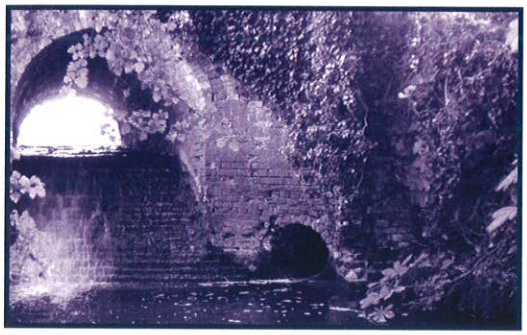
Cuttle Brook Restoration Project Stowe Buckinghamshire



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Archaeological Investigations 2002

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SUMMARY

In the summer and autumn of 2002 Oxford Archaeology (OA) carried out a series of archaeological investigations as part of a restoration project at the Cuttle Brook, Stowe, Northamptonshire (SP67683930– SP66703640). The Cuttle Brook is on the western edge of Stowe Estate and forms the north-west boundary of the fallow deer park. Excavation, recording, survey and watching brief works were carried out on behalf of the National Trust, who had initiated a programme of restoration and repairs to the Brook and a number of silted ponds. The principal discoveries were elements of timber and brick water control devices, probably dating to between the mid-18th century and the mid-19th century.

1 INTRODUCTION

(Fig. 1)

1.1 Project background

1.1.1 The Cuttle Brook is a length of managed waterway that forms the western boundary of Stowe Park, Buckinghamshire. It is currently being restored as part of an ongoing programme of restoration and replanting works being undertaken by the National Trust. Oxford Archaeology carried out a series of archaeological investigations over the summer and autumn of 2002, concurrent with the restoration programme.

1.1.2 Stowe is located in north-west Buckinghamshire close to the Northamptonshire border. The site centres around Stowe House (now Stowe School) built in 1683 for Sir Richard Temple and designed by William Cleare, although extensively re-designed in the early 18th century for Viscount Cobham. The house is surrounded by the world renowned landscape gardens designed by a number of the most important architects and landscape gardeners of their day. They include Sir John Vanburgh, Charles Bridgeman, James Gibbs, William Kent and Lancelot "Capability" Brown. The gardens include a series of focal points or 'incidents' that were intended to guide the visiting gentry on a stimulating perambulation around the park. Certain features associated with Cuttle Brook may well have featured on such a tour.

1.1.3 The proposed restoration works, which are being funded by a Heritage Lottery Fund Grant, focus on a 4 km long stretch of water that runs between Roothouse Pond to the north-west of Stowe House down to the Lower Oxford Water to the south. Within this area, key elements associated with a system of water management are being restored. These include restoration and repairs to the Roothouse Pond and monk, the Haymanger Dam and pond and Home Farm mill pond and dam. Part of the exercise will see the re-instatement of the ponds with the silts that clog them being dredged.

1.1.4 In order to mitigate against damage to various archaeological elements identified along the course of the brook, a program of archaeological works was proposed in conjunction with the restoration work, while also serving to expand the understanding and interpretation of the development of water management at Stowe Park.

1.1.5 The National Trust prepared a project brief (National Trust 2002) outlining a series of archaeological works to be undertaken in advance of the restoration works. The initial brief outlined four planned stages of archaeological investigation with each phase informing the subsequent one. Oxford Archaeology (OA) drew up an Archaeological

Project Design in response to the requirements of the brief (OA 2002) and detailed how they would approach the archaeological conditions and requirements specified.

1.1.6 Discussions in advance of the project led to some elements of the original brief being curtailed, with a general agreement to produce a single report on the whole recording exercise. This report presents the results from investigations along the length of the Cuttle Brook and it's associated ponds and structures. The scope of works eventually formed six parts, all generally linked in terms of their methodology and aims, detailed below.

1.2 Scope of work

Walkover Survey

1.2.1 In the first instance a walkover survey was conducted along both sides of the brook, and the stream channel itself was examined for archaeological features. These were plotted onto a base map of the site (see Figs 2a/2b/2c/2d).

