded the Peak District and Dales cave conservation audit, which collected data about known archaeological caves, created a predictive model for which other caves might contain archaeological remains, and made recommendations for future research and management in this area. English Heritage has also funded a variety of cave-related projects including archival work, surveys and excavations. Caves that were excavated in the past may still contain

sediments, and there is information to be gained from examining archives and even the spoil heaps of earlier excavations. Jonathan also noted that cave studies are not yet in the mainstream and compared them to rock art, which was also on the periphery in the past but is becoming an integral part of archaeology. Caves are more than just the cave – their importance includes the scree slopes outside, and the fact that they are an essential part of the landscape, and need to be considered in that context. Therefore it is important to bring cave archaeology to wider attention and help dispel the idea that people in caves were only 'cavemen' as they have been used for burial, ritual, craft activities, rubbish disposal, etc., for thousands of years.

Martin Roe, Meerstone Archaeological Consultancy, 'the Ryedale Windypits Forum'. The Ryedale Windypits comprise four caves on two separate estates near Helmesley North Yorkshire, all containing archaeological deposits. The Windypits Forum was developed to bring together estate managers, people with geological, archaeological and ecological interests and recreational cavers. A Conservation Statement and Management Plan for the Ryedale Windypits funded by the North York Moors National Park Authority and English Heritage was prepared in 2006. This sets out what is known about the sites, and highlights what makes them important, as well as identifying any threats to the sites and what can be done to help manage those threats. A second detailed report on past archaeological activities, the location, content and condition of museum collections and paper archives was commissioned in 2007. Three dimensional surveys of the caves have been undertaken to improve the understanding of the caves and their relationship to the ground surface. The Forum has developed guidelines for cave usage that all members are agreed upon. It is proposed that simplified versions of these guidelines will be placed inside the entrance to each cave and that local volunteers will be trained to monitor the sites.

Steven Birch, West Coast Archaeological Services, 'The High Pasture Cave and Environs project'. High Pasture Cave is found on Skye and consists of 320m of passages. The examination of the archaeological areas began as a rescue excavation, and has now developed into a research excavation. There are three main areas of archaeological interest – the bone passage, a natural hollow outside the entrance and a burnt mound and associated areas of activity. These deposits date from the Neolithic to Iron Age periods. Cave excavations are undertaken with limited resources, and need to examine sediments and site formation processes, as well as the artefacts that are recovered. This requires a team from many different fields. The High Pasture Cave excavation is a volunteer-based community project, and has used CCTV to show people on the surface what is happening below ground as the site is being excavated.