

E Y N S H A M A B B E Y

O X F O R D S H I R E

S I T E O F M E D I E V A L F I S H P O N D S

S U R V E Y O F H I G H E R P L A N T S

A N D

M A N A G E M E N T R E C O M M E N D A T I O N S

SEPTEMBER 1991

BBONT Environmental Services
2 Victoria Road
Caversham
READING
Berks
RG4 7QY

Tel/Fax (0734) 461016

CONTACT: L. Carter

CONTENTS

1. BACKGROUND
 - 1.1 Methodology
 - 1.2 Limitations of Survey
 - 1.3 Locations of Ponds

2. RESULTS
 - 2.1 Habitat Types
 - 2.1.1 Site A
 - 2.1.2 Site A
 - 2.1.3 Site B
 - 2.1.4 Plant Species
 - 2.1.5 Other Observations

3. MANAGEMENT RECOMMENDATIONS
 - 3.1 Introduction
 - 3.2 Habitat Management

4. HABITAT CREATION

5. CONCLUSION

6. Map of Sites

7. Species List for Higher Plants

1. BACKGROUND

Oxford Archaeological Unit/English Heritage are in the process of exposing the remains of part of the Medieval Abbey Complex adjacent to the present St. Peters Church.

Lower ground to the south of the Abbey is known to be the site of a series of fishponds, now covered and vegetated mainly by tall herbs. A drain with standing water and Chil Brook with running water are all that remain of open water habitat.

BBONT Environmental Services has been commissioned to establish the biological interest on this site, initially through a survey of higher plants. Outline management recommendations for this site will then form the basis for further consideration of the management of this important area.

1 1 Methodology

The higher plant survey was undertaken in one day, on 19th September 1991. The larger site A, to the West shows a change to wetter conditions towards the drain and more wooded conditions towards the south. However, as there is a steady graduation from one habitat to another, making changes discreet, all species are listed together.

Many of the species represented on Site A are also present on Site B, although prevailing conditions at the time of the visit were wetter on Site B. Therefore plant species for both sites are listed together.

Reference was made to the biological database at the BBONT Oxfordshire County Office for earlier site records. A visit was made in May 1987, to assess the botanical interest and those early flowering species not found this September are incorporated in the data. It is unlikely that conditions on the site have altered so significantly as to exclude those species found only on the earlier survey.

Identification of plant species was made from:

Clapham, A; Tutin, T; Warburg, E; 'Excursion Flora of the British Isles' (1981).

Rose, F; 'The Wild Flower Key' (1981).

The abundance of a wide variety of invertebrates was noted during the site visit, and management recommendations are made using:

Ed. Fry, R; Lonsdale, D; 'Habitat Conservation for Insects - A neglected Green Issue' (1991).

1.2 Limitations of the Survey

The site has been covered by separate plant surveys at different times of the year. In view of the recommendation to open up one or two of the medieval ponds, it would be useful to assess the pH. of the water and undertake a survey specifically of water/water margin plants.

The survey of invertebrates would yield a valuable further insight into the ecology of the site.

No bird records are known to be available and only a few birds recorded. Species recorded are dependent mainly on insects and seeds, both abundant on the site.

1.3 Location of Ponds

The location of most of the covered medieval fish ponds coincides with the area covered by this survey, see Fig. I.

Ponds are located along the north section of the west side and across the east site.

One pond, lying north-east of the west site is not covered by this survey.

2 RESULTS

2.1 Habitat Types

2.1.1 Site A

The western section of Site A is predominantly rough grassland tending to rank herbs in places. There is some spontaneous colonisation by scrub as a result of minimal management.

Provision for public access is by the car park at the west end of the site and a maintained grass footpath along the north of Chil Brook.

Landscape enhancement has taken place on the west sector of the rough grassland by planting a variety of standard trees such as:

Horse Chestnut
Cherry
Sycamore
Italian Alder
Hornbeam
Rowan
Oak

Acer pseudoplatanus
Prunus spp.
Alnus cordata
Carpinus betula
Sorbus aucuparia
Quercus robur

At present these trees are many years from maturity, but will inevitably have the effect of shading out the present range of plant species requiring an open aspect in favour of shade-tolerant species.