Home Farm Mill Pond excavations and recording

1.2.2 The excavation of the silts adjacent to the Mill Pond dam was monitored prior to a recording action being undertaken on the dam and sluice gates. This work was intended to increase knowledge gleaned from previous investigations at this site (see Marshall 1997b and Jessop 2000).

Haymanger Dam excavations and recording

1.2.3 Further excavation and recording of sluice structures at the Haymanger Dam was undertaken, following Jessop's initial survey (Jessop 2000). Further and more intensive excavation and recording here was carried out prior to the re-facing of the Dam structure with a new layer of clay and resealing a breach in the dam made in the 1940s. Following recording, the archaeology was to be sealed beneath a layer of sand and a semi-permanent Wyretex type fabric.

Watching Briefs at Roothouse Pond, Haymanger Pond and Home Farm Mill Pond

1.2.4 A series of watching briefs monitoring the dredging and restoration of the ponds associated with each of the dams was undertaken. This work ultimately comprised the dredging of silts out of the Home Farm Mill Pond, dredging and restoration of the Haymanger (detailed above) and structural repairs to the Roothouse Pond sluice system.

1.3 Geology and topography of the project

1.3.1 Stowe lies on Boulder Clay with discrete outcrops of glacial sands and gravels away from the stream courses. Alluvial silts overlie the clay across the river flood plain. An outcrop of poor quality limestone appears close to the Oxford gates on the southern side of Stowe Gardens.

1.3.2 Acquired by the Trust in 1995, the Cuttle Brook lies at the western edge of the estate forming the north western boundary of the fallow deer park (SP6768 3930 – SP6670 3640). While the Trust owns most of the land that constitutes the current project area, the section south of the Haymanger Pond is privately owned. This area extends past Dadford and encompasses parts of Dadford Close where earthwork remains of house platforms,

once part of the present village, have been identified. The course of the river is artificially straightened here.

1.3.3 Roothouse Dam, at the northern extent of the study area is located within dense woodland set on a gravel terrace. The dam is fed by a tributary of the Great Ouse, which feeds down the length of the brook to eventually rejoin the river at Tingewick Mill. The brook flows through a gently sloping valley bordered on each side by grassland interspersed with patches of wood. At the centre of the site are Home Farm and its adjacent mill. The land around Home Farm has been worked at least since the 1920s and probably before. The National Trust still maintains the farm as a working concern, using the land immediately adjacent to the brook for sheep grazing.

1.4 Archaeological and historical background

Recent Work at Cuttle Brook

1.4.1 Extensive archaeological and documentary evidence exists to show that Cuttle Brook has been intensively managed probably since the late medieval period, although many of the surviving elements date to the re-development and landscaping of the Park in the 18th century. There are a wide range of features related to a number of phases and uses of the waterway for functional, recreational and aesthetic purposes. The site is therefore of historical, archaeological and architectural significance.

1.4.2 Stowe has been the focus of considerable historical and archaeological research in recent years, however, much of this work has concentrated on the house and gardens and it has only been relatively recently that there has been any attempt to understand the development of this aspect of the Park. Most notably, the historic management of the river has been extensively researched and documented in *The Framework Conservation Plan for Stowe* (Felus 1999) which forms the framework for the present project.

1.4.3 In addition to this work, three other survey projects have been undertaken. In 1997 two surveys - on the buildings of Home Farm, and the development of the Home Farm Mill - were produced (Marshall 1997a and 1997b). In 1999 the Trust commissioned English Heritage to undertake an earthwork survey of Haymanger Dam (Riley 1999), and an exposed section through the Haymanger Dam was cleaned and recorded by a small team under the direction of Oliver Jessop (Jessop 2000). Areas to the north and south of Haymanger Dam were also encompassed in this survey. The findings of both of these surveys established a framework to inform the proposed archaeological mitigation needed during the restoration.

The archaeology and history of Stowe's water management

1.4.4 The earliest evidence of occupation at Stowe is from the Roman period. The main NE-SW road through the park appears to echo the line of a Roman road, and various isolated finds have been recorded across the area. Most recently, a Roman tile kiln was identified during replanting works to the south east of Haymanger Dam.

