

## Late Holocene geoarchaeological investigation of the Middle Thames floodplain at Dorney, Buckinghamshire, UK: An evaluation of the Bronze Age, Iron Age, Roman and Saxon landscapes

Adrian G. Parker <sup>a,\*</sup>, Alex S. Lucas <sup>b</sup>, John Walden <sup>c</sup>, Andrew S. Goudie <sup>d</sup>, Mark A. Robinson <sup>e</sup>, Tim G. Allen <sup>f</sup>

<sup>a</sup> Department of Geography, Oxford Brookes University, Gypsy Lane Campus, Headington, Oxford, OX3 0BP, Great Britain, UK

<sup>b</sup> Formerly Post-Graduate Institute for Sedimentology, University of Reading, Whiteknights, Reading RG, Great Britain, UK

<sup>c</sup> School of Geography and Geosciences, University of St Andrews, Fife, KY16 9AL, Great Britain, UK

<sup>d</sup> St. Cross College, St. Giles, Oxford OX1 3LZ, Great Britain, UK

<sup>e</sup> University Museum of Natural History, University of Oxford, Parks Road, Oxford OX1 3PW, Great Britain, UK

<sup>f</sup> Oxford Archaeology, Janus House, Osney Mead, Oxford OX2 0ES, Great Britain, UK

### ARTICLE INFO

#### Article history:

Received 1 September 2005

Accepted 1 April 2007

Available online 12 March 2008

#### Keywords:

Middle Thames

Environmental magnetism

Palaeochannels

Geoarchaeology

Late Holocene

### ABSTRACT

Large-scale floodplain excavations at Dorney in the Middle Thames valley have revealed organic-rich Holocene palaeochannels as well as a rich archaeological record. High-resolution (decadal) palaeobotanical and sedimentological analyses from a Late Holocene palaeochannel have enabled detailed reconstruction of the landscape spanning from ca. 2850 C<sup>14</sup> yr BP (Late Bronze Age), through the Iron Age, Roman and Saxon periods and into the Medieval period (ca. 450 C<sup>14</sup> yr BP). The application of sedimentological, palaeovegetation and mineral magnetic analyses coupled with the use of simultaneous R- and Q-mode factor analysis helps to underpin phases of active channel flow, phases of channel 'ponding', and alluviation. These phases developed in response to human activity and land use within the region that resulted from deforestation, changes from pastoral to arable practice, burning and the associated destabilisation and inwash of soils into the channel.

A series of wooden bridges and timber structures were constructed across this channel between the Middle Bronze Age and Late Iron Age which influenced local sedimentation patterns, fluvial energy and competency within the channel. A number of erosive events coupled with inwashing from the clearance of the last vestiges of woodland for agriculture into an active channel were identified.

During the Roman period, flow along the Thames channel ceased, resulting in a pond-like feature in which peaty silts rapidly accumulated. This phase of ponding was punctuated by renewed channel activity in which inorganic carbonate sediments rich in ferrimagnetic minerals were deposited. This coincides with a major peak in cereal cultivation and related catchment disturbance of soils because of ploughing with associated runoff and inwash of soils associated with flooding.

© 2008 Elsevier B.V. All rights reserved.

### 1. Introduction

The central-southern region of England has long been regarded as poor in sites suitable for palaeoecological investigations and, thus, to date, scant evidence exists for the nature and timings of significant changes in vegetation, climate change and human impact from this area during the Holocene (Parker and Chambers, 1997; Parker, 2000). The palaeoenvironmental history of the Middle Thames region is poorly understood, with only a few (though increasing) palaeoecological and geoarchaeological studies available from the region. Late Glacial and Early Holocene pollen diagrams are available from the Lea

Valley at Nazeing (Allison et al., 1952) and Enfield Lock (Chambers et al., 1996) and the Colne Valley at Three Ways Wharf, Uxbridge (Lewis et al., 1992). Palaeovegetation analyses from a number of Mid- to Late-Holocene profiles are given in Grieg (1992) and Sidell and Wilkinson (2000) for the London area. Also a series of important Early-Mid-Holocene pollen sequences exist from the Thames at Runnymede (Scaife, 2002).

The construction of a rowing lake to international standards by Eton College at Dorney, Buckinghamshire, UK, has provided the opportunity to investigate a block of floodplain of the Middle Thames valley about 0.75 km wide running for about 2.5 km alongside the present channel of the Thames. Geoarchaeological investigations of this site have revealed a large palaeochannel complex of the river Thames with alluvial and gravel terrace areas, all of which contained a wealth of archaeological remains dating between the Late Upper Palaeolithic and the Medieval periods.

\* Corresponding author. Department of Geography, School of Social Sciences and Law, Oxford Brookes University, Headington, Oxford, OX3 0BP, Great Britain, UK. Tel.: +44 1865 483753; fax: +44 1865 483937.

E-mail address: [agparker@brookes.ac.uk](mailto:agparker@brookes.ac.uk) (A.G. Parker).