2.1.2

The east section of the site is uneven ground with very rough grassland tending to tall herbs with stands of Stinging Nettle, *Urtica dioica*, towards the ditch in the east.

To the south, near Chil Brook, there is scrub invasion. The main species represented are:

English Elm
Hawthorn
Ash

Ulmus procera
Crataegus monogyna
Fraxinus excelsior

Here the shade is quite dense in places with little of the ground flora characteristic of the rest of the site.

2.1.3

Site B

Site B is situated along the north side of the ditch which is fringed, on its south side by pollarded willows. Its location, at the foot of a moderate slope, means that it collects groundwater and tends to be moisture retentive. The east end is somewhat drier than the rest of the site.

This site is wetter than Site A, and has marked zonal vegetation progressing through Great Pond Sedge, *Carex riparia*, to Reed Sweet-grass, *Glyceria maxima*, to Rushes, *Juncus* spp.

2.1.4

Plant Species

In all 106 plant species were identified over two surveys. Whilst this list is not definitive, the majority of species are represented. The relatively high count is due in part to the diversity of habitat and tree planting on the two sites. No uncommon species were found, but amongst the more attractive species are:

Lady's Bedstraw

Galium verum

which is characteristic of established grassland,

Marsh Marigold

Caltha palustris

Ragged Robin

Lychnis flos-cuculi

Creeping Jenny

Lysimachia nummularia

all of which are characteristic of waterlogged conditions.

2.1.5 Other Observations

Whilst no rare plant species have been identified, the habitat diversity and wide range of species creates opportunities for many invertebrates to find a niche.

The warm conditions on the day of the survey made many invertebrates active and both their abundance and diversity were noted, though not recorded in detail. For example,

Butterflies:

Large White

Red Admiral

Small Copper

Small Tortoiseshell

and Silver 'Y' moths

were all on the wing. Dragonflies, damselflies, craneflies, true flies, grasshoppers, shield bugs, hoverflies, ants, bees, wasps, ladybirds and aphids are all easily seen by the casual observer.

Although the site supports shrubby nesting habitat and secluded water margins, few birds were observed. In addition, the site carries an excellent supply of seeds and insects as a food source. The apparently low density of birds may be the result of lack of long-term observation, or human disturbance on the day, or factors as yet undetermined.

3. MANAGEMENT RECOMMENDATION. ` >

- 3.1 The principal interest on the site relates to the relatively undisturbed stands of tall herbs, punctuated by changes in the conditions which increase the flora diversity. Where water accumulates near the surface, definite wetland plant communities are established.

In association with these plants is a great diversity of invertebrate life.

These recommendations seek only to summarise the broad management principles that could be applied to the site. It is agreed that any detailed proposals should be drawn up in consultation with Oxford Archaeological Unit/English Heritage.

3.2 Habitat Management

3.2.1 The key issue is creating diversity of habitat whilst maintaining large enough homogenous areas to sustain viable populations of associated fauna.

This site, whilst apparently homogenous, supports a range of habitats from hedgerows to young plantations to open grassy areas and stands of tall herbs with areas of wetland.

3.2.2 The locations of tree planting should be reconsidered in the light of the known position of the fish ponds and any potentially damaging trees removed.

3.2.3 All non-native trees not known to support a wide range of indigenous invertebrate species should be removed and replaced with native species that thrive in wet soils.

3.2.4 Shrubs and hedgerows should be surveyed in detail as existing landscape features. Where beneficial, they should be extended to simulate wavey woodland margins to capture the maximum sunlight and provide enhanced habitat for insects, small mammals and birds.

3.2.5 Those areas of rough grassland should be retained as open spaces. Shrubs and nettle invasion should be controlled by cutting. The grassland, itself, would benefit from being divided into compartments managed as follows: Never cut, occasionally cut and frequently cut. This feature could be incorporated along the perimeter of the established footpath which is already subject to partial management and in the drier areas of the site.

3.2.6 Tall herb management should also *be* varied to allow for a stand of tall hollow stems, used by invertebrates for over-wintering, to remain in situ. Other areas may be cleared at the end of the summer to allow the ground to warm up quickly in the spring.

3.2.7 Bare ground is the warmest ground of all on a sunny day, especially if stoney. The area round the car park is well used by basking insects and bare ground should be a positive feature of management.

