

## Where now for Boxgrove?

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*The internationally renowned Middle Pleistocene site at Boxgrove was investigated through a series of excavations between 1984 and 1996 (reported in Archaeology International 1997/98 and 2003/04). In this article the director of the work describes the processes of restoration and management of the site undertaken in recent years and discusses the future potential of Boxgrove for both archaeological and ecological research.*

The early Middle Pleistocene site at Boxgrove was subject to a series of rescue and research excavations between 1984 and 1996 (Fig. 1). The final season of intensive fieldwork at Boxgrove was completed in November 1996 and was directed at the Quarry 1, waterhole site, Q1/B (Fig. 2). Since that time the Boxgrove Project has completed the first site monograph,<sup>1</sup> undertaken a comprehensive mapping exercise of the sediments of the Slindon Formation (Raised Beach Mapping Project – RBMP), which contain the Boxgrove land surfaces<sup>2</sup> (Fig.1) and designed and effected the restoration of the Quarry containing the waterhole site and hominin remains. This short article outlines the process of restoration and management of the site undertaken by the project since 2004, and indicates further avenues of research that need to be undertaken.

### Restoration

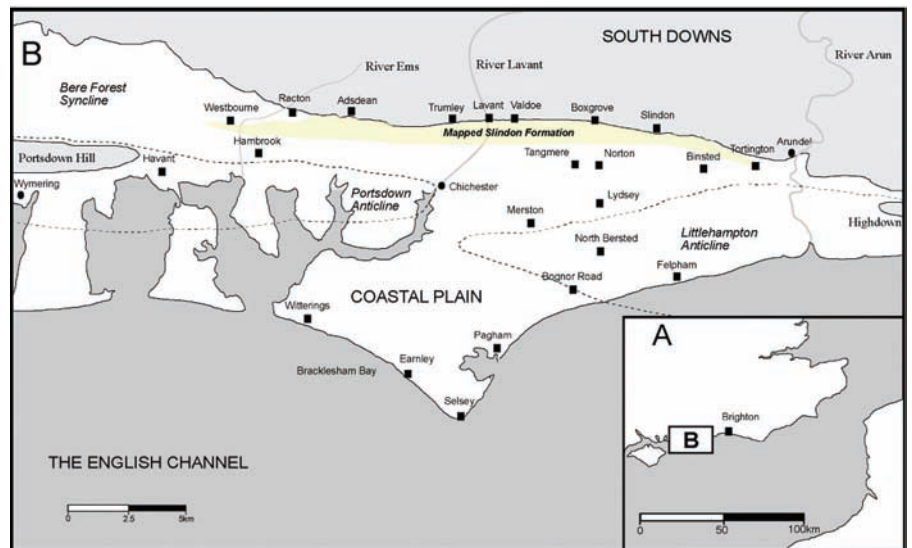
In 2003 Quarry 1, part of a larger quarry complex, was bought by English Heritage and the management of the site passed to the Boxgrove Project. The plans for the restoration of the eastern part of the archaeological complex, Quarry 2, which contained, amongst other trenches, the horse butchery site, the beach section and the geological type section of the Slindon Formation,<sup>3</sup> had been reviewed by the author and West Sussex County Council (WSCC) during 2002 and approved. However, outline restoration plans for Quarry 1, drawn up by the mineral extraction company Hanson plc and WSCC required further revision. The Boxgrove Project had two major aims with regard to the restoration process: first, any scheme had to take into consideration the location of the preserved land surfaces in the western part of the quarry, and their proximity to the quarry floor (Fig. 3); and second, the restoration should allow the opportunity for further research at the site by adopting a low-level restoration scheme based on cut and fill, using only local material.

Changes to the original plan included moving a drainage sump to the east of the quarry over the unconformity (Fig. 4), increasing the overburden cover over the

western half of the quarry where the land surfaces were intact and enlarging the potential area for excavation around the original Q1/B waterhole site. This latter point was particularly important because it allowed for integration of the freshwater deposits with the surrounding marine-terrestrial sequence and enabled the waterhole to be examined nearer to its source. Ultimately, a two phase restoration

was agreed whereby the enlarged area around Q1/B would be backfilled after the completion of all excavation, an outcome expected to be achieved over the next fifteen to twenty years.