1.4.5 From documentary sources, it can be suggested that some form of water management, in the form of fishponds and managed water meadows along Cuttle Brook may date to the medieval period. During this period the villages of Stowe, Lamport and Dadford

developed as part of manorial estates. Remnants of strip fields and house platforms are known nearby at Dadford Close (Jessop 2000).

1.4.6 Abraham Allen's survey of the "Desmesness of Stowe" in 1633 includes "The bowling green and all the Closes into the Millponds" as well as the "Manor House, Orchard and Coorte". This probably refers to former millponds within the present garden landscape. There is no evidence of an earlier mill on Cuttle Brook before the existing 19th century mill, although the location of the Mill Pond at Home Farm has moved progressively further south, and its earlier outline is shown on Bridgeman's plan of 1739. The Haymanger appears in Allen's 1633 survey and later documentary references include the "Haymanger stews", which suggest that fish were being farmed on the estate.

1.4.7 At the time of Allen's survey, Stowe House was owned by Sir Peter Temple, 2nd Baron of Cobham. By 1673 the land was under the control of Sir Richard Temple and comprised a series of walled gardens to the south of the house including an orchard and vineyard. The fallow deer park was also probably established during this period. In 1677 work started on the new house designed for Sir Richard by William Cleare. Parts of the walled garden were retained and a series of formal parterre gardens where laid out. In 1716 Viscount Cobham employed Sir John Vanbrugh with Charles Bridgeman as garden designer to lay out new gardens and to radically transform the old formal parterres.

1.4.8 During this period water features became an integral design feature in the garden including a forty foot fountain, formal pools and water gardens. In 1728 a dam was built to the south of Home Park to create Eleven Acre Lake. James Gibbs, William Kent and Capability Brown continued to expand the gardens throughout the 18th century. It is unclear whether the ponds on Cuttle Brook formed part of Bridgeman's garden designs. Nonetheless, his plan of 1739 shows that Haymanger was intended to be part of a water feature linked to the Ridings, an area of woodland to the north of the park (Ridley 1999).

1.4.9 The park continued to expand and prosper until the early 19th century when spiralling debts forced the family to sell off large quantities of timber from the Park. Many of the formal avenues and woodlands were thus destroyed and the timber mill at Home Farm may date to this period.

1.4.10 The estate continued to decline until it was eventually sold in 1921 and bought by the Davies family, who ran it as an agricultural concern. The northern area of the park was purchased by the National Trust in 1995.

1.5 Acknowledgements

1.5.1 The principal contractors Barton Plant Hire Ltd. provided plans of the restoration works and showed a commendable interest in the archaeological importance of the project. Gary Marshall, Regional Archaeologist for the National Trust, provided advice, background information and covered some elements of the watching brief.

1.5.2 The site work was supervised by OA's Andy Simmonds and Jim Mumford, with assistance from OA's Survey, Environmental and finds departments as required. The original Project Design was prepared by Penny Middleton formerly of OA.

2 PROJECT AIMS

2.1.1 To provide an updated survey of all archaeological features/structures along the route of Cuttle Brook between the Roothouse Pond and the Lower Oxford Water. To locate each site according to the OS grid and to place it, where possible, within the context of the landscape as a whole.

2.1.2 To minimise and mitigate the impact of the proposed restoration works on any existing archaeology and to preserve by drawn, written and photographic record any archaeological remains that may be revealed.

2.1.3 To identify and record structures related to the workings of the dam heads and sluice gates and to trace the sequence of development of dam technology at Stowe.

2.1.4 To signal in advance any archaeological material that is revealed during excavation which may not have been considered in the initial mitigation program.

2.1.5 To produce a report detailing the results and interpretation of both the initial field survey and the evaluation, mitigation and watching brief work.

