



**SUMMARY
SHEET 3**

Geodiversity



Pillow lava at
Clutter's Cave

This document provides a summary of key points taken from the geodiversity chapter of the AONB Management Plan (2009-2014). It is intended to provide a quick and easy reference guide for users with a specific interest in this subject. Those intending to quote from the management plan and those who require a more detailed understanding should consult the document in full, available at www.malvernhillsaonb.org.uk.

Special features

- Very hard igneous and metamorphic rocks that form the high ground of the Malvern Hills ridge and date from the Precambrian period (460-542 million years ago), including the eastern fault face.
- Silurian rocks, formed in a marine environment, that underpin the ridge and vale scenery (these include the Much Wenlock Limestone and the Ludlow Bone Bed).
- A complex and diverse range of soil types, giving rise to the varied habitats of the AONB.
- Distinctive landforms and river types, including the Leigh Brook, the Leddon and the brook at Gullet Quarry.
- An extensive network of ice age deposits including the Malvern gravels and lacustrine deposits around Malvern.
- Geological structures such as fault lines running across and along the Malvern Hills.

Key issues

Lack of knowledge, appreciation and understanding

The direct links between geology and landscape and between the natural and built environments are often poorly understood. **(G02, G03, G04)**

Threats to Local Geological Sites and other sites

Very few LGS are properly managed or regularly monitored to assess change in their condition. Loss of LGS arising from direct damage or neglect may result in the loss of unique exposures or features that are found nowhere else. **(GP1, G01)**

Visitor pressures

Sites of geological interest are, in places, under pressure from high visitor use. Sensitive sites with unique features such as Gullet Top Quarry regularly experience significant visitor pressure. **(G02, G03)**

RIGS and other sites within the AONB such as Whitman's Hill Quarry can be used to draw visitors away from honeypot sites to explore other parts of the area. These sites can be promoted positively, and interpreted, for geological exploration provided due consideration is given to health and safety issues. **(GP2, G02)**



Abseiling at Tank
Quarry © Malvern
Hills Outdoor Centre

Continued overleaf

Land management operations and development

Insensitive development can lead to the direct loss of, or adverse effect on, geodiversity through the loss of designated sites or exposures. At present little data is available on the extent of loss or damage to sites of geodiversity interest other than designated sites. **(G02, G03, G04, DP1)**

Climate change

Climate change may have profound effects on geodiversity in the AONB. It may lead to the permanent loss of geological features or exposures that are subject to active geomorphological processes, such as frost action, erosion and deposition. Natural hazards such as flooding, landslips and rock falls may become more frequent. **(G05)**

Guiding principles

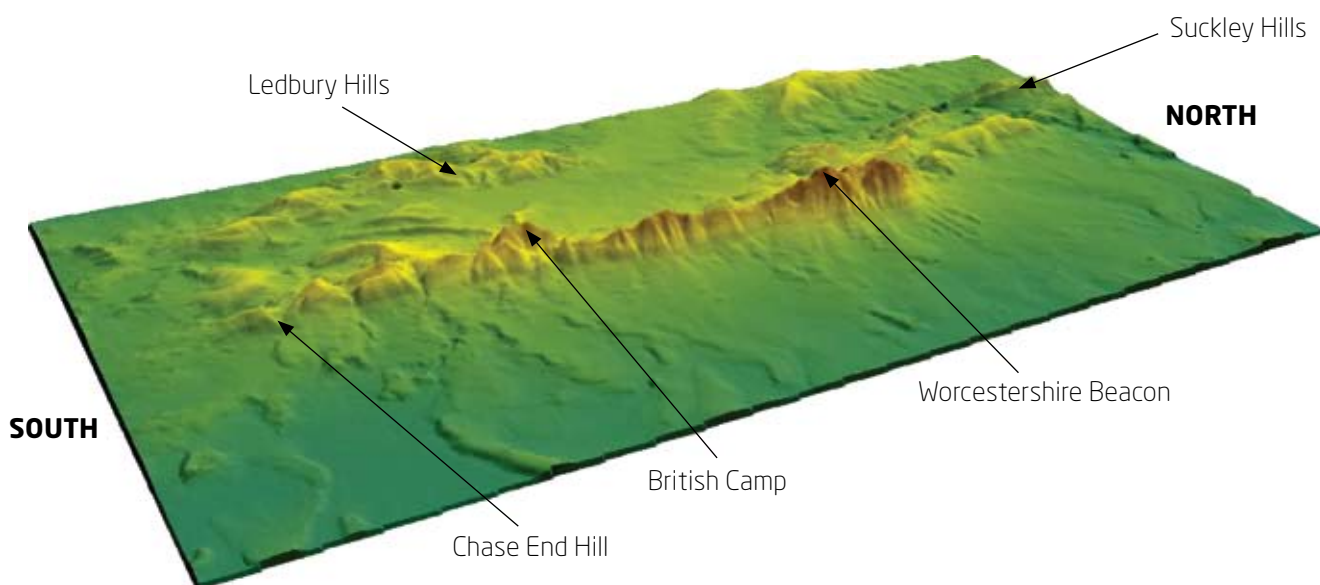
- GP1** Ensure that land management, and agricultural and development control practices protect the AONB's geodiversity and provide new geological features where appropriate.
- GP2** Demonstrate best practice in geodiversity management within and adjacent to designated sites.

Strategic objectives

- G01** Conserve the geodiversity resource in line with emerging Geodiversity Action Plans (GAPs).
- G02** Promote greater understanding of the geological value of the AONB and the need for its protection and management.
- G03** Undertake survey, research and monitoring to secure complete information on the state of the AONB's geodiversity resource, including recording temporary exposures before reburial.
- G04** Develop and implement local Geodiversity Action Plans, with the first phase of action plans to be implemented by April 2011.
- G05** Monitor climate change and its effects on the geodiversity resource of the AONB.



Fossil hunting at Whitman's Hill Quarry



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Computer-generated aerial view showing geomorphology of the Malvern Hills AONB
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