Ancient Monuments Laboratory
Report 153/88

CRITERIA FOR SELECTING AND RANKING SITES FOR THE STUDY OF ARCHAEOLOGICAL SOILS AND SEDIMENTS.

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Summary

A system suggesting how sites should be graded for soil studies is presented. Grades A to C are listed on a site/topic basis, in descending order of importance. Grade D sites are considered unlikely to reward study.

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fh15CONCI.587 Rep3

Criteria for selecting and ranking sites for the study of archaeological soils and sediments.

R I Macphail BSc. MSc. PhD. 1987.

Introduction Judgements are made in selecting sites for study, but which sites and subjects to study is not a simple decision to make. A system is suggested here (Grades A to C in descending order of importance), as set out. (Grade D sites are considered unlikely to reward study). Grades A to C are listed on a site/topic basis because although some sites are graded A in all senses, site and topic, many others are multi-period or multi-faceted where, for example, only one element of the potential project is grade A. Thus, some sites will not be given a total study - only particular elements may be chosen, but may be investigated in great detail. Numbering i to x is purely for convenience.

Grade A

Uncommon sites, where information obtained will be extremely important because of its rarity, and sites of high potential where investigation will be part of intense interdisciplinary investigations, allowing the interpretation of the resulting information to be both more secure and more worthwhile overall.

i) Pleistocene data If archaeological sites contain implications for Quaternary studies it makes them more valuable (Balksbury Camp IA Hants, 1985; Chysauster, BA, IA, Cornwall, 1986; Hengistbury Head U. Pal. Meso, BA, Dorset, in prep; Carn Brae, N, Cornwall, in prep). In the case of specifically studied palaeolithic sites, important information on soils and sediments is likely to reach Quaternary scientists because of the strong interest in such rare occurrences (Sipsons Lane, M. Pal. Middx. 1986; Boxgrove, L. Pal. Sussex, 1986, in prep).

ii) Landscape Studies

a) Soils and sediments: The investigation of archaeological palaeosols developed on thin weathered materials or superficial deposits, for example loess, permit extrapolation of such ancient soil covers to areas which have been long eroded. Land use changes through time can sometimes be attributed

to this erosion. For example, the study of colluviums not only show agricultural activity shifting from plateaux to low slope receiving areas, but the constituents of colluviums/lynchets themselves may give clues to the composition of earlier soils. Such soil movements are variously dated but eventually may effect river systems and associated alluviums (Selmeston, Meso, IA, Sussex, 1983; Chysauster; Carn Brae; Balksbury; Hazleton, Neo, Glos, 1986; Maiden Castle, Neo, BA, IA, in prep; Drayton Cursus, Neo, BA, IA, Oxon, in prep). Whole palaeo-landscapes are rarely preserved (Hullbridge, multi-period, Essex, in prep).

b) Forest clearance, cultivation and grazing: Specific evidence of soil formation under forest, its character after clearance(s), cultivation and grazing have to be specifically identified according to the parent material and site situation (flatland, slope, valley bottom accumulation). Such data which are site specific are the starting point for such large scale model making as described in (a).

As regards cultivation, some modern reference material may act as useful analogues, but often modern soils have the whole of man's effects superimposed upon each other and cause confusion. Equally, experimental work has to be treated carefully in relationship to archaeological situations, because "modern" soils may have very high biological activity (Butzer Exp. Farm) compared with ancient soils (Hazleton, Neo, Glocs, 1986; Kilham, Neo, Yorks, 1986). Good sites are rare (Strathallan Mains, Neo, Perthshire by J.C.C. Romans, MaCaulay Inst; Hazleton, Chysauster; Carn Brae) and should be studied carefully to help interpret other sites.

Also as evidence for clearance, cultivation and grazing identified in the soil, are best supported by molluscan and pollen evidence for example, multi-disciplinary studies are the most sound.

c) Middens and manuring: There can be a continuum of increasing land use intensity, from primary effects on natural soils through to the accumulation of occupation debris - mud hut floors and walls (Hazleton, Maiden Castle, Brean Down), midden deposits (Potterne) - and manuring. Midden deposits, because they contain fragile and easily weatherable materials (calciate ash, phosphates, co prolites) are rare, but when present provide unique opportunities to study the development of rural economy if the deposits can

be compared with earlier natural soils and the soils contemporary with the site. In these cases it can be more rewarding to study a multi-phase site than one with only one phase of occupation, although the latter could be very interesting in its own right, eg. mesolithic camp site.

Grade B

These comprise either fundamentally important questions about extensive archaeological deposits, or examples of where soil/sediment analyses of restricted contexts can provide important supportive evidence to other disciplines involved in a project.

iii) Coastlines and estuaries

Coastline occupation sites and related sediments (Westward Ho, Meso, Devon, 1987; Boxgrove) provide examples where the identification of soils is less important than providing background information in sediment accretion, its weathering and character as a rooting medium for (new) sumberged forests (Hullbridge) and peats or as a substrate for midden accumulation or as a chipping floor.

iv) Urban deposits

A large variety of differing urban deposits are lumped together by archaeologists. Distinct destruction spreads (Colchester, R., Essex 1986) and building collapse (Jubilee Hall, R, London, 1986) can be differentiated from Dark Earth sensu stricto which arises from the occupation and biological mixing of domestic waste, local materials and materials imported for building purposes (Southwark St., Thomas St. R, 1984; Courage, R, Southwark in prep). Dark earth has already been characterised in general, but to gain any real increase in information, time consuming detailed sampling is required, and much of the resulting data may be of a very site-specific nature.

Grade C

These are less important studies which either help to fill in gaps in our

by the Soil Survey) can be extrapolated from geological maps, but to check these and to put some temporal restraint on them it is necessary tostudy what relic (pre-urban) soils do occur (Lloyds Bank, R, London, 1980; Redfearns, R, Med, York, 1987).

viii) Man made soils

The development of man-made soils on interfluves (from alluvial sources), in coastal areas by use of seaweed for manuring, or utilisation of estuarine sediments in salt making (Wainfleet, Med, Lincs, 1986) are best known from the Roman and Medieval periods. Less frequent are prehistoric examples identified (Brean Down) although instances have been cited (Sussex).

Grade D

These are sites where, for a number of reasons, the soils or sediments are not worth studying in detail.

ix Where soils or sediments can be adequately interpreted in the field for the archaeologist. This can be managed either through the actual field details or through recourse to the literature where similar soil or sediment situations have already been studied in detail.

x Where soils or sediments are very poorly preserved with the result that information gained would be rather sparse or likely to be difficult to interpret. (Of course, contexts of extreme interest (see A) may warrant very special efforts.)

Poor preservation can come about by contamination, biological activity or erosion/truncation. Modern disturbance, however, is more devasting to a deposit, because ancient effects may themselves add intrinsic value to a site.