

6: Conservation Opportunities and Challenges: Case Studies

This chapter provides examples of the range of recent individual conservation initiatives undertaken within the orefield. It illustrates both successes and some of the problems that have been encountered.

Beans and Bacon Mine - A Site of High Ecological Interest

Several previously undiscovered lead rake 'gems' were identified in 1997 during the ecological survey of the Bonsall Moor area [15]. The area around Beans and Bacon Mine was one of the most exciting. This is of outstanding ecological interest and is covered in old lead workings that date back to at least 1740 and probably to medieval times. The range of grasslands, the variety of plants and the significant populations of notable species here make this one of the most valuable sites on Bonsall Moor. It is also of high archaeological interest.

The fields contain extensive areas of species-rich calcareous grassland with areas of acidic and metallophyte vegetation. A large number of important plants occur, including mountain pansy, alpine penny-cress, spring sandwort, fragrant orchid, common twayblade, common spotted orchid, frog orchid, autumn gentian, carline thistle, moonwort, adders tongue fern and kidney vetch.

There appears to have been relatively little surface disturbance since much of the mining became inactive in the 19th century. This factor, and the highly complex character of the hillocks, has enabled a unique range of grasslands to develop over time. The rich diversity of wildlife has been maintained by generations of environmentally-sensitive farming.

In 1998 the owner and tenant of the land signed a joint agreement for ten years with the National Park Authority, which goes with the land should it be sold, to conserve the ecological and archaeological interest. Since this agreement was reached the site has been designated as a Scheduled Monument.

Part of Beans and Bacon Mine, showing the multi-coloured species-rich grassland at the site (photographer Rebecca Penny, PDNPA).



How Grove, High Rake Mine and Bateman's House - Archaeological Excavations and Conservation

In recent years three opportunities have arisen to carry out excavations and consolidation work at lead mining sites, which have cast new light on the resource and restored sites for public enjoyment. In the first two instances this was made possible through one of the authors (JB) working with the Peak District Mines Historical Society conservation team, who provided free expertise and labour. The Society and the National Park Authority have provided small financial grants to facilitate this work. The third project, at Bateman's House, was managed by English Nature with professional contractors carrying out the work, with grants from the Heritage Lottery Fund, English Nature and English Heritage.

How Grove - At this site, on a small island of surviving hillocks on Dirlow Rake above Castleton, excavations uncovered an exciting suite of ore-processing features that have led to a radical revision of our understanding of aspects of the resource. They include the best-preserved ore-crushing circle in the region, a coe with floor setts, and a locally-rare circular buddle adjacent to an unusual D-shaped example, both previously buried and unexpected discoveries. The excavations have recently been published in *Mining History* [6].



Part of How Grove during archaeological excavation. The coe in the foreground has setts near the entrance, placed here to accommodate muddy feet. The crushing circle behind, previously buried, is the best preserved in the orefield (photographer John Barnatt, PDNPA).

High Rake Mine - More ambitious excavations are currently underway next to a well-used footpath, on land owned by the National Park Authority, at High Rake Mine near Great Hucklow. Here a large 19th century mine complex, rivalling Magpie Mine in size, had been largely demolished in the 1920s to provide stone for council houses. The site was later partially re-worked for fluorspar and then used as a council tip. Before the project began little was visible. A large concrete cap over the deep engine shaft was obvious, while an ore-crushing stone and a few other large blocks of gritstone peeped through the rank vegetation; overgrown hollows marked the sites of some of the buildings. To date, the lower walls of two

Cornish engine houses with boiler houses and chimneys, a cobbled coal yard, an ore-crushing circle and a gin circle have been revealed by excavation. The promotion of interest in lead mining is furthered by giving site tours to visitors. When archaeological excavation and consolidation are complete, on-site interpretation will be provided as this site now provides a valuable opportunity to raise public awareness and appreciation of the lead mining resource.

The 19th century mine site at High Rake is currently being archaeologically excavated and conserved. The upper photograph shows the base of a chimney, visible to the left in the old photograph of the site in Chapter 4 (photographer John Barnatt, PDNPA). In some parts of the site 20th century overburden had to be removed by machine (photographer Rebecca Penny, PDNPA).

Bateman's House - This highly unusual 19th century house built in Lathkill Dale for a mine agent, is directly over a mineshaft which had a rare type of underground pumping engine at its base. It lies within a Scheduled Monument, a candidate Special Area of Conservation, a Site of Special Scientific Interest, a National Nature Reserve and the National Park. A consolidation project commenced in 2001. Rubble that had collapsed into the building as it decayed was removed. The surviving parts of the building were recorded archaeologically, and the ruins and shaft have now been made good. The work has revealed clear evidence that the structures were altered and added to over time, the earliest phase being purely industrial. This previously unrecognised complexity has added greatly to our understanding of this unusual site. Public access and interpretation, with a bridge over the river to the site and a staircase down into the shaft, have been provided as part of the project.



The ruins of Bateman's House, a 19th century mine agent's house built over an impressive shaft, entered via the hole in the foreground, photographed towards the end of the conservation project here (© Richard Sheppard, Trent & Peak Archaeological Unit, Nottingham University).