3 PROJECT METHODOLOGY

3.1 Strategy and methodology

Walkover Survey

3.1.1 A walkover of the site was conducted by an OA landscape surveyor with a view to identifying all above ground features including standing structures, field boundaries, evidence of land use and historic landscape "furniture" as specified in the National Trust Survey Guidelines (Section 2.1.3). Features were plotted onto a pre-prepared OS map indicating the break and base of slope. A hand held GPS was used to provide a six figure grid reference at appropriate points within the site. All features were allocated a unique identification number, as well as their SMR number where present.

3.1.2 Each site identified on the survey was located (as above) and recorded on a proforma sheet. Digital and SLR photographs were taken using colour or black and white film as appropriate.

Works at Home Farm Mill Pond dam

3.1.3 The work at the Mill Pond dam involved close co-operation with the contractors and difficult working conditions. The southern end of the Mill Pond was secured by a gravel bund running across the width of the pond. The area to the south of the bund (measuring c 110 m x 15 m, 1650 sq. m) that contained the dam and sluice gates was stripped by machine and limited excavation of deposits and recording was undertaken. General site clearance of vegetation and the exposure of structural features were also carried out.

3.1.4 A plan of the dam showing the location of the sluice gates and their associated brick structures was drawn at a scale of 1:50. A section across the working face of the dam was compiled at a scale of 1:50 - a full elevation of the dam was not drawn, as the plan was to restore it as an operating feature. A full photographic record of the elevation was undertaken.

Haymanger Pond

3.1.5 The objectives of the mitigation works were to preserve the existing archaeology through a comprehensive record of the site and to define the extent of the timber and masonry structures and how they related to the main body of the dam. It was hoped to cut back a section across the main clay bank of the dam in order to determine phases of development. This work was anticipated to identify the sequence of technological development associated with the dam adding to the work undertaken (following from the work of Jessop, 2000).

3.1.6 All features, structures and deposits were issued with unique context numbers with context recording in accordance with established OA practices (OA Field Manual, 1992). All contexts, and any small finds and samples from them were allocated unique numbers. Bulk finds were collected by context. Black-and-white negative photographs were taken of all archaeological features, supplemented with colour slides. Site plans were drawn at an appropriate scale (normally 1:50 or 1:20). Section drawings and elevations of features and sample sections were drawn at a scale of 1:20.

Watching briefs at Roothouse Pond, Haymanger Pond, Mill Pond

3.1.7 Watching briefs were undertaken during dredging of the silts of the Home Farm Mill Pond, the restoration of the dam at Haymanger Pond and excavation of material from the pond, and the restoration of Roothouse Pond and dam.

3.1.8 The aims of the watching briefs were to monitor the works of the non-archaeological contractor in order to identify and record any archaeology that may have arisen, and to provide plans and sections of structures that were being restored rather than covered over in the process of the restoration works. All recording was in accordance with established OA practices (OAU Field Manual, 1992).

3.2 Finds

3.2.1 Finds were recovered by hand during the course of the excavation and generally bagged by context. Finds of special interest were given a unique small find number.

3.3 Presentation of results

3.3.1 The results are presented by area, geographically extending from the north to the south, beginning with the results of the walkover survey.

4 RESULTS

4.1 Walkover Survey

(Figs 2a/2b/2c/2d)

4.1.1 The site walkover survey was conducted on Thursday 5th and Friday 6th September 2002 in moderate light and good weather. Both sides of the brook, and the stream channel itself were examined for archaeological features. The only limitations to the survey were dense undergrowth along the Cuttle Brook between the Haymanger pond and Dadford, and impenetrable undergrowth around the feeder channel to the Mill Pond. The area to the west of the Lower Oxford Water and to the south of Oxford Lodge was also thickly overgrown.

4.1.2 The majority of the land surveyed was open grassland for hay and pasture. Areas of woodland surrounded the Roothouse Pond and the Lower Oxford Water and there are also areas of thick woodland to the north and east of the Mill Pond. There are areas of thinner woodland to the west of the Upper Oxford Water, to the north of the Haymanger Pond and to the north of the Boycott Pavilions.