The sequences of sediments in the palaeochannels span the Late Glacial and Holocene, and contain considerable waterlogged organic material (Parker and Robinson, 2003). This, together with the abundance and quality of *in situ* dateable materials, archaeological deposits and artefacts, facilitates the construction of close linkages with the environmental sequence. Thus, this site offers a rare opportunity to examine the changing environment in detail over the last 10,000 years and make a significant contribution to the knowledge of the Holocene palaeoenvironments in the Middle Thames and southern England. Detailed Late Holocene sequences from the region are rare.

This paper presents evidence of human–environment interactions over the past 3000 years (since the Late Bronze Age) from a Late-Holocene

palaeochannel (Area 3 on Fig. 1b) coupled with excavations from a number of archaeological sites on or close to the floodplain. Multiproxy sedimentological, biological and environmental magnetism methods were adopted along with numerical methods for interrogating these data sets to provide a quantitative and more objective basis for interpretation.

## 2. Regional setting

The Thames Valley has long been recognised as one of the most important regions for the British Quaternary record. Together with its extensions into the south Midlands, central Hertfordshire and southern Essex, the valley contains the longest and most complex series of

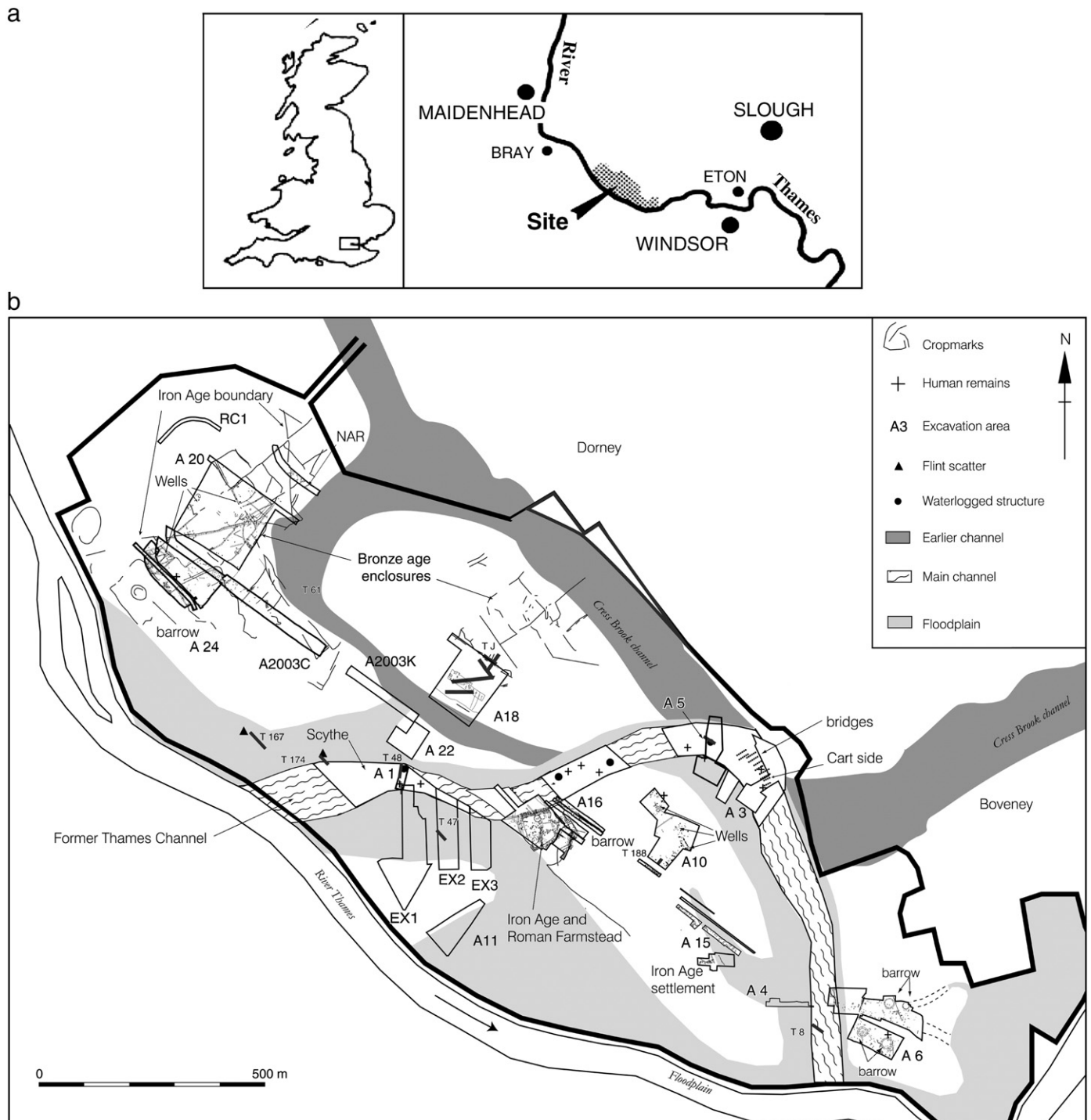


Fig. 1. (a) Location map of the Dorney region, and (b) details of the areas and key locations excavated and described in the text.

Download English Version:

<https://daneshyari.com/en/article/4686689>

Download Persian Version:

<https://daneshyari.com/article/4686689>

[Daneshyari.com](https://daneshyari.com)