Elton - The Loss of a Site through Mineral Removal and Agricultural Improvement

In June 1999 an isolated hillock and associated shaft at Elton became the subject of a notification for removal of mineral under Part 23(B) of the Town and Country Planning (General Permitted Development) Order 1995 (GPD0) (Appendix J). Following assessment it was considered that the hillock was a significant remnant of the Derbyshire lead industry and an important landscape feature in its own right. An Article 7 Direction was issued by the Authority to prevent the removal of the mineral in the hillock from the agricultural holding under the permitted development rights. Thus, in order to remove the hillock for its mineral content, the developer would first need to apply for and obtain planning permission. On receipt of an application the merits of the proposal could then be assessed against the Authority's Development Plan policies.

Meetings were held with the landowner to discuss the proposal and the Authority's concerns, and a grant was offered for the retention of the hillock and stock proof fencing to address management of the land, including any toxicity issues. Nevertheless, the landowner was keen to pursue the removal of the hillock with or without any income from minerals.

Following the meeting an Article 4 Direction was prepared to prevent any regrading of the hillock for agricultural purposes under Part 6 of the GPD0. Unfortunately before the Article 4 Direction could be served the hillock was levelled resulting in the irreversible loss of the feature. The Article 7 Direction did not come into effect as the mineral was not taken off the holding.



An impressive mining hillock at Elton (top) was recently removed after attempts to save it failed; all that remained afterwards were concrete sleepers sealing the mine shaft (PDNPA collection).

Rowland - Mineral Extraction and Habitat Enhancement

In June 1997 an application was submitted for opencast fluorspar extraction to the north of Rowland. The area covered 2.5ha of mainly species-poor grassland and scrub, with occasional trees and patches of species-rich turf. The site was not of high archaeological importance.

It was considered that the ecological interest and landscape importance of the area could be improved by increasing the range of habitats and enhancing the interest of the existing vegetation. This would best be achieved by creating a site, followed-up by positive long-term management, which would have the potential to develop vegetation of ecological interest. Discussions took place with the applicant/mineral operator, the landowner and the tenant farmer over the creation of a small metalliferous habitat at the site. Restoration proposals and location plans were submitted and agreed.

The site was subsequently worked under several successive planning consents. The restoration of the site has included the formation of a metalliferous area from low-grade spar. A varied topography has been sought and the intention is to monitor this area to assess the establishment of species over time. A five-year aftercare provision allows for management of this area and the vein mineral processing company has offered to contribute to this research. Following the aftercare period, it is the intention that an agri-environment scheme agreement be pursued with the landowners to provide safeguard over the longer term. It remains to be seen what level of species diversity will develop and what time-scale will be required.

Fiery Dragon Mine - Agri-Environment Schemes: Challenges and Opportunities

Fiery Dragon Mine, Bonsall, was surveyed in 1997 and the high lead rake interest warranted prompt conservation action [15]. The farmer was initially reluctant to allow survey, having previously experienced what he considered to be less than positive contact with national agencies and the National Park Authority. However, after discussing the advantages and disadvantages of conservation agreements, he agreed to the survey. A discussion of the Countryside Stewardship Scheme highlighted typical issues encountered elsewhere:

- The annual payment would have been in the region of £220 per annum for ten years. The farmer considered this was an inadequate incentive when compared with the possible income from fluorspar, as a mining company was undertaking exploration drilling in the hillocks at the time of survey.
- The existing management regime on the lead rakes was considered to be entirely appropriate by the National Park Authority Senior Ecologist, as the plant interest needed relatively high levels of grazing. However, the Countryside Stewardship Scheme at the time required a grazing rate of 0.75 livestock units per hectare. This was a considerably lower level than existed on the farm. Therefore, it was considered that the Countryside Stewardship Scheme was not appropriate as it would be detrimental to the high ecological interest on the lead rakes. In addition, the landowner, who was running a

dairy enterprise, could not afford to reduce stocking levels to this degree on his mostly-improved block of grassland around the lead rakes.

Part of Fiery Dragon Mine, showing the species-rich sward, with fragrant orchids in the foreground (photographer Rebecca Penny, PDNPA).



An agreement within the National Park Authority's Farm Conservation Scheme was therefore discussed that allowed for the current ideal management and gave a more realistic economic return to the farmer. This Scheme allows for enhanced annual payment for the ecological and archaeological interest at small sites such as lead rakes.

Thus, the farmer was much happier to enter an agreement with the National Park Authority, which goes with the land should it be sold, because:

- The annual payment offered over ten years would be guaranteed income for the farming activity forgone.
- The existing management of the lead rakes was acceptable to both the farmer and the National Park Authority.
- Grant would be available for rebuilding walls in the agreement area at 80% of the cost or a £14 per metre fixed rate payment.

A ten-year agreement was successfully completed in the autumn of 1998. Without the ability to use the Authority's Farm Conservation Scheme this important site may have been lost to fluorspar extraction or agricultural improvement, and possibly both.

Summary

These examples have been chosen to illustrate something of the character of high quality sites that still survive and the challenges and opportunities that exist for their conservation. In order to allow this to happen effectively across the orefield, several issues must be addressed and these are the subjects of Chapter 7.