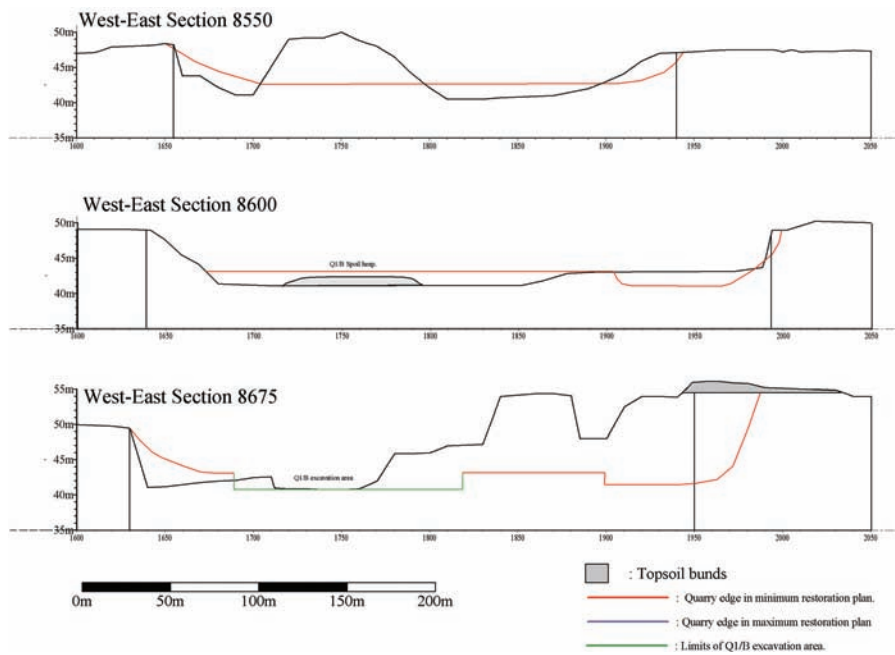
During the restoration phase the Boxgrove Project team worked on collecting and removing all items of scrap metal and other quarrying detritus from the site and having them recycled. Specialist advice was provided to the contractors during the cutting of Q1/B on the depth of cover to be left on the site, and the position of the toe of batter and face angles on the northern slope. As the restoration plans were being effected, the author drew up plans for the post-restoration development and management of the site. The essential tenet of the strategy was to marry the continued archaeological potential of the



**Figure 1** Location map showing the position of Boxgrove and the mapped distribution of the Slindon Formation, from work carried out as part of the RBMP



**Figure 2** Lower limb bones of *Cervus elaphus*, a handaxe, flint flakes and beach pebbles, on the truncated surface of the marine sand at Boxgrove Q1/B



**Figure 3** Sections through Q1 drawn up by the Boxgrove Project, showing the revised post-restoration edge and floor profiles. The volumetric calculations for cut and fill were based on these and other sections

site to an enhanced environmental and ecological programme. As a result of this strategy the grass mixes were upgraded to more ecologically friendly species; these were of diverse types that were chosen for their suitability to the underlying soils. Thus, a downland mix was sown on the chalk hill to the south of area Q1/B, a bank mixture on the steep northern face of the quarry and combinations of species with lesser calcareous preferences on the regraded mass movement gravels elsewhere. To enable the grassland to become established, the perimeter of the site was rabbit-fenced and for the first two years the weed regeneration was blanket sprayed. By 2007 the site was stable and the project was able to begin developing and enhancing the wildlife management plan (Fig. 4).

### Management

The management of the site is based on reproducing as closely as possible the type of lightly managed non-agricultural environment encountered on the downland dip slope, at the interface of the two geographical provinces of the South Downs and the Coastal Plain. The ultimate aim is to create small areas of woodland that are interconnected by a series of hedges, which in turn border small grass fields (Fig. 5), with the caveat that no tree growth is permitted above areas of intact land surface where the depth of overburden is less than 8m. All the woodland at the site is managed but only the newly planted two-acre block at the northeast corner of the site will be coppiced (Figs. 4 and 5). The grassland is at present cut twice a year, at the end of the ground-nesting season and again

in the late autumn; skylark patches are hand cut in the early spring. Most of the grass is allowed to seed before cutting, and weeds are now spot-sprayed, and in the specific case of ragwort, hand-pulled. The management policy has seen a dramatic return of flora and fauna to the site: on the more open banks flowers such as bee orchids are prolific (Fig. 6); elsewhere bluebells, lesser celandine, violets, common centaury, ox-eyed daisies, foxgloves and viper's bugloss are all re-established. On the chalk mound, wild thyme, clover and various vetches and the parasitical broomrape are all spreading across the thin calcareous cover. The establishment of the flora has encouraged an incremental growth in insect faunas (Fig. 7), and this of course has had a beneficial effect on the bird population, with last year seeing the first covey of grey partridges being hatched and raised in Quarry 1. At present only the butterflies and moths are being recorded but in



**Figure 4** The restored Quarry 1 from the air, looking south. The footprint of the old trench at Q1/B can be seen in the expanded excavation area



**Figure 5** Tree planting in the top field at Boxgrove, looking southwest. The Isle of Wight is visible in the background



**Figure 6** Bee orchids growing in the exposed gravel face in the northwest of Q1

2009 work will begin on a census of the bumblebee and ant populations (Fig. 8). Along the western margin of the site, the field boundaries are left unmanaged and provide a mixed scrub, weed and nettle headland some 4m wide, which provides habitat for both insects and mammals. New species of animal recorded at Boxgrove this year include: muntjac deer, although their presence is not particularly desirable, ringed plover, purple sandpiper and merlin. The site has also been graced by the occasional visits from the Chichester Cathedral peregrine falcons.