4.1.3 Topographically the ground slopes from both east and west down into the valley of the Cuttle Brook to the Haymanger Dam. The valley becomes less pronounced from the Haymanger Dam to Dadford, where it joins the River Dad and flows through a pronounced valley via a straightened channel towards the Mill Pond. The River Dad then flows on towards the Upper Oxford Water through a broad shallow valley. The known sites within the study area were examined for further information or altered condition and should be read in conjunction with the features plan in this report (Fig. 2a, 2b, 2c). A full gazetteer is presented as Appendix 2 at the end of this report.

Existing and known features and sites

4.1.4 **OA 1** – Vestigial bank and ditch, apparently the 17th century park pale bordering the carriageway or ride identified by the English Heritage Survey report of 2001 as part of Northampton Drive. **OA 2** – A redundant quarry, no noticeable change from the description given in the English Heritage Survey report of 2001. **OA 3** – Probable ridge and furrow adjacent to the Cuttle Brook. No noticeable change from the description given in the English Heritage Survey report of 2001. **OA 5** – There is the site of a probable platform here measuring c. 15 m x c. 3.5 m. **OA 7** – An area of broad ridge and furrow. No noticeable change from the description given in the English Heritage Survey report of 2001. **OA 11** – An area of extensive earthworks in which there is no noticeable change from the description given in the English Heritage Survey report of 2001.

4.1.5 **OA 17** – Old stream channels or a field corner, that the EH survey suggests is an area of tree planting. There are no noticeable changes from the description given in the English Heritage Survey report of 2001. **OA 18** – An area of well preserved ridge and furrow earthworks. No noticeable change from the description given in the English Heritage Survey report of 2001. **OA 21** – This trackway is marked on the maps of 1843, and is visible as an earthwork on both banks of the River Dad. **OA 22** – An area of substantial quarrying, there is no noticeable change from the description given in the English Heritage Survey report of 2001. **OA 23** – A regular mound adjacent to the bridge over the Oxford Water on the northern bank. Possibly the site of an unknown garden feature.

4.1.6 **OA 26** – Brick built sheep wash, there is no noticeable change from the description given in the English Heritage Survey report of 2001. **OA 29** – Former stream channel of the Dad River, there are no noticeable changes from the description given in the English Heritage Survey report of 2001. **OA 30** – A brick arch bridge spanning the Dad River, there is no noticeable change from the description given in the English Heritage Survey report of 2001. **OA 31** - A brick arch bridge spanning the Dad River, there is no noticeable change from the description given in the English Heritage Survey report of 2001. **OA 33** – Large are of ground disturbance, possibly containing a pillow mound. **OA 34** – Probable tree holes extant within the verge of the main drive. The English Heritage Survey of 2001 however suggests they are modern features associate with drainage. **OA 35** - A large area of extant earthworks as shown on the English Heritage Survey of 2001.

New and newly clarified sites

4.1.7 During the survey nineteen new sites were identified or clarified on the ground. These new sites comprise: **OA 4** – A structure platform on the opposite bank of a tributary of the Cuttle Brook from the former kennels. **OA 6** – A small brick bridge over the Cuttle Brook for the Kennels. **OA 8** – Clearly defined lynchet bank above Haymanger pond, possibly defining the original limit of the pond. Probably the same feature as **OA 9**. **OA 9** - Clearly defined lynchet bank above Haymanger pond, possibly defining the original limit of the pond. Probably the same feature as **OA 8**. **OA 10** – Single brick gate pier. **OA 12** – Area of probable larger Mill Pond now slightly waterlogged ground.

4.1.8 **OA 13** - Mill dam, the downstream face of which displays a cascade leading from an overflow culvert, and a separate circular brick culvert opening on the east side. A redundant outflow channel on the opposite bank. **OA 14** – Mill building c. early 19th century. Stone platform to the northern side. **OA 15** - Concrete sheep dip and metal railed sheep enclosure. **OA 16** - Inspection chamber for the mill channel. Brick lined. **OA 19** - Three or four low broad mounds within boggy area, *c*3-3.5 m in width and *c*0.55 m in height, possibly ridges for tree planting. **OA 20** - Lynchet banks running across east facing hill slope. **OA 24** - Sub-square raised possible platform *c* 12 m in width E/W. Stands c. 0.4 m in height.