3.2.8 Wetland areas appear to be self-regulating with the slow accumulation of organic debris over the years slowly raising the ground level. Here a long term programme of the removal of debris to encourage zonal plant growth from dry land to water margin species is recommended.

4. HABITAT CREATION

This site offers the unique opportunity for excavating one or more of the medieval fish ponds and restoring it for nature conservation use.

Although the east site appears on first impression to be the wettest and most secluded site, and therefore the most desirable, this area is partially shaded by the pollarded willows and will be enriched by run-off from the grazed field above. It is therefore recommended that one of the west site ponds is considered for this purpose and a sunny aspect maintained by the removal of young trees, already planted, if this is necessary. Sunny, still waters are favoured by dragonflies and damselflies both of which are suffering drastic decline.

5. CONCLUSION

Eynsham is a town that would benefit from a nature conservation area of the type proposed above, complementing the facilities for active sport and creating a quiet area for enjoyment and learning.

The above recommendations do not damage the existing archaeological features which are part of our heritage.

By designating this area as a local nature area, it is less likely to become the target for development of a less environmentally friendly type, thus providing the means of conserving both its archaeological and ecological features.

EYNSHAM ABBEY FISHPONDS SURVEY
FLOWERING PLANTS

BBONT ref: 40J01

p	<i>Acer pseudoplatanus</i>	Sycamore
	<i>Achillea millefolium</i>	Yarrow
	<i>Aesculus hippocastanum</i>	Horse Chestnut
	<i>Alnus glutinosa</i>	Alder
p	<i>Alnus cordata</i>	Italian Alder
a	<i>Alopecurus pratensi</i>	Meadow foxtail
	<i>Angelica sylvestris</i>	Wild angelica
a	<i>Anthriscus sylvestris</i>	Cow parsley
	<i>Apium nodiflorum</i>	Fool's watercress
	<i>Arctium lappa</i>	Greater burdock
	<i>Armoracia rusticana</i>	Horse radish
a	<i>Arrhenatherum elatius</i>	False oat-grass
	<i>Artemisia vulgaris</i>	Mugwort
	<i>Ballota nigra</i>	Black horehound
	<i>Barbarea vulgaris</i>	Winter cress
	<i>Bromus sterilis</i>	Barren brome
a	<i>Caltha palustris</i>	Marsh marigold
	<i>Calystegia sepium</i>	Hedge bindweed
	<i>Cardamine flexuosa</i>	Wavy bittercress
	<i>Cardamine pratensis</i>	Cuckooflower
	<i>Carex hirta</i>	Hairy sedge
	<i>Carex otrubae</i>	False fox-sedge
	<i>Carex riparia</i>	Greater pond-sedge
p	<i>Carpinus betula</i>	Hornbeam
	<i>Cerastium fontanum</i>	Common mouse-ear
	<i>Cirsium arvense</i>	Creeping thistle
	<i>Cirsium vulgare</i>	Meadow thistle
	<i>Convolvulus arvensis</i>	Field bindweed
	<i>Crataegus monogyna</i>	Hawthorn
a	<i>Dactylis glomerata</i>	Cocksfoot
	<i>Deschampsia cespitosa</i>	Tufted hair-grass
	<i>Epilobium hirsutum</i>	Great willowherb
	<i>Equisetum arvense</i>	Field horsetail
a	<i>Filipendula ulmaria</i>	Meadowsweet
	<i>Fraxinus excelsior</i>	Ash
	<i>Fumaria officinalis</i>	Common fumitory
a	<i>Galium aparine</i>	Cleavers
	<i>Galium mollugo</i>	Hedge bedstraw
	<i>Galium palustre</i>	Common marsh-bedstraw
	<i>Galium verum</i>	Lady's bedstraw
	<i>Geranium molle</i>	Dove's-foot crane's-bill
	<i>Geranium robertianum</i>	Herb robert
	<i>Glechoma hederacea</i>	Ground-ivy
•	<i>Glyceria maxima</i>	Reed sweet-grass
	<i>Hedera helix</i>	Ivy
	<i>Heracleum sphondylium</i>	Hogweed
	<i>Hordeum murinum</i>	Wall barley
	<i>Humulus lupulus</i>	Hop
	<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort
	<i>Juncus conglomerates</i>	Common rush
	<i>Juncus effusus</i>	Soft rush