**Figure 8** A pair of Small Skippers mating on the western hedgerow margin at Quarry 1



**Figure 7** A Broad-bodied Chaser at rest on the Quarry 1 southern boundary

**Archaeological excavation**

In 2008 and 2009 small test trenches were excavated in the backfilled main area and around the northern perimeter of the expanded excavation area, to check that the temperate Pleistocene sediments were well preserved and not subject to modern bioturbation through root action, rabbit activity and slope run-off drainage. Additionally, the re-excavation of the old main area allowed for further sampling of sedimentary contacts and boundaries, identified as underrepresented during the writing-up of the 1995/96 excavations

(Fig. 9 left). Analysis of these samples demonstrated that the surface of the marine sands was truncated by freshwater and that subsequently weathering and organic horizons developed on this surface, as a result of the establishment of vegetation and the build-up of dung from large mammals that were utilizing the water hole. It was on this surface, during periods of drying, that the main Q1/B artefact horizon was developed (Fig. 2). The trenches dug in the extended excavation area revealed the conventional marine-terrestrial sequence in the northwest of the site and the shallow edge of the waterhole to the northeast; however, in the test pit to the north of the old Q1/B footprint, the sequence showed a marked deepening of the water body (Fig. 9 right). The sedimentary profile together with a paucity of lithic finds suggests that the material found in the 1995/96 excavations was deposited along a lake/pond shore that fluctuated seasonally. Further excavation of the deeper freshwater deposits will examine whether these lakeshore debris accumulations extend into the deeper water towards the spring and relict cliff-line.

**Future work**

Although the restored area is now stable from both engineering and ecological perspectives, work continues at the site in terms of general habitat management, and further environmental enhancement through the planting of trees and hedges. The condition of the backfilled site is constantly monitored and recently an extra protective cover of flint gravel has been spread over the old excavation footprint. The purchase of the land to the south of



**Figure 9** Recent test excavations at Q1B, left in the old main area and right at the northern margin of the new extension

the site has enabled the Devil's Ditch, a Romano-British entrenchment containing a medieval chalk road, to be brought into the restored quarry boundary, thus increasing the archaeological interest and diversity of the site.

Academically, Boxgrove continues to attract researchers and students. The site has been visited recently by the Lithic Studies Society, the Prehistoric Society, the Quaternary Research Association and a team from the Atapuerca Project in Spain, with whom the Boxgrove Project has a joint collaboration to examine knapping strategies and butchery techniques. Local societies also continue to visit but now with a focus on understanding the preservation, restoration and management of prestige sites and monuments. Current papers include an excavation report on the Valdoe site that arose during the RBMP,<sup>4</sup> analysis of the ostracod faunas from the waterhole<sup>5</sup> and work on the Q1/B hominin incisors.<sup>6</sup> Six PhD students are working on material from the site and numerous Masters and undergraduate dissertations are ongoing.

Beyond archaeology and Quaternary research, the site is an important location for studying grassland regeneration and its associated biological diversity. Current projects include updating the record of the butterfly and moth populations, both native and immigrant, through sector counting and the use of a moth

trap; a similar project on the bird fauna is commencing in the summer of 2009. Boxgrove, along with Atapuerca, also recently figured in a joint exhibition of paintings at the Hart Gallery in London by the renowned Dorset artist Brian Graham, (Fig. 10), whose *Book of Boxgrove* was presented to the Natural History Museum's collections in April of this year.

With the completion of the outstanding academic monographs from the Raised Beach Mapping Project and the final excavations at the site, together with the stabilization of the quarry environs, it is time to consider further investigative work at Boxgrove. Future excavations will be run as teaching and training exercises, specifically designed to train students in the disciplines of Palaeolithic archaeology and its sister disciplines in Quaternary research; the training of students and other professionals will be used to provide the funding revenue for the project. Running alongside the education programme will be a series of research themes that will be offered for uptake by students at all levels of study: the higher degree topics will provide the main vehicle for writing up the results of the excavations.

Boxgrove remains the "flagship" site of the British Lower Palaeolithic with its unparalleled preservation and resources. It is also one of the very few sites with the potential to train the next generation of Palaeolithic specialists: a potential that

should be realized sooner rather than later.

#### **Acknowledgements**

The author is most grateful to Barney Sloane and Ann Clark of English Heritage for their continued support of the project and its subsidiary research. The restoration works benefited from consultation with Hanson plc, West Sussex County Council and Chichester District Council. A considerable number of people have given up their free time to achieve the results described in this paper, most notably: Tony Tynan, Jemima Mieville Richard Foster, Mike Bridle, Darren Norris, Andrew Elms, Andrew Maxted, Laura Bassell, Geoff Smith, Mark and Jenny Douglas, Graham Roberts and the late Nick Brooks.



**Figure 10** A Brian Graham painting inspired by an impact punctured horse scapula, from his recent work "The Book of Boxgrove"

#### Notes

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