4.1.9 **OA 25** – Probable site of a former paper mill, after which the adjacent spinney is named, the site is now marked by substantial fragments of brick wall, and concrete floor which have been incorporated into the dam structure. **OA 27** – Possible small platform adjacent to **OA 17**. Measures *c*12 m x 2.5 m of unclear function. **OA 28** – A post-medieval field boundary cutting the well preserved ridge and furrow **OA 18**. Ditch is *c*2.5 m in width x c. 0.75m. **OA 32** – 20th century sheep dip of concrete, apparently now redundant. **OA 36** - A brick arch bridge spanning the Cuttle Brook. Probably 19th century.

5 ARCHAEOLOGICAL INVESTIGATION

5.1 Archaeological Description

The phasing

5.1.1 The phasing applied to the archaeology of the four sites is principally based upon the stratigraphy. The indicated chronology is interpretative, based upon some absolute dating from dendrochronological sampling, documentary references and plausibility, and is discussed in section 7.2.

5.2 Roothouse Pond

(Figs 2a, 3. Pls 1-4)

5.2.1 The investigation was intended to examine the nature of the water management system associated with the dam structure, revealed during the dredging of the silt deposits from the pond. The revealed structures extended north-east into the pond from the brick 'monk' identified by Jessop in 2000.

Phase 1 (Late 18th century)

5.2.2 The material of the dam itself was a dark yellowish brown clay (8). through which was a cut (9), containing a timber box culvert (5). The upper surface of this was exposed for a length of 3.3 m. The top and bottom of the culvert consisted of single planks 0.8 m wide by 0.05 m thick. The sides were formed of slightly thicker planks (0.35 m x 0.15 m).

Phase 2 (Early 19th century)

5.2.3 A second cut (14) was identified through the dam material over the north end of the box culvert, which had evidently exposed the culvert at this point. In the upper surface of the north end of 5 was set a cast iron trap door (6), surrounded by a wooden frame, in the surface of which were six slots, presumably housings for a superstructure. Across the open north end of the culvert (5) was a single timber (20), braced under the northern edge of the trap door frame.

Phase 3 (Mid 19th century)

5.2.4 To the south, a brick culvert (3) was identified within construction cut 11, continuing the run from the end of wooden culvert 5 but at a slight angle. A length of 3.3 m was exposed, although a further 1.1m of the brick floor of the culvert was visible, extending south along the stream. In section the culvert was circular and built of mortared bricks (0.23 m x 0.11 m x 0.07 m).

5.2.5 The 'monk' or brick lined shaft (1), noted in the 2000 work, was identified, and enough of the debris within it was removed to uncover a culvert entering on the line of the revealed culvert (3), and exiting under the dam, towards the outflow on the downstream side of the dam.

5.2.6 Traces of a decorative facade of brick and concrete (18) were noted at the point of the original outflow opening. These were also noted by Jessop in 2000.

5.3 Haymanger Pond

(Figs 2a, 4-6, 10. Pls 5-7)

5.3.1 The investigation was intended to clarify the initial results achieved by Jessop (2000), and if possible determine the technology of the dam and sluice elements. The fieldwork entailed cleaning back the original section and selective excavation to clarify stratigraphic and structural questions.

Note: The actual orientation of the Haymanger sluice complex is NNW-SSE. This is simplified in the following description to N-S, to facilitate understanding.

Phase 1 (Late 18th century)

5.3.2 The natural, a yellowish brown alluvial clay (100) was identified in section, overlaid by remnants of the original stream bed (127) a layer of gravel, pebbles and shell. This was truncated by the cut for the Phase 1 culvert (101), a flat bottomed, steep sided cut oriented NE-SW and at least 15 m long and 0.50 m deep at the north end.

5.3.3 A wooden structure (103) was revealed laid along the base of cut 101. It comprised at least three, and possibly four substantial sawn oak timbers (up to 3.5 m x 0.30 m x 0.20 m) laid end-to-end. This formed the base of the Phase 1 culvert complex. Against the side of the timbers an initial silting (102) was identified.