	<i>Juncus inflexus</i>	Hard rush
	<i>Lactuca serriola</i>	Prickly lettuce
	<i>Lamium album</i>	White dead-nettle
	<i>Lathyrus pratensis</i>	Meadow vetchling
	<i>Leontodon autumnalis</i>	Autumn hawkbit
	<i>Lolium perenne</i>	Perennial ryegrass
	<i>Lychnis flos-cuculi</i>	Ragged robin
	<i>Lysimachia nummularia</i>	Creeping jenny
	<i>Matricaria matricarioides</i>	Pineappleweed
	<i>Medicago lupulina</i>	Black medick
	<i>Mentha aquatica</i>	Water mint
	<i>Moehringia trinervia</i>	Three-nerved sandwort
	<i>Myosotis scorpioides</i>	Water forget-me-not
	<i>Phalaris arundinacea</i>	Reed canary-grass
	<i>Phleum bertolinii</i>	Smaller cat's-tail
	<i>Phleum pratense</i>	Timothy
	<i>Picea abies</i>	Norway spruce
	<i>Plantago lanceolata</i>	Ribwort plantain
	<i>Plantago major</i>	Greater plantain
	<i>Poa annua</i>	Annual meadow-grass
a	<i>Poa pratensis</i>	Smooth meadow-grass
	<i>Polygonum aviculare</i>	Knotgrass
	<i>Polygonum lapathifolium</i>	Pale persicaria
	<i>Populus sp</i>	Poplar
	<i>Potentilla anserina</i>	Silverweed
	<i>Potentilla reptans</i>	Creeping cinquefoil
	<i>Prunus avium</i>	Wild cherry
d	<i>Prunus spinosa</i>	Blackthorn
	<i>Quercus robur</i>	Oak
	<i>Ranunculus ficaria</i>	Lesser celandine
	<i>Ranunculus repens</i>	Creeping buttercup
	<i>Rosa canina</i>	Dogrose
	<i>Rubus fruticosus</i>	Bramble
	<i>Rumex acetosa</i>	Common sorrel
	<i>Rumex obtusifolius</i>	Broad-leaved dock
	<i>Rumex conglomeratus</i>	Clustered dock
p	<i>Salix alba</i>	White willow
	<i>Salix fragilis</i>	Crack willow
	<i>Sambucus nigra</i>	Elder
	<i>Scrophularia auriculata</i>	Water figwort
	<i>Senecio jacobea</i>	Common ragwort
	<i>Solanum dulcamara</i>	Bittersweet
p	<i>Sorbus aucuparia</i>	Rowan
	<i>Stachys palustris</i>	Marsh woundwort
	<i>Stachys sylvatica</i>	Hedge woundwort
	<i>Symphytum officinale</i>	Common comfrey
	<i>Taraxacum officinale</i>	Dandelion
	<i>Trifolium pratense</i>	Red clover
	<i>Trifolium repens</i>	White clover
	<i>Ulmus procera</i>	English elm
d	<i>Urtica dioica</i>	Common nettle
	<i>Verbascum thapsus</i>	Great mullein
	<i>Veronica chamaedrys</i>	Germander speedwell
	<i>Veronica persica</i>	Common field-speedwell
	<i>Vicia sativa</i>	Common vetch

d - locally dominant

a - locally abundant

p - planted

-
-

Oxford Archaeological Unit
46 Hythe Bridge Street
OXFORD OX1 2EP
Oxon

28 October 1991

For the attention of Mr. G.D. Keevill

Dear Graham,

EYNSHAM ABBEY FISHPONDS

Further to our conversation I have now contacted Mr. S. Trow and confirmed arrangements regarding the enclosed report.

The report is now complete, and requires your perusal. If there are any queries please contact us.

It is agreed that BBONT Environmental Services will invoice Oxford Archaeological Unit for payment, as this suits the grant aid system with English Heritage. The invoice will follow shortly.

I do hope that there will be some development of the ideas presented in the report and look forward to working with you on this in the near future.

Yours Sincerely,

Linda Carter
ENVIRONMENTAL CONSULTANT

CC: Graham Hawker, BBONT Oxon Office
S. Trow, English Heritage

LCJOxfArc4.let